# Rapport sur la base de données relative aux lois et politiques en matière d'énergies renouvelables

Rédigé par

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Rapport et base de données élaborés pour
la Commission de coopération environnementale

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# Introduction

La Déclaration de Puebla 2004 confiait au Groupe de travail constitué en vertu du paragraphe 10 (6) le mandat d'élaborer un plan stratégique sur l'environnement et le commerce. En octobre 2005, le Groupe de travail constitué en vertu du paragraphe 10 (6) a accepté d'incorporer au Plan stratégique une priorité liée aux énergies renouvelables.

Le marché nord-américain des énergies renouvelables se caractérise par un certain nombre de défis, y compris des coûts initiaux plus élevés, le manque de continuité du réseau de transmission des énergies renouvelables et les exigences différentes des gouvernements locaux, des États/des provinces et nationaux en matière d'achat d'énergies renouvelables.

Un des projets en matière d'énergies renouvelables présentés dans le Plan stratégique vise les résultats suivants :

- Mieux faire comprendre les liens entre commerce et environnement et, par conséquent, encourager l'harmonisation des politiques, tant au niveau national que régional en Amérique du Nord.
- Améliorer la coordination à l'échelle régionale et nationale, y compris la coordination entre la CCE et la Commission du libre-échange de l'ALÉNA au moyen d'une collaboration constante entre fonctionnaires responsables du commerce et de l'environnement.

Plus précisément, il est prévu que la CCE complétera la base de données sur les sources d'énergie renouvelable existantes et prévues en y ajoutant les lois et politiques de chaque État et de chaque province en matière d'énergies renouvelables. Le présent rapport s'inscrit dans ce projet.

En s'appuyant sur la *Database of State Incentives for Renewable Energy*[1], (DSIRE, Base de données sur les mesures étatiques favorisant les énergies renouvelables) le consultant a recensé les lois et politiques touchant les énergies renouvelables au Canada et au Mexique, au niveau fédéral et provincial, le cas échéant. Le consultant a élaboré les listes suivantes :

- Lois et politiques visant l'année la plus récente pour laquelle l'information existe.
- Personnes-ressources dans chaque pays, État et province.
- Hyperliens, le cas échéant, afin de faciliter la mise à jour des données.

Toutes les données sont présentées dans les annexes, à la fin document, afin de faciliter la correspondance avec la Base de données nord-américaines sur les énergies renouvelables

[1] www.dsireusa.org

(NARED)[2] qui fournit des données sommaires au niveau d'un État, d'une province ou d'un territoire, subdivisées par type de source et de technologie, et par stade de développement.

[2] www.cec.org/pubs_docs/documents/index.cfm - varlan=francais&ID=1477

# Définitions

Par suite de discussions avec le Comité d'experts en matière d'énergies renouvelables (CEER)[3], les lois et politiques incorporées à la base de données sont les mêmes que celles qui font l'objet de la base DSIRE. Voici une description des encouragements financiers, des règles, des règlements et des politiques. Veuillez noter que les termes « énergie verte » et « électricité verte » sont employés de façon interchangeable dans l'ensemble du présent rapport et de ses annexes, suivant l'usage établi dans les sources citées.

## Encouragements financiers

### *Encouragements fiscaux pour les entreprises*

Les encouragements fiscaux pour les entreprises permettent à ces dernières d'obtenir des crédits ou des déductions d'impôt qui vont de 10 à 35 % du coût de l'équipement ou de l'installation afin de favoriser l'utilisation d'équipement utilisant des énergies renouvelables. Dans certains cas, l'encouragement augmente avec le temps. Certains États n'accordent le crédit d'impôt que si une société a investi un certain montant dans un projet d'énergie renouvelable donné. Dans la plupart des cas, aucune limite maximum n'est imposée au montant de la déduction ou du crédit.

### *Ventes directes d'équipement*

Quelques sociétés de services d'utilité publique vendent de l'équipement utilisant des énergies renouvelables à leurs clients dans le cadre de programmes d'acquisition, d'aide aux personnes à faible revenu, de location ou de distribution d'énergie en région éloignée.

### *Programmes de subventions*

Les États offrent divers programmes de subventions afin d'encourager l'utilisation et le développement des technologies d'énergie renouvelable. La plupart des programmes accordent un soutien à un vaste éventail de technologies dans le domaine des énergies renouvelables et certains États se concentrent sur la promotion d'un type d'énergie renouvelable, comme la technologie éolienne ou les carburants de remplacement.

Les subventions sont destinées d'abord au secteur commercial et industriel, aux entreprises de services d'utilité publique, au secteur de l'éducation et au secteur public. Certains programmes de subventions portent surtout sur la recherche et le développement et d'autres visent à aider un projet à atteindre le stade de la commercialisation. Les

[3] Voir le compte-rendu de la réunion annuelle du 21 novembre 2005 à www.cec.org/energy

montants offerts varient considérablement, de 500 $ à 1 000 000 $, et certains États ne fixent pas de limite.

### *Encouragements visant le recrutement d'entreprises*

Cette catégorie porte sur les initiatives et programmes particuliers conçus pour attirer les fabricants d'équipement utilisant des énergies renouvelables dans un État ou une ville. Le recrutement d'entreprises fabricant de l'équipement utilisant des énergies renouvelables prend habituellement la forme d'encouragements financiers comme crédit d'impôt, subvention ou engagement d'un organisme de l'État d'acheter une quantité donnée du produit.

Les encouragements visant le recrutement d'entreprises ont pour but d'attirer des industries dont la présence aura des retombées positives pour l'environnement et la création d'emplois. Dans la plupart des cas, les encouragements financiers sont des mesures temporaires qui soutiendront les industries pendant leurs premières années, mais comprennent une disposition de temporisation afin de les encourager à devenir autonomes après un certain nombre d'années.

### *Programmes de crédit-bail/de location-achat*

Les programmes de crédit-bail/location-achat des entreprises de services d'utilité publique ciblent les clients en région éloignée pour lesquels un raccordement au réseau serait très coûteux. Les clients peuvent louer la technologie, p. ex. photovoltaïques, auprès de la société de services d'utilité publique et, dans certains cas, le client peut décider d'acheter le système après un certain nombre d'années.

### *Programmes de prêt*

Les programmes de prêt offrent un financement en vue de l'achat d'équipement utilisant des énergies renouvelables. Les prêts à faible taux d'intérêt ou sans intérêt pour favoriser l'efficience énergétique sont une stratégie très répandue des sociétés de services d'utilité publique pour la gestion de la demande. Les gouvernements des États offrent aussi des prêts pour faciliter l'achat d'équipement utilisant des énergies renouvelables. Un vaste éventail de technologies d'énergie renouvelable sont admissibles. Dans bien des États, les prêts sont offerts aux secteurs résidentiel, commercial et industriel, au secteur des transports, au secteur public et au secteur des organismes sans but lucratif. Les calendriers de remboursement varient. La plupart sont établis en fonction de chaque projet, mais certains offrent un terme de 7 à 10 ans.

### *Encouragements concernant l'impôt sur le revenu des particuliers*

De nombreux États accordent des crédits ou des déductions d'impôt sur le revenu des particuliers pour couvrir les frais d'achat et d'installation de l'équipement utilisant des énergies renouvelables. Certains États offrent des crédits d'impôt sur le revenu des particuliers jusqu'à concurrence d'un certain pourcentage du coût d'achat ou

d'installation de l'équipement utilisant des énergies renouvelables ou d'un montant forfaitaire. Le crédit peut se limiter à un certain nombre d'années suivant l'achat ou l'installation de l'équipement utilisant des énergies renouvelables. Les technologies admissibles peuvent comprendre les systèmes d'énergie solaire et photovoltaïque, l'énergie géothermique, l'énergie éolienne, la biomasse, l'hydroélectricité et les carburants de remplacement.

### *Encouragements à la production*

Les encouragements à la production offrent aux maîtres d'ouvrage des paiements en espèces fondés sur la production de l'électricité selon le prix par KWh, comme c'est le cas pour le *Federal Renewable Energy Production Incentive* (REPI, Programme fédéral d'encouragement de la production d'énergies renouvelables) aux États-Unis ou d'après le volume de carburant de remplacement produit selon le prix par gallon, comme c'est le cas pour un certain nombre d'encouragements dans la production d'éthanol dans certains États. Les paiements fondés sur le rendement plutôt que sur les dépenses en immobilisations constituent souvent un mécanisme plus efficace de garantir la mise en oeuvre de projets de qualité.

### *Encouragements en matière d'impôt foncier*

En général, les encouragements relatifs à l'impôt foncier prennent l'une des trois formes suivantes : exemption, exclusion et crédit. La majorité des dispositions relatives à l'impôt foncier en matière d'énergies renouvelables suivent un modèle simple selon lequel la valeur ajoutée de l'appareil d'énergie renouvelable n'est pas incorporée à l'évaluation de l'immeuble à des fins d'imposition. Par exemple, si l'installation d'un système de chauffage à l'énergie renouvelable coûte 1 500 $ comparativement à 1 000 $ pour un système de chauffage classique, alors le système d'énergie renouvelable est imposé sur 1 000 $.

Puisque les impôts fonciers sont perçus à l'échelle locale, certains États permettent aux autorités locales d'offrir un encouragement relatif à l'impôt foncier s'appliquant aux appareils d'énergie renouvelable. Six États ont adopté ce genre de disposition : Connecticut, Iowa, Maryland, New Hampshire, Vermont et Virginie.

### *Programmes de remises*

Les programmes de remises sont offerts par les États, les autorités locales et les sociétés de services d'utilité publique pour encourager l'installation d'équipement utilisant des énergies renouvelables. La majorité des programmes sont mis en oeuvre par des organismes d'État et des sociétés de services d'utilité publique appartenant à des municipalités et ils concernent surtout les chauffe-eau solaires et (ou) les systèmes photovoltaïques. Ces programmes visent habituellement les particuliers et les entreprises, même si certains sont aussi offerts à l'industrie, aux institutions et aux organismes d'État. Les remises oscillent habituellement entre 150 $ et 4 000 $. Dans certains cas, les programmes de remises sont combinés à des prêts à intérêt peu élevé ou sans intérêt.

### *Encouragements relatifs à la taxe de vente*

Ces encouragements exemptent habituellement de la taxe de vente de l'État le coût d'achat d'équipement utilisant des énergies renouvelables.

**Règles, règlements et politiques**

### *Politiques relatives à la construction et à la conception*

Les politiques relatives à la construction et à la conception englobent les politiques des États relatives à la construction, les programmes sur les immeubles écologiques et les codes de l'énergie. Les politiques des États sur la construction sont habituellement élaborées en vertu de mandats législatifs; elles exigent l'évaluation des avantages sur le plan des coûts et du rendement de l'incorporation de technologies d'énergie renouvelable à des projets de construction de l'État comme écoles et immeubles à bureaux. De nombreuses villes élaborent des lignes directrices sur les immeubles écologiques qui exigent ou encouragent la prise en compte des technologies d'énergie renouvelable.

Certaines lignes directrices prennent la forme de mesures volontaires pour tous les types d'immeuble alors que d'autres doivent s'appliquer obligatoirement à des projets municipaux de construction d'immeubles ou à des projets de construction résidentielle. Les codes de l'énergie locaux visent l'efficacité énergétique dans les immeubles nouveaux et rénovés en exigeant que certains projets dépassent les exigences de l'État en matière de conservation des ressources. L'incorporation d'équipement utilisant des énergies renouvelables est une des façons de respecter les exigences de ces codes.

### *Délivrance des permis aux entrepreneurs*

De nombreux États ont adopté des règles concernant la délivrance de permis aux entrepreneurs en énergie renouvelable. Les exigences concernant la délivrance des permis peuvent porter sur les chauffe-eau solaires, les systèmes de chauffage solaire des locaux de type actif et passif, le chauffage solaire des procédés industriels, la thermo-hélio-électricité et les photovoltaïques. Ces exigences, là où elles ont été adoptées, ont pour objet de garantir que les entrepreneurs disposent de l'expérience et des connaissances requises pour bien installer les systèmes.

### *Homologation de l'équipement*

Les dispositions législatives exigeant de l'équipement utilisant des énergies renouvelables qu'il réponde à certaines normes sont généralement considérées comme un outil permettant de réduire le risque que les consommateurs achètent de l'équipement de qualité inférieure. En plus de protéger les consommateurs, l'homologation de l'équipement profite au secteur des énergies renouvelables dans son ensemble en réduisant le nombre de systèmes affligés de problèmes et la publicité négative qui en résulte.

### *Règles sur la divulgation des modes de production de l'énergie*

Le terme « divulgation » désigne habituellement pour les sociétés de services d'utilité publique l'obligation de transmettre à leurs clients des renseignements supplémentaires sur l'énergie qu'elles produisent. Cette information comprend souvent la répartition en pourcentage des carburants utilisés et des données statistiques sur les émissions. Par exemple, l'information sur la répartition des carburants utilisés peut être présentée sous forme de graphique circulaire sur les factures mensuelles des clients. La « certification », un processus connexe, désigne l'évaluation des divers systèmes d'électricité verte afin de garantir qu'ils utilisent véritablement le type et la quantité d'énergie renouvelable annoncés. Le timbre « Green-e » est un exemple de certification de l'électricité verte.

La divulgation et l'homologation ont pour objet d'aider les consommateurs à prendre des décisions éclairées au sujet de l'énergie et du fournisseur qu'ils choisissent. Il est bon de souligner, toutefois, que deux États n'ayant pas restructuré le marché – la Floride et le Colorado – ont adopté des dispositions sur la divulgation. En fait, la divulgation est souvent vue comme une bonne politique permettant de faciliter l'éducation des clients au sujet de l'électricité et, partant, de préparer les marchés à l'arrivée de la concurrence au niveau du détail.

### *Politiques d'achat et achats groupés d'électricité verte*

Les municipalités, les gouvernements des États, les entreprises et d'autres clients non résidentiels peuvent jouer un rôle important dans l'appui aux technologies d'énergie renouvelable en achetant de l'électricité tirée de ressources renouvelables. À l'échelle locale, l'achat d'électricité verte peut concerner l'approvisionnement des installations municipales, l'éclairage de la voie publique, des stations de pompage de l'eau, etc. Plusieurs États exigent qu'un certain pourcentage de l'électricité achetée pour les immeubles du gouvernement de l'État provienne de ressources renouvelables. Quelques États permettent aux gouvernements locaux de regrouper les blocs d'électricité de l'ensemble de la collectivité en vue de l'achat d'électricité verte et même de s'unir à d'autres collectivités afin de constituer un bloc encore plus grand d'électricité verte à acheter. C'est ce que l'on appelle souvent le « Community Choice » (choix de la collectivité). On peut réaliser l'achat d'électricité verte par l'intermédiaire des programmes de prix verts des sociétés de services d'utilité publique, de distributeurs d'électricité verte (dans les États où existe la concurrence au détail), de contrats spéciaux ou de groupages communautaires des achats.

La base DSIRE fournit de l'information uniquement sur les politiques des organismes d'État et les activités des groupeurs communautaires en vue de l'achat d'électricité verte; elle ne fait pas le suivi des achats individuels des entreprises et d'institutions comme les universités.

### *Analyse des demandes de raccordement au réseau*

Lorsqu'un client qui consomme de l'électricité demande à être raccordé au réseau de distribution d'électricité, on lui fait payer des frais fondés sur la distance correspondant au coût de l'ajout d'une ligne de distribution en fonction de sa consommation. Dans bien des cas, on peut combler les besoins en électricité des clients en installant un système d'énergie renouvelable sur place. Certains États exigent des sociétés de services d'utilité publique qu'elles transmettent à leurs clients de l'information sur les options en matière d'énergies renouvelables lorsqu'il faut raccorder un client au réseau.

### *Règles sur la facturation nette*

La facturation nette permet aux consommateurs ayant leur propre système de production d'électricité d'enregistrer la circulation de l'électricité en direction et en provenance du client au moyen d'un seul compteur bidirectionnel. Dans le cadre de la facturation nette, lorsque la production du client dépasse sa consommation, l'électricité transmise de l'installation du client au réseau de la société de services d'utilité publique compense l'électricité consommée à un autre moment. En fait, le client utilise l'énergie qu'il produit en surplus pour compenser l'électricité qu'il aurait achetée au taux du détail. Selon les règles de la plupart des États, les clients résidentiels, commerciaux et industriels peuvent profiter de la facturation nette, mais certains États restreignent l'admissibilité de certaines catégories de clients.

### *Fonds d'intérêt public*

Les fonds d'intérêt public sont habituellement des programmes des États élaborés dans le cadre du processus de restructuration des fournisseurs d'électricité afin d'assurer l'appui constant aux énergies renouvelables, aux initiatives d'efficacité énergétique et aux programmes de soutien aux citoyens à faible revenu. (Ces fonds sont souvent appelés « system benefits charge » (SBS, frais d'amélioration du système). Ce type de fonds est habituellement financé au moyen de frais imposés à l'ensemble des clients sur la consommation de l'électricité, p. ex. 0,2 cent/KWh. Voici des exemples de la façon dont les fonds sont utilisés : remises offertes à l'égard des systèmes d'énergie renouvelable, financement de la R-D sur les énergies renouvelables et élaboration de programmes d'éducation sur les énergies renouvelables.

### *Normes sur les portefeuilles d'énergies renouvelables/blocs d'énergie renouvelable réservés*

Selon les normes sur les portefeuilles d'énergies renouvelables (PER), un certain pourcentage de la capacité de production ou des ventes d'énergie globale ou nouvelle doit être tiré de ressources renouvelables, p. ex. 1 % des ventes d'électricité doit provenir d'énergies renouvelables au cours de l'année 200x. Les normes sur les portefeuilles d'énergies renouvelables désignent plus couramment des ventes d'électricité mesurées en mégawattheures (MWh), par opposition à la capacité de production d'électricité mesurée en mégawatts (MW). On exige souvent des sociétés de services d'utilité publique qu'elles

réservent une partie de la capacité de production de nouvelles installations à la production d'énergies renouvelables.

### *Obligation pour une société de services d'utilité publique d'offrir de l'électricité verte*

Quelques États exigent de certaines catégories de sociétés de services d'utilité publique qu'elles offrent à leur clientèle la possibilité d'acheter de l'énergie tirée de ressources renouvelables. En général, les sociétés de services d'utilité publique peuvent fournir de l'électricité verte à partir de ressources renouvelables à l'égard desquelles elles passent des contrats. Elles peuvent aussi acheter des crédits d'un fournisseur d'énergie renouvelable accrédité par la commission des services d'utilité publique de l'État.

### *Dispositions législatives sur l'accès aux installations d'énergie solaire et éolienne*

Ces dispositions législatives prévoient des servitudes ou droits d'accès pour les installations d'énergie solaire ou éolienne. Dans le cadre d'une servitude, des droits d'accès existants d'un propriétaire à une ressource renouvelable sont garantis par un autre propriétaire dont le terrain pourrait être aménagé de façon à restreindre l'utilisation de cette ressource. La servitude est transférée avec les titres de propriété. Par ailleurs, les droits d'accès offrent automatiquement le droit d'accès continu à une ressource renouvelable. Les servitudes relatives à l'énergie solaire sont les modalités retenues le plus fréquemment par les États en matière d'accès à l'énergie solaire. De plus, certains États interdisent les ententes entre voisins qui empêchent l'utilisation des énergies renouvelables.

À l'échelle locale, les collectivités peuvent avoir recours à de nombreux mécanismes différents pour protéger l'accès à l'énergie solaire, y compris l'adoption d'ordonnances sur l'accès à l'énergie solaire, l'élaboration de lignes directrices exigeant une orientation adéquate des rues et l'adoption d'ordonnances de zonage prévoyant des restrictions sur la hauteur des immeubles de même que la délivrance de permis relatifs à l'énergie solaire.

## Contenu de la base de données et sources utilisées

Afin de faciliter l'intégration de la présente base de données à la base NARED, l'information contenue dans les annexes ci-après est d'abord organisée par pays et par province (ou État). Ensuite, pour chaque politique, les données suivantes ont été recueillies : nom de la politique, type d'encouragement, énergie renouvelable et (ou) technologie admissibles, secteur visé, palier de gouvernement, organisme responsable, site Web, date d'entrée en vigueur, date d'expiration, sommaire et personne-ressource.

Il est important de souligner qu'au fur et à mesure que de nouvelles politiques sont adoptées et que d'autres sont éliminées, la base de données devrait être mise à jour de façon constante. La prochaine étape serait donc d'établir des hyperliens avec les sites Web pertinents afin de mettre à jour automatiquement la base de données au fur et à mesure que de nouveaux renseignements sont fournis.

### Canada

Environnement Canada a fourni l'essentiel de l'information concernant les lois et politiques aux paliers fédéral et provincial. D'autres renseignements ont été tirés du site Web de Ressources naturelles Canada et de sites Web des provinces. Lorsque c'était possible, des contacts ont été établis avec l'organisme responsable de chaque politique. L'information sur les provinces doit être considérée comme préliminaire, car elle sera fort probablement complétée dans le cadre du programme de travail de la CCE en 2006.

### Mexique

Au Mexique, les énergies renouvelables relèvent exclusivement de la législation fédérale. Par conséquent, on ne trouve qu'au palier fédéral des politiques en matière d'énergies renouvelables. Toute l'information figurant dans la base de données a été fournie par M. Jorge M. Huacuz, du *Instituto de Investigaciones Eléctricas* (IIE, Institut de recherche en électricité).

### États-Unis d'Amérique

Enfin, toute l'information concernant les États-Unis est tirée du projet DSIRE <http://www.dsireusa.org>, du *Interstate Renewable Energy Council* (conseil interétatique des énergies renouvelables) et du North Carolina Solar Center. Pour des motifs liés à la protection de la propriété intellectuelle, la portion de la base de données concernant les États-Unis doit demeurer confidentielle; la CCE doit donc aiguiller les lecteurs intéressés vers le site Web de la base DSIRE. Cependant, les membres du CEER peuvent avoir accès à l'ensemble de la base de données.

# Annex 1: Canada - Laws and Policies

### *Capital Cost Allowance Class 43.1 in the Income Tax Act*

**Incentive Type:** Corporate Tax Incentive
**Policy Level:** Federal
**Province/Territory/State:** All

**Eligible Renewable / Other Technologies:** All renewables
**Applicable Sectors:** Corporate
**Effective Date:** 1994
**Expiration Date:** -
**Summary:** Established in the 1994 Budget, Class 43.1 allows an accelerated write off of certain equipment that is designed to produce energy in a more efficient way or produce energy from alternative renewable sources. Budget 2005 proposes to further accelerate the capital cost allowance rate from 30 percent to 50 percent for certain high efficiency co generation equipment and the full range of renewable energy generation equipment currently included in Class 43.1. Recently, Budget 2006 extended the eligibility for Class 43.1 (30 percent rate) and Class 43.2 (50 percent rate) to cogeneration systems that use black liquor.

**Agency Responsible:** Finance Canada, Natural Resources Canada
**Website:** http://www.fin.gc.ca/news96/96-046_2e.html#Amendments

**Contact:** Don Skinner
Business Tax Division
Finance Canada
(613) 992-1578
Michael Burke
Energy Technology Branch
Natural Resources Canada
613) 996-6612

### *Canadian Renewable Conservation Expense*

**Incentive Type:** Corporate Tax Incentive
**Policy Level:** Federal
**Province/Territory/State:** All

**Eligible Renewable / Other Technologies:** All renewables
**Applicable Sectors:** Corporate
**Effective Date:** 1996
**Expiration Date:** -
**Summary:** Canadian Renewable and Conservation Expenses (CRCE) is a category of fully deductible expenditures associated with the start-up of renewable energy and energy conservation projects. Under CRCE, eligible expenditures are 100 percent deductible in the year they are incurred or can be carried forward indefinitely for deduction in later years. These expenditures can also be renounced to shareholders through a flow-through share agreement, providing the agreement was entered before the expense was incurred.

**Agency Responsible:** Finance Canada, Natural Resources Canada
**Website:** http://www.fin.gc.ca/news96/96-046_2e.html#Amendments

**Contact:** Don Skinner

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### *Excise tax exemption for biofuels*

**Incentive Type:** Corporate Tax Incentive
**Policy Level:** Federal
**Province/Territory/State:** All

**Eligible Renewable / Other Technologies:** Ethanol, Methanol
**Applicable Sectors:** Commercial, Residential, General Public/Consumer
**Effective Date:**
**Expiration Date:**
**Summary:** To support ethanol production and markets, the federal government exempts the ethanol portion of ethanol gasoline blends from the excise tax on gasoline, which has accelerated market acceptance of such blends. In addition the ethanol portion of blended diesel fuel is also exempted from the federal excise tax on diesel fuel. Note that the same excise tax exemptions apply to the methanol portion of blended fuels.

**Agency Responsible:** Finance Canada -
**Website:** -

**Contact:** -

### *Wind Power Production Incentive (WPPI)*

**Incentive Type:** Production Incentive
**Policy Level:** Federal
**Province/Territory/State:** All

**Eligible Renewable / Other Technologies:** Wind
**Applicable Sectors:** Electric utilities, independent power producers
**Effective Date:** 01-Apr-02
**Expiration Date:** -
**Summary:** To be eligible for the incentive, the prospective producer must negotiate and sign a contribution agreement with NRCan. The agreement contains the following criteria, among others, for setting up a wind farm:
- the wind farm must be commissioned between April 1, 2002, and March 31, 2007;
- the wind farm must be independently metered at the point of interconnection with the electricity grid; and
- the wind farm must have a minimum nameplate capacity of 500 kilowatts. In northern and remote locations, the minimum capacity is 20 kilowatts.

To encourage regional participation, the program has set a minimum and maximum capacity for every province and territory, which will be reviewed on an ongoing basis.

**Agency Responsible:** Natural Resources Canada
**Website:** http://www.canren.gc.ca/programs/index.asp - CaId=107&PgId=622

**Contact:** Wind Power Production Incentive Program
Office of Energy Efficiency

Natural Resources Canada
580 Booth Street, 11th Floor
Ottawa ON K1A 0E4
Attention: Denis Bergeron - Program Support Officer
Tel.: 1 877 722-6600 (toll-free)
Fax: (613) 995-8343
E-mail: wppi@nrcan.gc.ca

### *Renewable Energy Deployment Initiative (REDI)*

**Incentive Type:** Grant Program
**Policy Level:** Federal
**Province/Territory/State:** All

**Eligible Renewable / Other Technologies:** Solar and Biomass
**Applicable Sectors:** Commercial, Industrial, Institutional and Residential
**Effective Date:** 01-Apr-98
**Expiration Date:** none
**Summary:** Renewable Energy Deployment Initiative (REDI), a $51 million program announced in 1997. REDI is designed to encourage the demand for renewable energy systems for water heating, space heating and industrial process heating, among commercial, industrial and institutional organizations. REDI stimulates demand for these systems through marketing initiatives, infrastructure development, and financial incentives.

**Agency Responsible:** Natural Resources Canada
**Website:** http://www2.nrcan.gc.ca/es/erb/erb/english/View.asp - x=455

**Contact:** Renewable Energy Deployment Initiative
Renewable and Electrical Energy Division
Natural Resources Canada
580 Booth Street, 17th Floor
Ottawa, Ontario K1A 0E4
Email: redi.penser@nrcan.gc.ca
Telephone: 1-877-722-6600 (Toll Free)
Fax: (613) 995-0087

### *Future Fuels Initiative*

**Incentive Type:** Loan Program
**Policy Level:** Federal
**Province/Territory/State:** All

**Eligible Renewable / Other Technologies:** Ethanol produced from biomass such as plant fibre, corn and other grains
**Applicable Sectors:** Ethanol producers
**Effective Date:**
**Expiration Date:**
**Summary:** The Future Fuels Initiative aims to boost Canada's annual ethanol production and use by four times (by 750 million litres). Future Fuels Initiative renews the National Biomass Ethanol Program (NBEP) to help overcome lender resistance to investing in ethanol plants because of uncertainty about excise tax policy. The NBEP provides for $140 million in contingent loan guarantees to encourage financing for new plants that produce ethanol from biomass such as plant fibre, corn and other grains. The loan guarantee program would come into effect only if all or part of the excise gasoline tax on ethanol were imposed before December 31, 2010. The Future

Fuels Initiative also adds $3 million over five years to provide market information to retail consumers.

**Agency Responsible:** Natural Resources Canada and Agriculture and Agri-Food Canada
**Website:** http://www.agr.gc.ca/progser/nbep_e.phtml

**Contact:**

### *Green Municipal Fund (GMF)*

**Incentive Type:** Loan Program
**Policy Level:** Federal
**Province/Territory/State:** All

**Eligible Renewable / Other Technologies:** All renewables
**Applicable Sectors:** Municipalities
**Effective Date:** 08-Feb-06
**Expiration Date:** 12-Apr-06
**Summary:** The Green Municipal Fund (GMF) consists of a $550-million endowment from the Government of Canada to stimulate environmental projects by municipal governments and their partners that generate measurable environmental, economic, and social benefits. The Fund supports a range of activities leading up to and including the physical implementation of an environmental infrastructure project. The funding options available to applicants for capital implementation projects are loans, grants, or a combination of the two and grants are available to applicants for feasibility studies, field tests and sustainable community plans.

**Agency Responsible:** Federation of Canadian Municipalities
**Web site:**
http://kn.fcm.ca/ev.php?URL_ID=2825&URL_DO=DO_TOPIC&URL_SECTION=201&reload=1096488899

**Contact:** Details of the GMF energy RFP are available on FCM's web site. For more information on GMF projects, final reports and case studies, visit FCM's web site (www.fcm.ca).
If, after reviewing the materials, you still have questions on the GMF Energy RFP, contact <energy.rfp@fcm.ca> or Simona Birea, Application Coordinator, at (613) 241-5221, ext. 238.

### *Government Purchase of Electricity from Renewable Resources (PERR)*

**Incentive Type:** Green Power Purchasing
**Policy Level:** Federal
**Province/Territory/State:** All

**Eligible Renewable / Other Technologies:** wind power, sun, water, biomass and the earth
**Applicable Sectors:** Federal governement
**Effective Date:** 1997
**Expiration Date:** -
**Summary:** The federal government has made a commitment to purchase 20 percent of the electricity needed for federal operations from emerging renewable energy sources like wind and solar power, and has already achieved progress toward this goal. For example, in Alberta, Environment Canada and Natural Resources Canada purchase 100 percent of their facilities' electricity as green power. Also, federal offices and laboratories in Saskatchewan and Prince Edward Island now obtain almost half of their electricity from wind power.

**Agency Responsible:** Natural Resources Canada
**Web site:** http://www2.nrcan.gc.ca/es/erb/erb/english/View.asp?x=464

**Contact:** -

### *PST rebate*

**Incentive Type:** Sales Tax Incentive
**Policy Level:** Provincial
**Province/Territory/State:** British Columbia

**Eligible Renewable / Other Technologies:** Wind-powered generating equipment; solar photovoltaic collector panels; solar thermal collector panels; and micro-hydro turbines and generators rated up to 150 kilowatts
**Applicable Sectors:** Residential
**Effective Date:** 16-Feb-05
**Expiration Date:** 01-Apr-07
**Summary:** For the period from February 16, 2005 to April 1, 2007, qualifying energy efficient residential furnaces, boilers and heat pumps are exempt from social service tax (PST) if purchased or leased for residential purposes.

**Agency Responsible:** Ministry of Small Business and Revenue
**Web site:** http://www.rev.gov.bc.ca/ctb/publications/bulletins/sst_011.pdf

**Contact:** -

### *BC Clean Electricity Guidelines*

**Incentive Type:** Green Power Purchasing
**Policy Level:** Provincial
**Province/Territory/State:** British Columbia

**Eligible Renewable / Other Technologies:** small/micro hydro, wind, solar, photovoltaic, geothermal, tidal, wave and biomass energy, as well as cogeneration of heat and power, energy from landfill gas and municipal solid waste, fuel cells and efficiency improvements at existing facilities
**Applicable Sectors:** Distributor
**Effective Date:** 25-Nov-02
**Expiration Date:** 31-Mar-13
**Summary:** As part of the 2002 Energy Plan (Energy Plan for Our Future: A Plan for BC), the Voluntary Clean Electricity Policy Initiative was established. Policy Action #20 of the plan indicates that electricity distributors will pursue a voluntary goal to acquire 50 percent of new supply from BC Clean Electricity over the next 10 years.

**Agency Responsible:** Ministry of Energy, Mines and Petroleum Resources
**Web site:** http://www.em.gov.bc.ca/AlternativeEnergy/bc_clean_electricity_guidelines.htm

**Contact:** -

### *Biofuels and Gasoline Tax Amendment Act (Biofuels Act)*

**Incentive Type:** Corporate Tax Incentive
**Policy Level:** Provincial
**Province/Territory/State:** Manitoba

**Eligible Renewable / Other Technologies:** Ethanol, Gasohol

**Applicable Sectors:** Commercial, Industrial, Institutional and Residential
**Effective Date:**
**Expiration Date:**
**Summary:** The Biofuels and Gasoline Tax Amendment Act provides a tax preference for the purchase of gasohol (a blend of gasoline and denatured ethanol that meets prescribed specifications) to encourage and support the production of denatured ethanol and consumption of gasohol in Manitoba. The Act prescribes required gasohol sales levels and stipulates financial penalties for not meeting quotas, further detailing administrative requirements of sales agents and providing for enforcement. The tax otherwise payable under subsection (1) or clause (23)(a) on a purchase of Manitoba gasohol shall be reduced as follows:
(a) for a purchase before September 2007, by $0.02 per litre;
(b) for a purchase after August 2007 and before September 2010, by $0.015 per litre;
(c) for a purchase after August 2010 and before September 2013, by $0.01 per litre.

**Agency Responsible:** Department of Energy Science & Technology
**Web site:** http://web2.gov.mb.ca/laws/statutes/2003/c00503e.php

**Contact:** Henry Nelson
Energy Development Initiative
Department of Energy Science & Technology
Government of Manitoba
1200 - 155 Carlton Street
Winnipeg, Manitoba, Canada
R3C 3H8
Ph: (204) 945-5222 or
Fax: (204) 943-0031

### *Electricity Act, 2004*

**Incentive Type:** RPS
**Policy Level:** Provincial
**Province/Territory/State:** Nova Scotia

**Eligible Renewable / Other Technologies:**
**Applicable Sectors:** Utilities
**Effective Date:**
**Expiration Date:**
**Summary:** The Electricity Act, 2004 (Bill No. 87) established a mandatory renewable portfolio standard (RPS) requiring a minimum amount of a seller's electricity to come from renewable resources. The new legislation attempts to encourage the growth of renewable energy sources by ensuring markets for the renewable power developed by independent power producers.

**Agency Responsible:** -
**Web site:** http://www.gov.ns.ca/legislature/legc/bills/59th_1st/3rd_read/b087.htm

**Contact:** -

### *Corporate Income Tax Write-off and Capital Tax Exemption*

**Incentive Type:** Corporate Tax Incentive
**Policy Level:** Provincial
**Province/Territory/State:** Ontario

**Eligible Renewable / Other Technologies:** wind, water, a biomass resource, hydrogen, biogas, biofuel, landfill gas, an eligible fossil fuel, uranium, solar energy, geothermal energy, tidal forces or thermal waste
**Applicable Sectors:** -
**Effective Date:**
**Expiration Date:**
**Summary:** An immediate 100% Corporate Income Tax write-off and capital tax exemption for the cost of assets used to generate electricity from clean, alternative or renewable sources. Asset must be acquired after November 25, 2002 and before January 1, 2008, with a transitional provision for assets acquired after Oct. 30, 1998, and before November 26, 2002. The regulation was filed on July 7, 2003 but still requires a technical amendment and additional legislation to be made consistent with corporate income tax write-off regulation. Distribution assets are not eligible. Ontario Regulation 283/03 was filed on July 7, 2003.

**Agency Responsible:** -
**Web site:** http://www.e-laws.gov.on.ca/DBLaws/Source/Regs/English/2003/R03283_e.htm

**Contact:** -

### *Gross Revenue Charge (GRC)*

**Incentive Type:** Corporate Tax Incentive
**Policy Level:** Provincial
**Province/Territory/State:** Ontario

**Eligible Renewable / Other Technologies:** Hydropower
**Applicable Sectors:** Hydro-electric generators in Ontario
**Effective Date:**
**Expiration Date:**
**Summary:** The Ontario Ministry of Finance passed legislation in 2000 to promote investment in waterpower development in Ontario. Effective January 1, 2001, the existing property taxes and water rental charges paid by hydro-electric generating station owners and water power leaseholders were replaced with taxes and charges on the gross revenues of hydro-electric generating stations. These taxes and charges on gross revenues represent separate components of what is known as the Gross Revenue Charge (GRC).

| ***Total Annual Generation*** | ***GRC Rate*** |
|---|---|
| *Up to and including 50 gigawatt hours (gWh)* | *2.5%* |
| *Greater than 50 and up to and including 400 gWh* | *4.5%* |
| *Greater than 400 up to and including 700 gWh* | *6.0%* |
| *Greater than 700 gWh* | *26.5%* |

**Agency Responsible:** Ontario Ministry of Finance
**Web site:** http://www.trd.fin.gov.on.ca/userfiles/HTML/cma_3_2521_1.html

**Contact:** For telephone service in English:
(800) 263-7965 Toll-Free (Canada/U.S.)
(905) 433-6000
For telephone service in French:

(800) 668-5821 Toll-Free (Canada/U.S.)
(905) 433-6000
TTY (Teletypewriter):
(800) 263-7776 Toll-Free (Ontario)
Mailing Address:
33 KING ST W
P.O. BOX 627
OSHAWA ON
CANADA L1H 8H5
Head Office Address:
33 King Street West
Oshawa, Ontario
Canada L1H 8H5
Hours of Service:
8:15 am to 5:00 pm (EST)
Monday to Friday
(Closed Statutory Holidays)

### *Retail Sales Tax Rebate*

**Incentive Type:** Sales Tax Incentive
**Policy Level:** Provincial
**Province/Territory/State:** Ontario

**Eligible Renewable / Other Technologies:** Solar Photovoltaic, Solar Thermal Systems
**Applicable Sectors:** Residential
**Effective Date:**
**Expiration Date:**
**Summary:** Available to owners of residential premises, including multi-residential buildings for new solar energy systems and on any expansions or upgrades to existing systems installed in their premises. Eligible systems include solar photovoltaic systems that convert solar energy into electricity, or solar thermal systems that convert energy into heat. Systems include wiring, controllers, devices that convert direct current into alternate current, the first battery used to store the energy produced, thermal collector panels, pumps, tubing, heat exchangers and insulated energy storage tanks. Eligible systems, expansions and upgrades must be purchased and incorporated into residential premises on or after November 26, 2002, and on or before November 25, 2007. In the case of a new building that incorporates a solar energy system, the tax rebate can be claimed by the builder, but not the owner.

**Agency Responsible:** Ontario Ministry of Finance
**Web site:** http://www.trd.fin.gov.on.ca/userfiles/page_attachments/Library/3/Rsie_In30.htm

**Contact:** For more information or to obtain a refund form, please contact the nearest Ontario Ministry of Finance Tax Office listed under Taxes - Provincial (Retail) Sales Tax in the blue pages of your telephone directory, call our TAX FAX Service at (877) 4-TAX-FAX [(877) 482-9329], or visit our web site at http://www.trd.fin.gov.on.ca.

### *Standard Offer Program*

**Incentive Type:** Production Incentive
**Policy Level:** Provincial
**Province/Territory/State:** Ontario

**Eligible Renewable / Other Technologies:** -
**Applicable Sectors:** Small Generators

**Effective Date:**
**Expiration Date:**
**Summary:** -

**Agency Responsible:** The Ontario Energy Board (OEB) and the Ontario Power Authority
**Web site:**
http://www.oeb.gov.on.ca/html/en/industryrelations/ongoingprojects_standardofferprogram.htm

**Contact:** For further information, contact Laurie Reid at (416) 440-7623 or by e-mail: Laurie.Reid@oeb.gov.on.ca

### *Renewable Standards Portfolio*

**Incentive Type:** RPS
**Policy Level:** Provincial
**Province/Territory/State:** Ontario

**Eligible Renewable / Other Technologies:** -
**Applicable Sectors:** -
**Effective Date:**
**Expiration Date:**
**Summary:** The Ontario Government announced its Renewable Portfolio Standard mandating that 5% (1,350 megawatts) of all generating capacity is to come from new renewable sources by 2007 and 10% (2,700 MW) by 2010. On April 28, 2004, the Ministry of Energy initiated a request for proposals process, which will assist in meeting these targets. Additional RFPs as well as requests for expressions of interest (RFIs) have been issued and will continue to be managed by the OPA. The government remains responsible for directing the OPA as to the constituent mix of the power supply.

**Agency Responsible:** Ontario Ministry of Energy
**Web site:** http://www.energy.gov.on.ca/index.cfm?fuseaction=english.renewable

**Contact:** -

### *Solarwall*

**Incentive Type:** Grant Program
**Policy Level:** Provincial
**Province/Territory/State:** Quebec

**Eligible Renewable / Other Technologies:** Solar
**Applicable Sectors:** Commercial, institutional and industrial customers of Gaz Métro
**Effective Date:**
**Expiration Date:**
**Summary:** The program is offered to commercial, institutional and industrial customers of Gaz Métro whose buildings utilize natural gas for heating purposes. (With the exception of customers at Rates 4 and 5), participants admitted to Natural Resources Canada's REDI program can benefit from one of the two following forms of assistance: a loan for a five-year term, interest paid by the EFF, to finance the cost for the purchase and installation of a solar wall system, to be deducted from any other subsidy. This loan cannot exceed five times the value of the estimated annual energy savings. The maximum loan for which interest expenses can be financed by the EFF cannot surpass $500,000*; OR a subsidy amounting to 25¢ per cubic meter of natural gas economized due to measures related to the building envelope, based upon an energy analysis

conducted under the framework of either the CBIP or IBIP program. The maximum allowable subsidy is $75,000.

**Agency Responsible:** Energy Efficiency Fund
**Web site:** http://www.fee.qc.ca/en/index.htm

**Contact:** For further information,
contact the Energy Efficiency Fund
Montréal area:
(514) 529-2216
Elsewhere in Québec:
(866) 529-2216
info@fondsee.qc.ca
www.eefund.qc.ca

### *Fuel tax refund for public carriers in respect of biodiesel fuel*

**Incentive Type:** Sales Tax Incentive
**Policy Level:** Provincial
**Province/Territory/State:** Quebec

**Eligible Renewable / Other Technologies:** Biodiesel
**Applicable Sectors:** Public carriers
**Effective Date:** 21-Apr-05
**Expiration Date:** -
**Summary:** The fuel tax system will be changed to increase the current refund rate of fuel tax paid on fuel used to supply the engines of public transit buses from 33.33% to 100% in the case of biodiesel fuel, regardless of whether or not the latter is mixed with another type of fuel at the time it is acquired by the public carrier. This measure will apply to biodiesel fuel acquired by a public carrier after April 21, 2005.

**Agency Responsible:** Ministère du revenu du Québec
**Web site:** http://www.revenu.gouv.qc.ca/eng/ministere/centre_information/nf/nf2005/in-136_68/biodiesel.asp

**Contact:** -

### *Solarwall*

**Incentive Type:** Grant Program
**Policy Level:** Provincial
**Province/Territory/State:** Quebec

**Eligible Renewable / Other Technologies:** Solar
**Applicable Sectors:** Residential customers of Gaz Métro
**Effective Date:**
**Expiration Date:**
**Summary:** Homeowners using natural gas heating who install a solar wall can obtain financial assistance equivalent to $1 per cubic metre of reduced annual consumption. This is equivalent to typical annual savings of $345 for a 55 square-foot wall, or $679 for a 110 square-foot wall. A solar wall installed on the south side of a building uses sunlight to warm air drawn into the building through a heat recovery vent. The rebate is provided by Québec's Energy Efficiency Fund to Gaz Métropolitain customers, and is applicable to both new and existing homes. Must apply and send in request for rebate.

**Agency Responsible:** Energy Efficiency Fund
**Web site:** http://www.fee.qc.ca/en/index.htm

**Contact:** For further information,
contact the Energy Efficiency Fund
Montréal area:
(514) 529-2216
Elsewhere in Québec:
(866) 529-2216
info@fondsee.qc.ca
www.eefund.qc.ca

# Annex 2: Mexico - Laws and Policies

### *Accelerated Depreciation for Environmental Investment*

**Incentive Type:** Tax Exemptions
**Policy Level:** Federal
**Province/Territory/State:** All

**Eligible Renewable / Other Technologies:** All renewables
**Applicable Sectors:** Companies who wish to invest in environmentally friendly technology
**Effective Date:** 1995
**Expiration Date:**
**Summary:** Objective: To support construction of infrastructure that can result in environmental benefits. Investments in environmentally friendly technology, including renewable energy technology, can be 100% depreciated in one year, as defined in articles 21, 22 and 23bis of the General Law for Ecological Equilibrium and Environmental Protection. The fiscal basis for this law is established in article 44, fraction X of the Income Tax Law (*Ley del impuesto Sobre la Renta*—LISR), and operates through the annual income tax declaration.

**Agency Responsible:** Secretariat of Natural Resources and the Environment (Semarnat) and Secretariat of Public Finance (HACIENDA)
**Web site:** http://www.ine.gob.mx

**Contact:** Jorge M. Huacuz and Consolacion Medrano. Non-Conventional Energy Unit. Electrical Research Institute (IIE). jhuacuz@iie.org.mx Phone +(52 77) 7362-3806 Fax +(52 77) 7362-3808

### *Grid interconection contract for renewable energy (Contrato de interconexión para fuente de energía renovable)*

**Incentive Type:** Regulation
**Policy Level:** Federal
**Province/Territory/State:** All

**Eligible Renewable / Other Technologies:** Hydropower, Offshore wind, Onshore wind, Solar photovoltaics, Solar concentrating power
**Applicable Sectors:** Independent power producers, self-suppliers and co-generators using renewable energy sources to generate electricity to be fed to the national grid.
**Effective Date:** 2003
**Expiration Date:**
**Summary:** This piece of regulation sets the requirements for the interconnection of renewable energy sources with the national grid. It also establishes the general conditions for the judiciary acts among the parts related to the generation and transmission of electricity. The interconnection contract for renewable energy applies to intermittent sources of energy, such as wind and solar, as well as to small hydroelectric installations with storage capacity no larger than that necessary to supply electricity during the local peak hours. By means of this interconnection contract, self-suppliers are entitled to swap electricity with the national utility under specific terms and conditions. Under this scheme, surplus energy from the self-supplier can be injected to the grid to be used at a later time. The utility is thus obliged to “store” such surplus electricity for a certain period of time and return it upon demand to the self-supplier. The value of electricity in one direction or the other is calculated by a set of formulas established in the contract terms. The self-supplier needs to meet a number of legal and administrative requirements in order to have access to this type of contract, including having obtained the corresponding construction and generation permits. Year of introduction: 2001.

**Agency Responsible:** Energy Regulatory Commission, Energy Secretariat, Federal Commission of Electricity
**Web site:** http://www.cre.gob.mx

**Contact:** Jorge M. Huacuz and Consolacion Medrano. Non-Conventional Energy Unit. Electrical Research Institute (IIE). jhuacuz@iie.org.mx Phone +(52 77) 7362-3806 Fax +(52 77) 7362-3808

### *Wheeling Service Agreement for electricity from renewable energy sources (Convenio para el servicio de Transmisión de energía eléctrica para fuente de energía renovable)*

**Incentive Type:** Regulation
**Policy Level:** Federal
**Province/Territory/State:** All

**Eligible Renewable / Other Technologies:** All renewables
**Applicable Sectors:** Self-suppliers requiring electricity transport from the point of generation to the point of use
**Effective Date:** 2003
**Expiration Date:**
**Summary:** Establishes the basis, procedures, terms of reference and conditions that must be applied for the wheeling of electricity produced by renewable energy sources, from the interconnection point of the generator with the national grid to the load points of the self-supplier. This regulation applies to self-suppliers of electricity produced from renewable energy sources, whose generation facilities are located away from the premises of the self-supplier where the electricity is consumed. For this regulation to be in effect, the self-supplier must previously sign an interconnection contract with the national electric utility, either CFE (the Federal Commission of Electricity) or LFC (the utility serving the metropolitan Mexico City Area). This regulation establishes a fee for service, according to the type of interconnection contract between the self-supplier and the utility. Year of introduction: 2001.

**Agency Responsible:** Energy Regulatory Commission, Energy Secretariat, Federal Commission of Electricity
**Web site:** http://www.cre.gob.mx

**Contact:** Jorge M. Huacuz and Consolacion Medrano. Non-Conventional Energy Unit. Electrical Research Institute (IIE). jhuacuz@iie.org.mx Phone +(52 77) 7362-3806 Fax +(52 77) 7362-3808

### *Zero import duty (Arancel cero)*

**Incentive Type:** Tax Exemptions
**Policy Level:** Federal
**Province/Territory/State:** All

**Eligible Renewable / Other Technologies:** All renewables
**Applicable Sectors:** -
**Effective Date:** 1997
**Expiration Date:**
**Summary:** Fiscal measure to foster the implementation of environmentally friendly technology. This incentive applies to environmentally friendly equipment purchased abroad Cuando se adquiere en el extranjero equipo de monitoreo, control o prevención de la contaminación se podrá importar al amparo de la facción arancelaria No. 9806.00.04, sin pago de aranceles. La solicitud queda sujeta a disposición de los lineamientos establecidos en SECOFI y SEMARNAT. Year of introduction: 1996.

**Agency Responsible:** Secretariat of Economy (SECOFI) and Secretariat of the Environment and Natural Resources (SEMARNAT)
**Web site:** http://www.ine.gob.mx

**Contact:** -

### *Methodology to establish service charges for transmission of renewable electricity. (Metodología para la determinación de los cargos por servicios de transmisión de energía eléctrica para fuente de energía renovable)*

**Incentive Type:** Regulation
**Policy Level:** Federal
**Province/Territory/State:** All

**Eligible Renewable / Other Technologies:** All renewables
**Applicable Sectors:** -
**Effective Date:** 2003
**Expiration Date:**
**Summary:** Objective: To have a clear methodology for application by the Federal Commission of Electricity (CFE) and the Power and Light Company (LFC) to establish the service charges for transmission of electricity from renewable energy resources. This piece of regulation was introduced to improve the overall efficiency of the transmission system, allow cost recovery by the transmission system operator, and to establish a predictable, transparent and flexible regime to avoid overcharges to the producer. Year of introduction: 2001.

**Agency Responsible:** Energy Regulatory Commission (CRE) the Energy Secretariat (SENER) and the national utilities CFE and LFC
**Web site:** http://www.cre.gob.mx

**Contact:** Jorge M. Huacuz and Consolacion Medrano. Non-Conventional Energy Unit. Electrical Research Institute (IIE). jhuacuz@iie.org.mx Phone +(52 77) 7362-3806 Fax +(52 77) 7362-3808

### *Public Electricity Service Law (Ley del Servicio Público de Energía Eléctrica)*

**Incentive Type:** Regulation
**Policy Level:** Federal
**Province/Territory/State:** All

**Eligible Renewable / Other Technologies:** All renewables
**Applicable Sectors:** Public service electric companies, electricity generators
**Effective Date:** 1975
**Expiration Date:**
**Summary:** This law deals with all aspects of electric energy for public service, including generation, transmission, distribution, transformation and supply. The law establishes that public electricity service is of the exclusive competence of the Mexican State, through the national electricity companies, and must be provided on a least-cost basis. It regulates the obligations of competent institutions and sets penalties for non-compliance. This law was reformed in the period 1992-1994, to allow participation of private entities in the process of electricity generation, excluding from the definition of “public service” the following: self-supply of electricity, co-generation (production of electricity from waste heat for self-supply), small electricity production (under 30 MW for sale to the national electric utility CFE), and independent power production for exclusive sale to CFE. Rules and regulations for these new forms of the electricity business are contained in Articles 36 and 36 Bis of this law.

**Agency Responsible:** Energy Regulatory Commission, Energy Secretariat, Federal Commission of Electricity
**Web site:** http://www.cre.gob.mx

**Contact:** Jorge M. Huacuz and Consolacion Medrano. Non-Conventional Energy Unit. Electrical Research Institute (IIE). jhuacuz@iie.org.mx Phone +(52 77) 7362-3806 Fax +(52 77) 7362-3808

# Annex 3: United States - Laws and Policies

### *Wood-Burning Heating System Deduction*

**Incentive Type:** Personal Deduction
**Policy Level:** State
**Province/Territory/State:** Alabama

**Eligible Renewable / Other Technologies:** Biomass
**Applicable Sectors:** Residential
**Summary:** This statute allows individual taxpayers a deduction for the installation of a wood-burning heating system. The deduction is equal to the total cost of installation for the conversion from gas or electricity to wood when the system is used as the primary energy source for heating a home. The deduction must be taken for the taxable year during which the conversion was completed. Note that this incentive is for the conversion of an existing system and not for the first-time installation of a wood-burning system.

**Source:** http://www.dsireusa.org/

### *Renewable Fuels Program*

**Incentive Type:** State Grant Program
**Policy Level:** State
**Province/Territory/State:** Alabama

**Eligible Renewable / Other Technologies:** Biomass, Landfill Gas, Municipal Solid Waste
**Applicable Sectors:** Industrial, Commercial, Local, Schools, State_Sector, Agricultural
**Summary:** The Renewable Fuels Program assists businesses in installing biomass energy systems. Program participants receive up to $75,000 in interest subsidy payments to help defray the interest expense on loans to install approved biomass projects. Technical assistance is also available through the program.

Industrial, commercial and institutional facilities; agricultural property owners; and city, county, and state government entities are eligible. Interested parties must obtain loans from commercial lending institutions and submit repayment data to ADECA for interest payment assistance. Interest rates on loans should be no greater than 2% above the prime rate.

With an initial emphasis on wood waste, the program now also focuses on switchgrass and municipal solid waste (MSW). A pilot project to assess the feasibility of co-firing switchgrass with coal in electricity production has been completed resulting in a switchgrass to coal mix ratio of up to 10%. ADECA is also interested in landfill gas as a potential source of energy for industrial and other uses. Several landfill waste disposal facilities across Alabama have been identified as prime candidates for landfill gas recovery and utilization.

**Source:** http://www.dsireusa.org/

### *Solar Easements*

**Incentive Type:** Solar Access Law/Guideline
**Policy Level:** State
**Province/Territory/State:** Alaska

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Solar Thermal Electric, Photovoltaics
**Applicable Sectors:** Industrial, Commercial, Residential

**Summary:** Alaska's solar easement provisions are similar to those in many other states. They do not create an automatic right to sunlight. Rather, they allow parties to voluntarily enter into solar easement contracts for the purpose of ensuring adequate exposure of a solar energy system.

**Source:** http://www.dsireusa.org/

### *Power Project Loan Fund*

**Incentive Type:** State Loan Program
**Policy Level:** State
**Province/Territory/State:** Alaska

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Solar Thermal Electric, Photovoltaics, Wind, Renewable Transportation Fuels, Municipal Solid Waste
**Applicable Sectors:** Local, Muni
**Summary:** Created by the Alaska State Legislature and administered by the Alaska Energy Authority, this fund provides loans to local utilities, local governments, regional and village corporations, village councils, nonprofit marketing cooperatives, and independent power producers. It is designed for the development or upgrade of small-scale power production facilities, conservation facilities, and bulk fuel storage facilities. This includes energy production, transmission and distribution, and waste energy conservation facilities that depend on fossil fuel, wind power, tidal, geothermal, biomass, hydroelectric, solar, or other non-nuclear energy sources.

The loan term is related to the life of the project. Interest rates are the lesser of the average weekly yield of municipal bonds for the 12 months preceding the date of loan, or a rate the Division determines will allow the project to be financially feasible. Maximum loan amounts may be determined by available funds in the program. Contact the Alaska Energy Authority for current restrictions on maximum loan amounts. Approximately $3.0 million per year has been made available for loans in the recent past.

**Source:** http://www.dsireusa.org/

### *Solar Equipment Certification*

**Incentive Type:** Equipment Certification
**Policy Level:** State
**Province/Territory/State:** Arizona

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Photovoltaics
**Applicable Sectors:** Industrial, Commercial, Residential, Construction, Installers/Contractors
**Summary:** Collectors, heat exchangers and storage units of solar-energy systems—and the installation of these systems—sold or installed in Arizona must have a warranty of at least two years. The remaining components of the system and their installation must have a warranty of at least one year. Solar-energy systems are subject to random inspections by the state's registrar of contractors.

With the exception of solar-energy systems designed or installed by the final owner, systems sold or installed in Arizona must be installed by licensed solar contractors and must comply with any consumer protection, rating, certification, performance, marking, installation and safety standards adopted by the Arizona Department of Commerce. Furthermore, the installation of a solar-energy system must meet the requirements of all applicable fire, safety and building codes; consumer-protection standards, including freeze protection and temperature-related-damage standards adopted by the Arizona Department of Commerce; and all other applicable federal, state and local laws.

The Arizona Solar Center's web site provides extensive guidelines describing the types of solar devices and systems that are subject to state certification, ratings and other standards.

**Source:** http://www.dsireusa.org/

### *Line Extension Analysis for PV*

**Incentive Type:** Line Extension Analysis
**Policy Level:** State
**Province/Territory/State:** Arizona

**Eligible Renewable / Other Technologies:** Photovoltaics
**Applicable Sectors:** Utility
**Summary:**
The Arizona Corporation Commission requires that, for remote locations with electricity needs, electric utilities must conduct a cost/benefit analysis to compare the cost of line extension with the cost of installation of a stand alone photovoltaic system.

This ruling applies to Arizona Public Service, Tucson Electric Power, Arizona Electric Power Cooperative, and Navopache Electric Cooperative. The state's largest electric utility, Arizona Public Service (APS), offers a financing package for the installation of photovoltaic systems for remote customers. For more information about APS options for remote customers, see <http://www.aps.com/my_community/Solar/solar_7.html>.

**Source:** http://www.dsireusa.org/

### *Fuel Mix and Emissions Disclosure*

**Incentive Type:** Generation Disclosure
**Policy Level:** State
**Province/Territory/State:** Arizona

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Hydro
**Applicable Sectors:** Retail_Suppliers
**Summary:** The Arizona Corporation Commission (ACC) adopted disclosure provisions as part of its 1996 Retail Electric Competition Rules. Under the disclosure provisions, all retail suppliers of electricity must disclose composition, fuel mix, and emissions characteristics upon request and in required semi-annual and annual reports. Electricity providers must use a label format developed by the Utilities Division of the ACC.

**Source:** http://www.dsireusa.org/

### *TEP - Net Metering*

**Incentive Type:** Net Metering Rules
**Policy Level:** State
**Province/Territory/State:** Arizona

**Eligible Renewable / Other Technologies:** Photovoltaics, Wind
**Applicable Sectors:** Commercial, Residential
**Summary:** Tucson Electric Power Company (TEP) offers net metering for solar and wind systems with an AC peak capacity of up to 10 kW. TEP credits net excess generation to the following month's bill. At the end of the year, any remaining credit is granted to the utility. Total net metered capacity in TEP territory is limited to 500 kW. As of January 2005, a total of 37 customers are net metering, providing solar generation capacity of 86 kW.

Installations must meet the IEEE-929 standard, local requirements, and National Electrical Code requirements. Installation must be completed within six months of pre-installation approval, or customer will need to re-apply. Time of use net metering is not available.
See <http://greenwatts.com/Docs/PVApp.pdf> for TEP's one-page interconnection agreement.

Though different from net metering, a July 27, 1981 Arizona Corporation Commission regulatory decision allows net billing at avoided cost. Arizona Public Service Company and TEP both allow net billing.

**Source:** http://www.dsireusa.org/

### *Interconnection Standards*

**Incentive Type:** Interconnection
**Policy Level:** State
**Province/Territory/State:** Arizona

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Other DG, Biomass, Landfill Gas, Hydro, Geothermal Electric, Cogeneration, Fuel Cells
**Applicable Sectors:** Industrial, Commercial, Residential
**Summary:** In 2005, the the Arizona Corporation Commission (ACC) initiated a proceeding to establish statewide interconnection standards for distributed generation (DG). This proceeding is still in progress.

The state's utilities individually developed DG interconnection agreements prior to the ACC's most recent move to establish statewide standards. The Salt River Project (SRP), which is not regulated by the ACC on utility matters, developed DG interconnection guidelines and an interconnection agreement based on draft rules and a report released by the ACC in 1999 and 2000, respectively. SRP's rules include technical protection requirements, an interconnection process flow chart and a two-page interconnection application. The rules establish separate requirements for units based on system capacity:
– Class I — 50 kW or less, single or three-phase
– Class II — 51 kW to 300 kW, three-phase
– Class III — 301 kW to 5 MW, three-phase
– Class IV — more than 5 MW, three-phase

Tucson Electric Power (TEP) and Arizona Public Service (APS), the other two major electric utilities in Arizona, have similarly established their own interconnection rules for DG. It is likely that Arizona's regulated utilities will adopt the ACC's interconnection standards for DG when the final rules are issued.

**Source:** http://www.dsireusa.org/

### *Solar and Wind Energy Systems Credit*

**Incentive Type:** Personal Tax Credit
**Policy Level:** State
**Province/Territory/State:** Arizona

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Solar Thermal Electric, Photovoltaics, Wind, Solar Ovens
**Applicable Sectors:** Residential
**Summary:** Arizona's Solar Energy Credit provides an individual taxpayer with a credit for installing a solar or wind energy device at the taxpayer's Arizona residence. The credit is allowed against the taxpayer's personal income tax in the amount of 25% of the cost of a solar or wind energy device, with a $1,000 maximum allowable limit, regardless of the number of energy devices installed. The credit should be claimed in the year of installation and if the amount of the

credit exceeds a taxpayer's liability in a certain year, the unused portion of the credit may be carried forward for up to five years.

Qualifying technologies include solar domestic water heating systems, solar swimming pool and spa heating systems, solar photovoltaic systems, solar photovoltaic phones and street lights, passive solar building systems (trombe walls, thermal mass, etc.), solar daylighting systems (excluding conventional skylights), wind generators, and wind powered pumps.

**Source:** http://www.dsireusa.org/

### *Solar and Wind Equipment Sales Tax Exemption*

**Incentive Type:** Sales Tax Exemption
**Policy Level:** State
**Province/Territory/State:** Arizona

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Solar Thermal Electric, Photovoltaics, Wind
**Applicable Sectors:** Commercial, Residential, Government
**Summary:** Arizona provides a sales tax exemption for the sale or installation of "solar energy devices," as these devices are defined within the Arizona Revised Statutes (A.R.S.). Transaction privilege ("sales") tax exemptions apply to retail sales of solar energy devices, and installations of such devices under the prime contracting classification. Certain state income tax credits are also available.

A solar energy retailer may exclude from tax up to $5,000 from the sale of each solar energy device, and a solar energy contractor may exclude up to $5,000 of income derived from a contract to provide and install a solar energy device. For contractors, the deduction cap of $5,000 applies to the contract, rather than each energy device. To take advantage of these exemptions, a retailer or contractor must register with the Arizona Department of Revenue (ADOR) filing Arizona Department of Revenue Form 6015 - Solar Energy Devices.

The statutory definition of "solar energy device" includes wind electric generators and wind-powered water pumps in addition to daylighting, passive solar heating, active solar space heating, solar water heating, and photovoltaics. The sales tax exemption does not apply to batteries, controls, etc., that are not part of the system.

According to the Arizona Solar Center's web site, another provision of Arizona sales tax exemption may apply without value limit to the basic power generating part of the system (consisting of at least PV modules, structure, array wiring and controls; the limits have not been clearly defined). This further exemption requires the filling out of form ADOR 5000 titled "Transaction Privilege Tax Exemption Certificate" and checking reason #16, "Machinery, equipment or transmission lines used directly in producing or transmitting electrical power, but not including distribution."

Most cities have a 0.5 to 2% city privilege ("sales") tax that is applicable to sales or installations of solar energy devices, unless a city specifically exempts such sales under its city tax code. Solar energy retailers should check with the city in which the retail business is located to find out whether city privilege tax is applicable. Solar energy contractors should check with the city in which the installation will be performed to find out whether city privilege tax is applicable.

**Source:** http://www.dsireusa.org/

### *Environmental Portfolio Standard*

**Incentive Type:** Renewables Portfolio Standard
**Policy Level:** State

**Province/Territory/State:** Arizona

**Eligible Renewable / Other Technologies:** Active Water Heat, Solar Thermal Electric, Photovoltaics, Wind, Biomass, Landfill Gas, Solar Air Conditioning
**Applicable Sectors:** Utility
**Summary:**
Note: The Arizona Environmental Portfolio Standard is currently under review and proposed modifications are being developed. Visit the Web site above for the latest developments.

Under Arizona's Environmental Portfolio Standard (EPS), regulated utilities in the state are required to generate a certain percentage of their electricity with renewable energy according to the following schedule:
– 0.2% in 2001
– 0.4% in 2002
– 0.6% in 2003
– 0.8% in 2004
– 1.0% in 2005
– 1.05% in 2006
– 1.1% in 2007-2012

Eligible technologies include solar electric, solar water heating and solar air conditioning, landfill gas, wind and biomass. Solar electric power must make up 50% of total renewables required in 2001, increasing to 60% in 2004-2012. Arizona Public Service, a utiliity, has requested and received a rule waiver allowing it to meet a portion of its EPS requirements using geothermal resources.

Funding for the EPS comes from existing system benefits charges and a new surcharge to be collected by the state's regulated utilities. The new surcharge is capped at $0.35 per month for residential customers, $13 per month for non-residential customers and $39 per month for customers with loads over 3 MW. At least $15 million-$20 million will be collected annually to support the EPS.

Interestingly, the standard includes a caveat that if the cost of solar technologies does not decrease to a Commission-determined cost/benefit point by the end of 2004, the portfolio requirement will not continue to increase. On February 10, 2004, the ACC voted to allow the standard to continue increasing to 1.1% of electricity from renewables by 2007. Workshops will be held to determine whether the current surcharge on residential electric bills of up to $0.35 per month should be increased, and whether a requirement that 60% of the renewable energy come from solar resources should be modified or eliminated.

If sustained, the standard will produce almost 100 MW of solar power by 2007.

**Source:** http://www.dsireusa.org/

### *Solar Design Standards for State Buildings*

**Incentive Type:** State Construction Policy
**Policy Level:** State
**Province/Territory/State:** Arizona

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Solar Thermal Electric, Photovoltaics
**Applicable Sectors:** Schools, Construction, State_Sector
**Summary:**
Arizona law requires that new state building projects over six thousand square feet follow prescribed solar design standards and that solar improvements be evaluated on the basis of life

cycle costing. Such new buildings include state office buildings, school districts, community college districts and universities. These projects must include evaluation of: (a) proper site orientation; (b) active and passive solar energy systems for space heating; (c) solar water heating; and (d) use of solar daylighting devices. The life cycle costing requirements state that solar energy and energy conservation design, equipment and materials shall be used if the simple payback in energy savings is eight years or less.

**Source:** http://www.dsireusa.org/

### *Solar Contractor Licensing*

**Incentive Type:** Contractor Licensing
**Policy Level:** State
**Province/Territory/State:** Arizona

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics
**Applicable Sectors:** Installers_Contractors
**Summary:** The Arizona Registrar of Contractors does not offer a general solar license, but the state's C11/L11 electrical license covers solar installations. There is a special solar domestic hot water license, and it is possible to obtain a special negotiated "Solar-Electric Installations Only" license (C05). The "Solar-Electric Installations Only" license allows installers to subcontract related tasks, such as landscaping, that licensed electricians technically are not able to undertake unless they also hold a general contractor's license.

All contractors who work with solar-energy systems must have four years of relevant work experience and must pass an exam in order to receive a license in Arizona. The following licensing exams include sections on solar applications: air conditioning and refrigeration, boilers, steamfitting and process piping, swimming pools, and general plumbing. There is a commercial license and a residential license available for each of these categories.

**Source:** http://www.dsireusa.org/

### *Solar Energy Covenant Restrictions*

**Incentive Type:** Solar Access Law/Guideline
**Policy Level:** State
**Province/Territory/State:** Arizona

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Solar Thermal Electric, Photovoltaics
**Applicable Sectors:** Residential
**Summary:** This state law, which was passed by the Arizona Legislature in 1979 in order to protect individual homeowners' private property rights to use solar, dissolves any local covenant, restriction, or condition attached to a property deed that restricts the use of solar energy.

This law was challenged in the courts in the spring of 2000. A Maricopa County Superior Court judge ruled in favor of homeowners in a lawsuit filed by their homeowners association seeking to force the homeowners to take down solar panels installed on the roof. After a four-day trial, the Judge found that the association's "guidelines combined with [its] conduct "effectively prohibited" the defendants from placing solar heating devices on their residence, contrary to the provisions of A.R.S.-33-439 (A)."

**Source:** http://www.dsireusa.org/

### *Qualifying Wood Stove Deduction*

**Incentive Type:** Personal Deduction
**Policy Level:** State
**Province/Territory/State:** Arizona

**Eligible Renewable / Other Technologies:** Wood Stoves
**Applicable Sectors:** Residential
**Summary:** This incentive allows Arizona taxpayers to deduct the cost of converting an existing wood fireplace to a qualifying wood stove. The cost to purchase and install all necessary equipment is tax deductible, up to a maximum $500 deduction. Qualifying wood stoves must meet the standards of performance for new wood heaters manufactured after July 1990, or sold after July 1992. This deduction is for taxable years after December 31, 1993.

**Source:** http://www.dsireusa.org/

### *Renewable Energy and Energy Efficiency in New State Buildings*

**Incentive Type:** State Construction Policy
**Policy Level:** State
**Province/Territory/State:** Arizona

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Photovoltaics, Wind, Biomass
**Applicable Sectors:** State Sector
**Summary:** On February 11, 2005 Arizona's Governor issued Executive Order 2005-05 requiring new state-funded buildings to include renewable energy in their power mix and to meet energy efficiency and green building standards.

All state-funded buildings constructed after February 11, 2005 are to be designed and constructed to derive at least 10% of their energy from a renewable resource. Renewable resources may include solar, wind, or use of thermal energy from biomass fuels for heating and/or cooling. This goal may also be met through the purchase of renewable energy credits as defined by the Department of Commerce Energy Office.

In addition to complying with energy efficiency standards consistent with < > Arizona Revised Statutes § 34-451 and Executive Order 2003-14, new state-funded buildings must also meet at least the "silver" Leadership in Energy & Environmental Design (LEED) standard.

The Arizona Department of Administration, Arizona Department of Transportation and the Arizona School Facilities Board are required to submit a report to the Governor and to the Department of Administration by August 1, 2005, and annually thereafter, summarizing: (a) actions take to achieve the renewable and energy efficiency goals of the Order; and (b) the extent to which the goal has been achieved; and (c) if the goal was not achieved, an explanation of why and an assessment of what can be done to achieve the goals.

The Executive Order is directed toward Executive Branch agencies, but all other branches of state government are also encouraged to review and comply with the design standards.

**Source:** http://www.dsireusa.org/

### *Interconnection Standards*

**Incentive Type:** Interconnection
**Policy Level:** State
**Province/Territory/State:** Arkansas

**Eligible Renewable / Other Technologies:** Photovoltaics, Wind, Biomass, Hydro, Fuel Cells
**Applicable Sectors:** Industrial, Commercial, Residential
**Summary:** On July 26, 2002, the Arkansas Public Service Commission (PSC) approved final net-metering rules (Order No. 02-046-R). Section 3 applies to the interconnection of net-metered facilities to existing electric power systems. Facilities producing electricity using solar, wind, hydro, geothermal and biomass resources are eligible to interconnect and net meter. Microturbines and fuel cells using renewable resources are also eligible.

Customers must submit a standard interconnection agreement to the utility 30 days prior to interconnecting. The facility must meet all performance standards established by local and national electric codes, including the National Electric Code (NEC), the Institute of Electrical and Electronic Engineers (IEEE), the National Electrical Safety Code (NESC) and Underwriters Laboratories (UL). In addition, utilities may require facilities to meet any other safety and performance standards approved by the PSC.

As in many states, Arkansas requires customers to install a manual external disconnect device accessible to utilities in the case of an emergency. However, this requirement may be waived if an inverter is (1) designed to automatically disconnect or shut down during a power outage, (2) warranted to do so by the manufacturer, and (3) inspected and approved by the utility. Customers must pay any equipment costs, including those necessary to fulfill safety standards. The PSC's order does not address insurance requirements or mandatory fees for interconnection.

**Source:** http://www.dsireusa.org/

### *Arkansas - Net Metering*

**Incentive Type:** Net Metering Rules
**Policy Level:** State
**Province/Territory/State:** Arkansas

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Hydro, Geothermal Electric, Fuel Cells, Microturbines using renewable fuels
**Applicable Sectors:** Industrial, Commercial, Residential
**Summary:** On April 13, 2001, the Arkansas legislature passed HB 2325, The Arkansas Renewable Energy Development Act of 2001, directing the Arkansas Public Service Commission (PSC) to establish net metering rules. On July 26, 2002, the PSC approved final net-metering rules.

Residential renewable energy systems with a generating capacity of up to 25 kilowatts (kW) and commercial systems up to 100 kW are eligible for net metering. Eligible technologies include solar, wind, hydroelectric, geothermal and biomass systems, as well as fuel cells and microturbines using renewable fuels. There is no limit on the number of customers per utility who may net meter.

In addition, Arkansas PSC Order No. 02-046-R states that any net excess generation (NEG) will be credited to the utility at the end of the billing period without any compensation to the customer. However, if it seems necessary in order to encourage net metering, the PSC may reconsider the option of "banking" excess generation.

**Source:** http://www.dsireusa.org/

### *Solar Energy Equipment Certification*

**Incentive Type:** Equipment Certification
**Policy Level:** State
**Province/Territory/State:** Arkansas

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Solar Thermal Process Heat, Photovoltaics
**Applicable Sectors:** Commercial, Residential, Construction
**Summary:** Mandatory solar energy equipment certification is performed by the Arkansas Department of Health. Relevant equipment includes active solar water and space heating, passive space heating, and photovoltaic systems. Equipment is required to meet the 2003 International Plumbing Code standards. Solar systems are covered under Section 612.

**Source:** http://www.dsireusa.org/

### *Solar Rights Act*

**Incentive Type:** Solar Access Law/Guideline
**Policy Level:** State
**Province/Territory/State:** California

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics
**Applicable Sectors:** Government
**Summary:** The Solar Rights Act (CA Civil Code 714), passed in 1978, bars restrictions on the installation of solar systems for homeowners associations, but originally did not specifically apply to cities, counties, municipalities or other public entities. The Act was amended by AB 1407, signed by the Governor on September 3, 2003, to prohibit a public entity from receiving state grant funding or loans for solar energy programs if it prohibits or places unreasonable restrictions on the installation of solar energy systems. It requires public entities to certify that they are not placing unreasonable restrictions on the procurement of solar energy systems when applying for state-sponsored grants and loans.

The Act was amended again in September 2004 by AB 2473 in order to extend its bar on restrictions to any public entity. Additional key changes minimize aesthetic solar restrictions to those that cost less than $2,000 and limits building official's review of solar installations only to those items that relate to specific health and safety requirements of local, state and federal law.

**Source:** http://www.dsireusa.org/

### *Solar Easement and the Solar Shade Control Act*

**Incentive Type:** Solar Access Law/Guideline
**Policy Level:** State
**Province/Territory/State:** California

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics
**Applicable Sectors:** Industrial, Commercial, Residential
**Summary:** California's solar access laws appear in the state's Civil, Government, Health and Safety, and Public Resources Codes. California's Civil Code (714) ensures that solar easements may be created to ensure that proper sunlight is available to those who operate solar energy systems, including passive solar design. The Civil Code also states that no covenant or restriction contained in any document pertaining to the sale of property can contain language that explicitly prohibits or restricts the installation or use of a solar energy system.

California's Government Code (65850.5) provides that subdivisions may have included in their plans solar easements applicable to all plots within the subdivision. California's Public Resources Code (25980) lays out the Solar Shade Control Act, which encourages the use of trees and other natural shading except in cases where the shading may interfere with the use of active and passive solar systems.

**Source:** http://www.dsireusa.org/

### *Solar Contractor Licensing*

**Incentive Type:** Contractor Licensing
**Policy Level:** State
**Province/Territory/State:** California

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics, Radiant Heat
**Applicable Sectors:** Installers_Contractors
**Summary:** The California Contractors State License Board administers contractor licenses. Eligible contractor licenses for solar are the A (Engineering), B (Building) and the C-46 (Solar Specialty) license for both thermal and photovoltaic systems, or the C-10 (Electrical) license for photovoltaics only.

For the Solar Specialty license (C-46), requirements include four years experience and the passing of both trade and law exams. Independent license schools offer courses to prepare for license exams. The license covers active solar energy systems including but not limited to: forced air systems, forced circulation water systems, thermosiphon systems, integral collector/storage systems, radiant systems, evaporative cooling systems with collectors, regenerative rockbed cooling systems, photovoltaic cells, and solar assisted absorption cooling systems.

**Source:** http://www.dsireusa.org/

### *Renewable Resources Trust Fund*

**Incentive Type:** Public Benefits Fund
**Policy Level:** State
**Province/Territory/State:** California

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Landfill Gas, Geothermal Electric, Municipal Solid Waste, (Note: small hydro is 30 MW or less)
**Applicable Sectors:** Industrial, Commercial, Residential, Government
**Summary:** California set the bar for all other renewable energy funds with the creation of a $540 million fund for renewables with its electric industry restructuring legislation (AB 1890) back in 1996. The success of that program led to legislation in 2000 (AB 995 and SB 1194) that extended funding—at the same annual levels—for 10 years (through 2012), creating an additional $1.35 billion in funding for renewables. SB 1038 (2002) authorized the California Energy Commission (Energy Commission) to administer the fund.

Funding is collected from customers of the state's three major investor-owned utilities—SDG&E, SCE and PG&E. The Energy Commission manages the renewables funds through four programs:
– Existing Renewable Facilities Program - 20% ($27 million/year)
– New Renewables Facilities Program - 51.5% ($69.5 million/year)
– Emerging Renewables Program - 26.5% ($35.8 million/year)
– Consumer Education Program - 2% ($2.7 million/year)

The Existing Renewable Facilities Program is divided into two tiers: (1) biomass and solar-thermal projects, which receive $20.25 million in annual funding, and (2) wind projects, which receive $6.75 million in annual funding. This program supports the development and maintenance of existing renewable energy projects (i.e., renewable projects that have already been constructed). This account uses a production credit mechanism based on the kilowatt-hours generated by a project.

The New Renewables Facilities Program supports prospective new renewable energy projects that generate electricity. Once on line, the new facilities receive incentive payments for a maximum of five years, and like the Existing Program, incentives are awarded based on the number of kilowatt-hours generated.

The Emerging Renewables Program is being administered through a rebate program. SB 1038 (2002)specifies that photovoltaics (PV), solar thermal electric, fuel cells that use renewable fuels, and wind turbines up to 50 kW are eligible under this program. Rebate levels have varied over the duration of the program, traditionally declining by $0.20 per watt every six months, however the Energy Commission may decide to change the rebate amounts or schedule. Rebates are 15% less for owner-installed or self-installed systems, and 25% more for systems installed on affordable housing (not to exceed 75% of the system cost). Additionally, $10 million of the Emerging Renewables funds is allocated for its Pilot Performance-Based Incentive Program (PBI). The PBI provides rebates to program participants based on the actual electricity generated by their PV systems.

The Consumer Education Program provides funds to promote renewable energy and help build the market for emerging renewable technologies. Consumer Education dollars are also used for tracking and verifying renewable energy purchases under the Renewables Portfolio Standard.

**Source:** http://www.dsireusa.org/

### *Emerging Renewables (Rebate) Program*

**Incentive Type:** State Rebate Program
**Policy Level:** State
**Province/Territory/State:** California

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind
**Applicable Sectors:** Industrial, Commercial, Residential, Schools, Institutional, LowIncomeRes, Agricultural
**Summary:** The Emerging Renewables Program (ERP) provides incentives for the purchase of four types of grid-connected renewable energy generating systems - photovoltaics, solar thermal electric systems, fuel cells using renewable fuels, and small wind turbines.

This program is offered to all grid-connected utility customers within the electric utility service areas of: Pacific Gas & Electric Company (PG&E), Southern California Edison Company (SCE), San Diego Gas & Electric Company (SDG&E) and Southern California Water Company (doing business as Bear Valley Electric Service (BVE))

Beginning January 1, 2005, the rebate amounts are as follows:
– PV: $2.80/W for systems less than 30 kW in capacity
– Wind: $1.70/W for first 7.5 kW and $0.70/W for increments >7.5 kW up to 30 kW
– Solar thermal electric: $3.20/W
– Fuel cells using renewable fuels: $3.20/W

Rebates for owner-installed systems are further discounted by 15 percent. The rebate levels for all technology types will continue to be reduced by $0.20/W every six months (every January 1st and July 1st).

Rebates for eligible renewable energy systems installed on affordable housing projects are available at 25% above the standard rebate level up to 75% of the system's installed cost.

Note that wind systems up to 50 kW in size may participate, but the rebates for such systems are limited to less than 30 kW.

Participants in the ERP program for photovoltaic systems may choose to receive the incentive as a capacity-based rebate in a lump sum as described above or as a performance-based incentive (PBI). The PBI is based on the amount of electricity generated by a system and is paid over a three year period. A total of $10M is allocated to this pilot performance-based incentive program for PV systems. The performance based incentive level will remain constant for duration of the pilot program

– PV performance-based incentive: $0.50/kWh for three years.

There is no limitation on the size of an eligible system, but the funding cap for any system or group of systems at one site is capped at $400,000. In addition, the maximum funding available for all systems installed by any corporate or government parent is capped at $1,000,000. The PBI incentive program cannot be combined with other funding under the ERP, the Self Generation Incentive Program (SGIP), the Rebuild San Diego Program approved by the California Public Utilities Commission, or any other rebate program funded with electric utility ratepayer funds.

Incentives received from sources other than this program, such as other utility incentive programs, a State of California sponsored incentive program, or a federal government sponsored incentive program, other than tax credits, will reduce the amount of the Emerging Renewables rebate by fifty percent (50%) of other incentives received or expected.

The following system requirements apply:
- must be grid connected;
- electricity production is not to exceed 200% of the site's historical or current electricity needs;
- the equipment retailer must provide a five-year warranty;
- systems/components must meet national standards;
- only new equipment is eligible;
- systems must be installed by licensed contractors or owner-installed;
- all systems must be installed with a performance meter; and
- system audits will be conducted by the Energy Commission.

Applicants are responsible for all costs associated with the purchase and installation of an approved revenue-quality meter and must make arrangements with their electric utility for the meter’s installation.

As of October 2005, over 15,000 new systems have been installed since the rebate program began in 1998.

**Source:** http://www.dsireusa.org/

### *Tax Deduction for Interest on Loans for Energy Efficiency*

**Incentive Type:** Personal Deduction
**Policy Level:** State
**Province/Territory/State:** California

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Photovoltaics, En Eff
**Applicable Sectors:** Residential
**Summary:** This personal tax deduction allows taxpayers to deduct the interest paid on loans used to purchase energy efficient products or equipment for a residence in California. The deduction is for loans from a publicly owned utility company for the purchase of energy-efficient heating, ventilation, air-conditioning, lighting, solar, advanced metering of energy usage, windows, insulation, zone heating products, and weatherization systems. Customers of publicly owned utility companies that do not offer customer financing may be able to deduct the interest

from a home equity or home improvement loan used to purchase energy efficient products and equipment.

Publicly owned utility companies must issue a federal income tax Form 1098, or similar form, to notify their customers of their eligibility for this deduction. Furthermore, this deduction may not be taken if a tax credit is taken for the purchase of the energy efficient equipment. Contact the IRS for more information.

**Source:** http://www.dsireusa.org/

### *Power Source Disclosure Program*

**Incentive Type:** Generation Disclosure
**Policy Level:** State
**Province/Territory/State:** California

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Geothermal Electric, Municipal Solid Waste
**Applicable Sectors:** Utility
**Summary:** As a result of Senate Bill 1305 (1997), California's energy suppliers must disclose to all customers the energy resource mix used in generation. Providers must use a standard label created by the California Energy Commission (CEC), and this information must be provided to end-use customers at least four times per year. In addition, energy suppliers must submit an annual report to the Commission detailing the specifics of the purchasing and selling of energy.

**Source:** http://www.dsireusa.org/

### *Self-Generation Incentive Program (SGIP)*

**Incentive Type:** State Rebate Program
**Policy Level:** State
**Province/Territory/State:** California

**Eligible Renewable / Other Technologies:** Photovoltaics, Wind, Other DG, Cogeneration, Fuel Cells
**Applicable Sectors:** Industrial, Commercial, Residential
**Summary:** Note: On December 15, 2005 the California Public Utilities Commission approved the first phase of the California Solar Initiative—increasing the 2006 budget for solar PV projects under the SGIP program by $300 million. The 2006 money will go toward the current waitlist accumulated since mid-2005 at $3/W, as well as for new applicants in 2006 at $2.80/W. The PUC will vote on Janaury 12, 2006 on the long-term funding plan from 2007 to 2016. Click <http://www.cpuc.ca.gov/static/energy/electric/051005_sgip.htm> for a summary of proposed program changes and funding levels.

On March 27, 2001, the California Public Utilities Commission (CPUC) announced new incentive programs to encourage residential and commercial electricity customers to install grid-tied renewables and clean distributed-generation (DG) systems. The Self-Generation Incentive Program (SGIP) offers incentives to customers who produce electricity with microturbines, gas turbines, wind turbines, photovoltaics (PV), fuel cells and internal combustion engines. The incentive payments range from $1/W to $4.50/W for renewables, depending on the type of system. AB 1685 of 2003 provided funding of approximately $500 million and extended the program expiration date from December 31, 2004 to January 1, 2008. The bill also expanded some program requirements, as well as the definitions of "ultra clean" and "low-emission" DG. The December 2005 PUC decision increased the amount originally allocated to solar projects for 2006 by $300 million.

The following technologies and corresponding incentive amounts apply:

Technologies using renewable fuels:
– PV (Level 1) - $2.80/W for 2006 projects ($3/W for 2005 wait-listed projects)
– Wind turbines (Level 1) - $1.50/W
– Fuel cells (Level 1) - $4.50/W
– Microturbines and Small Gas Turbines (Level 3-R) - $1.30/W
– IC Engines and Large Gas Turbines (Level 3-R) - $1.00/W

Technologies using non-renewable fuels:
– Fuel cells (Level 2) - $2.50/W
– Microturbines and Small Gas Turbines (Level 3-N) - $0.80/W
– IC Engines and Large Gas Turbines (Level 3-N) - $0.60/W

The maximum eligible system size is 5 MW, although the incentive payment remains capped at 1 MW. Note that the SGIP rebate will be considered the "last rebate" applied in cases where other incentives will be obtained. Projects receiving incentives based on future performance of the system are not eligible to receive a SGIP rebate.

PG&E, SCE, and SoCal Gas administer the SGIP program in their service territories, and the San Diego Regional Energy Office administers the program in SDG&E's territory. Customers of PG&E, SDG&E, SCE and SoCal Gas should contact their program administrator for an application, program handbook and additional eligibility information.

Program Administrator Contact Information:

Pacific Gas & Electric (PG&E)
Web: <http://www.pge.com/selfgen>
Phone: 415-973-6436
Email: selfgen@pge.com
Fax: (415) 973-2510
Mailing Address: Self-Generation Incentive Program
P.O. Box 770000
Mail Code B27P
San Francisco, CA 94177-001

San Diego Regional Energy Office (administrator for San Diego Gas & Electric, or SDG&E)
Web: <http://www.sdenergy.org/ContentPage.asp?ContentID=35&SectionID=24>
Contact: Nathalie Osborn, Program Manager
Phone: (858) 244-1193
Phone 1-866-SDENERGY
Fax: (858) 244-1178
Email: selfgen@sdenergy.org
Address: San Diego Regional Energy Office
Attn: SELFGEN Program Manager
8520 Tech Way Suite 110
San Diego, CA 92123

Southern California Edison (SCE)
Web: <http://www.sce.com/RebatesandSavings/SelfGenerationIncentiveProgram>
Phone: 1-800-736-4777 or (626) 302-8436
Fax: (626) 302-6253
Email: greenh@sce.com
Address: Program Manager Self-Generation Incentive Program
Southern California Edison
2131 Walnut Grove Avenue, 3rd Floor, B 10
Rosemead, California 91770

Southern California Gas Company (SoCalGas)
Web: <http://www.socalgas.com/business/selfgen>
Phone: 1-866-347-3228
Email: selfgeneration@socalgas.com
Fax: (213) 244-8222
Address: Self-Generation Incentive Program Administrator
Southern California Gas Company
555 West Fifth Street, GT22H4
Los Angeles, CA 90013-1011

**Source:** http://www.dsireusa.org/

### *California - Net Metering*

**Incentive Type:** Net Metering Rules
**Policy Level:** State
**Province/Territory/State:** California

**Eligible Renewable / Other Technologies:** Photovoltaics, Wind, Landfill Gas, Fuel Cells
**Applicable Sectors:** Industrial, Commercial, Residential
**Summary:** California's net-metering law, which took effect in 1996, requires all three of California's investor-owned electric utilities (PG&E, SCE, and SDG&E) and the state's rural cooperatives to allow net metering to all customers for systems up to 1 megawatt (MW). Municipal utilities are allowed to permit either net-metering or co-metering, and both the Los Angeles Department of Water and Power—the largest municipal utility in the United States—and the Sacramento Municipal Utility District (SMUD) offer net metering.

The original law applied to wind-energy systems, solar-electric systems and hybrid (wind/solar) systems. In September 2002, legislation (AB 2228) allowed biogas-electric facilities up to 1 MW to net meter until December 31, 2005, under a pilot program. This pilot program was extended until December 31, 2009, with the passage of AB 728 in September 2005. A customer-generator may continue to net meter an eligible biogas digester for the life of the facility, provided the digester meets California's best available control technology (BACT) requirements upon installation. Furthermore, AB 728 (2005) authorizes up to three large biogas digesters—systems with a capacity greater than 1 MW but no more than 10 MW—to net meter. There is a 50-MW statewide limit on net-metered biogas digesters. California law provides for retail cost recovery of revenue loss from net-metered biogas digesters.

The 2002 net-metering amendments (AB 58) also:
– limit the total amount of net metering to 0.5% of a utility's peak demand;
– exempt net metering from "exit fees" or "departing load fees;"
– prohibit inter-class cost shifting that results from net metering;
– allow municipal utilities to permit either net-metering or co-metering, which credits customers for generation on a "time-of-use" basis for the generation value of their production;
– advise the state treasurer to consider net metering and co-metering projects as sustainable building methods or distributed-energy technologies for purposes of evaluating low-income housing projects;
– grandfather in projects permitted prior to December 31, 2002, and completed before September 30, 2003;
– permit wind-energy projects up to 50 kW to net meter; and
– require wind-energy projects from 50 kW to 1 MW to utilize "wind energy co-metering," which provides for time-of-use pricing and credits.

Subsequent legislation enacted in October 2003 (AB 1214) made fuel cells eligible for net metering until the total cumulative rated generating capacity of net-metered fuel cells reaches 45

MW within the service territory of a utility with a peak demand of at least 10,000 MW, or until the capacity reaches 22.5 MW within the service territory of a utility with a peak demand of 10,000 MW or less. The maximum total capacity of all net-metered fuel cells in all service territories is limited to 112.5 MW. The repeal date for this provision, January 1, 2006, was removed by AB 67 2005. Under terms of AB 67 of 2005, fuel cells that begin operation before January 1, 2010, are eligible to net meter. Eligible fuel-cell systems may net meter for the operating life of the facility.

Net excess generation (NEG) is carried forward to a customer's next bill for up to 12 months. Any NEG remaining at the end of each 12-month period is granted to the customer's utility. Customers subject to time-of-use rates are entitled to deliver electricity back to the system for the same time-of-use (including real-time) price that they pay for power purchases. However, time-of-use customers who choose to net meter must pay for the metering equipment capable of making such measurements.

The combined capacity of net-metered systems may not exceed 0.5% of a utility's peak demand. However, legislation enacted in July 2005 (SB 816) created a separate limit of 50 MW for SDG&E, an increase over the previous limit.

California does not allow any new or additional demand charges, standby charges, customer charges, minimum monthly charges, interconnection charges, or other charges that would increase an eligible customer-generator's costs beyond those of other customers in the rate class to which the eligible customer-generator would otherwise be assigned. The CPUC has explicitly ruled that technologies eligible for net metering (up to 1 MW) are exempt from interconnection application fees, as well as from initial and supplemental interconnection review fees.

Additional Resources: PG&E's net-metering web page
– SCE's net-metering web page
– SDG&E's net-metering web page

**Source:** http://www.dsireusa.org/

### *Renewables Portfolio Standard*

**Incentive Type:** Renewables Portfolio Standard
**Policy Level:** State
**Province/Territory/State:** California

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Landfill Gas, Hydro, Geothermal Electric, Municipal Solid Waste
**Applicable Sectors:** IOU, Later: ESPs and CCAs. Munis implement themselves.
**Summary:** Note: California's Renewable Portfolio Standard (RPS) program is currently under review by the California Public Utilities Commission (CPUC), the California Energy Commission, and the California Legislature. See the Energy Commission's 2005 Integrated Energy Policy Report for a detailed discussion.

When California's RPS was enacted on September 12, 2002 (SB 1078), it required retail sellers of electricity to purchase 20% of their electricity from renewable resources by 2017, and was already the most aggressive RPS in the country. Because of perceived significant IOU progress towards this goal, The Energy Commission and CPUC accelerated this goal of 20% renewables to 2010 and set the state's 2020 goal at 33%.

Eligible renewable resources include biomass, solar thermal, photovoltaics, wind, geothermal, fuel cells using renewable fuels, small hydropower of 30 megawatts or less, digester gas, landfill gas, ocean wave, ocean thermal and tidal current. Municipal solid waste is generally eligible only

if it is converted to a clean-burning fuel using a non-combustion thermal process. There are restrictions for some of these technologies.

Under the RPS, retail sellers of electricity are required to increase their procurement of eligible renewable-energy resources by at least 2% per year, so that 20% of their retail sales are procured from eligible renewable energy resources by 2010. They are currently developing rules that will apply to investor owned utilities (IOUs), and will later develop rules for electric service providers and community choice aggregators. Municipal utilities are ordered by the legislation to implement RPS programs under their own direction.

The Energy Commission, in collaboration with the CPUC, has initiated a proceeding to implement the state's RPS. Pursuant to SB 1078 (2002), the Energy Commission must:

– Certify eligible renewable resources that meet criteria contained in the bill;
– Design and implement a tracking and verification system to ensure that renewable energy output is counted only once for the purpose of the RPS and for verifying retail product claims in California or other states; and
– Allocate and award supplemental energy payments as specified in SB 1038 to eligible renewable energy resources to cover above-market costs of renewable energy.

The CPUC is addressing its responsibilities in implementing the RPS through a separate proceeding (Docket R. 01-10-24). The CPUC, in collaboration with the Energy Commission, is charged with:
– Determining market price referents for electricity from non-renewable sources. The IOUs will hold solicitations to purchase electricity from renewable generators, and bids above the referents may be eligible for supplemental energy payments from the Energy Commission.
– Establishing the process for the IOUs to follow in selecting the "least cost" bidders of renewable energy that "best fit" the IOUs resource needs. IOUs will use the process to select winning bidders from their solicitations to procure renewable electricity.
– Implementing flexible rules for compliance with annual procurement targets. If an IOU fails to procure sufficient renewable energy, despite the flexibility, the CPUC will impose penalties.
– Establishing the standard terms and conditions to be used by all IOUs in contracting for eligible renewable energy resources. Parties will have an opportunity to negotiate terms and conditions over the third quarter of 2003.

The California Legislature has charged the Energy Commission with developing a tracking system for implementing the RPS. In response, the Western Renewable Energy Generation Information System (WREGIS), a renewable-energy tracking system, is being developed jointly by the Energy Commission and the Western Governors' Association (WGA), with input from stakeholders.

**Source:** http://www.dsireusa.org/

### *Property Tax Exemption for Solar Systems*

**Incentive Type:** Property Tax Exemption
**Policy Level:** State
**Province/Territory/State:** California

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics, Solar Mechanical Energy
**Applicable Sectors:** Industrial, Commercial, Residential
**Summary:** Section 73 of the California Revenue and Taxation Code allows a property tax exemption for certain types of solar energy systems installed on or before December 31, 2009. (The original exemption was set to expire at the end of 2005 but has been extended through 2009.) Qualifying solar energy systems are defined as those that "are thermally isolated from

living space or any other area where the energy is used, to provide for the collection, storage, or distribution of solar energy." These include active solar energy systems, solar process heating systems, photovoltaic (PV) systems and solar thermal electric systems. Solar pool heating systems and solar hot-tub-heating systems are not eligible.

Pipes and ducts that are used to carry both solar energy and energy derived from other sources qualify for the exemption only to the extent of 75% of their full cash value. Likewise, dual-use equipment for solar-electric systems qualifies for the exemption only to the extent of 75% of its value.

System owners should contact their County Assessor's office for further information. Click here for a listing of County Assessor offices in California.

**Source:** http://www.dsireusa.org/

### *Supplemental Energy Payments (SEPs)*

**Incentive Type:** Production Incentive
**Policy Level:** State
**Province/Territory/State:** California

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Landfill Gas, Hydro, Geothermal Electric, Geothermal Heat Pumps, Municipal Solid Waste
**Applicable Sectors:** Industrial, Commercial
**Summary:** Production incentives, referred to as supplemental energy payments (SEPs), will be awarded to eligible renewable generators for the above-market costs of eligible procurement by California's three largest investor owned utilities (IOUs)to fulfill their Renewables Portfolio Standard (RPS) obligations. The investor-owned utilities are: PG&E, SDG&E, and SCE. These payments are required by SB 1038 and SB 1078 of 2002, with funding availability of approximately $70 million per year collected for five years from a public goods charge. Only projects selected through competitive solicitations are eligible. SEPs are not available to a facility owned by an electrical corporation or a local publicly-owned electric utility. Facilities must begin commercial operations on or after January 1, 2002 or be repowered and re-commence operation on or after January 1, 2002, and meet other fuel specific and electricity delivery criteria.

Renewable generators that win a contract through an IOU’s competitive RPS solicitation may be eligible for SEPs from the California Energy Commission (Energy Commission). SEPs are not available to a facility owned by an electrical corporation or a local publicly-owned electric utility. Facilities must begin commercial operations on or after January 1, 2002 or be repowered and re-commence operation on or after January 1, 2002, and meet other fuel specific and electricity delivery criteria.

Once the IOUs received bids and select a tentative "short list" of winners, the CPUC announces the market price referent (MPR). The MPR is the levelized, cents-per-kWh price of a comparable long-term, natural gas electricity product. The MPR also represents a dividing line that is used to determine SEPs:
– Bid prices at or below the MPR may be accepted as per se reasonable to the CPUC;
– Contracts priced at or below the MPR may be accepted as per se reasonable by the CPUC;
– Contracts priced above the MPR may be eligible for SEPs to cover the difference between the MPR and the bid price, subject to funding availability and Energy Commission determination.

The IOUs have the opportunity to finalize contract negotiations after the MPR is announced before selecting their final list of winning bidders. The IOUs submit RPS contracts to the CPUC for approval. Proposed contracts priced above the MPR are considered by the Energy Commission for SEP awards. SEPs will not exceed the difference between the proposed contract

price and the MPR. A project awarded SEPs for eligible renewable generation may receive monthly payments from the Energy Commission for up to 10 years (the contract must be at least three years in duration).

Program details are available from the New Renewable Facilities Program Guidebook (May 2004), Renewables Portfolio Standard Eligibility Guidebook (May 2004), and the Overall Program Guidebook (May 2004), all of which are available from the Energy Commission's RPS Documents Page.

**Source:** http://www.dsireusa.org/

### *Existing and New Building Construction Requirements*

**Incentive Type:** State Construction Policy
**Policy Level:** State
**Province/Territory/State:** California

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Solar Thermal Electric, Photovoltaics
**Applicable Sectors:** Construction, State_Sector
**Summary:** California's existing and new building construction standard requires solar energy equipment to be installed on all existing state buildings and state parking facilities where feasible, no later than January 1, 2007. It also would require solar energy equipment to be installed, where feasible, as part of the construction of all new state buildings and state parking facilities that begin construction after December 31, 2002.

**Source:** http://www.dsireusa.org/

### *Interconnection Standards*

**Incentive Type:** Interconnection
**Policy Level:** State
**Province/Territory/State:** California

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Other DG, Biomass, Landfill Gas, Hydro, Geothermal Electric, Municipal Solid Waste, Cogeneration, Fuel Cells
**Applicable Sectors:** Industrial, Commercial, Residential
**Summary:** California’s interconnection standards for distributed generation (DG) and renewable resources have evolved over the years, culminating the current version of "Rule 21," which was formally issued December 2000. Rule 21 specifies the technical interconnection rules for all DG under 10 megawatts (MW), including renewables, with separate simplified rules for small renewables under 10 kilowatts (kW). Rule 21 is a utility tariff; thus, each of the three major IOUs—Pacific Gas and Electric Company (PG&E), San Diego Gas & Electric Company (SDG&E), and Southern California Edison Company (SCE)—have filed their own Rule 21 tariffs with the California Public Utilities Commission (CPUC), although each is essentially the same.

Net metering in California now applies to renewable-energy systems up to 1 MW, and includes provisions for time-of-use net metering. Significantly, net-metered systems up to 1 MW are exempt from paying costs associated with the interconnection studies, distribution system modifications or application review fees discussed below.

Large DG Systems up to 10 MW
California’s interconnection rules are based on a screening process that determines the level of review process for interconnected systems. After DG operators apply for interconnection, the utility performs the Initial Review Process (IRP) of the project plans. If all screens are passed, then the system qualifies for Simplified Interconnection, whereby no additional studies are

needed. If a system does not pass the IRP, it must undergo a supplemental review process (SRP).

As an outcome of the SRP, systems may be permitted to undergo "Simplified Interconnection" with some additional requirements, or where one or more screens are not passed, the system must undergo a formal Interconnection Study, for which the costs are determined by the utility and borne by the system owner. The process is illustrated graphically on the California Energy Commission's (CEC) DG interconnection web site, which also includes links to online applications for SCE and SDGE customers. The CEC site also maintains current statistics on the number of DG systems interconnected for each of the three IOUs.

Technical requirements for DG installations mirror those established in IEEE 1547, including requirements regarding flicker, harmonics, voltage and frequency fluctuations, islanding, DC injection, and protection devices. Although portions of the IEEE 1547 standard will be incorporated into California's interconnection standards, IEEE 1547 will not supersede Rule 21, given that Rule 21 has a wider scope and is more specific on many issues than IEEE 1547.

In parallel to the technical and procedural process developed as part of Rule 21, the California Public Utilities Commission also issued an order addressing rate design issues for standby generators. With regard to exit fees in particular, the CPUC ruled in 2003 that systems under 1 MW that are net metered and/or eligible for CPUC or CEC clean-energy incentives are fully exempt from exit fee surcharges. This includes many solar and wind systems, as well as fuel cells.

Small PV and Wind Under 10 kW
PV and wind systems under 10 kW qualify for net metering and Simplified Interconnection, whereby no supplemental review or interconnection studies are necessary. Such systems must comply with the requirements in National Electrical Code Article 690 and UL 1741. While utilities must provide a bi-directional meter for net-metered systems, system owners who choose to employ time-of-use metering must pay for the new meter.

**Source:** http://www.dsireusa.org/

### *Interconnection Standards*

**Incentive Type:** Interconnection
**Policy Level:** State
**Province/Territory/State:** Colorado

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Other DG, Biomass, Landfill Gas, Hydro, Geothermal Electric, Cogeneration
**Applicable Sectors:** Industrial, Commercial, Residential, Nonprofit, Schools, Utility, Institutional, Agricultural
**Summary:** In October 2005, Colorado Public Utilities Commission (CPUC) adopted rules implementing the state's Renewable Energy Standard, as required by Amendment 37 of 2004. This CPUC order created interconnection standards and net metering requirements for all qualifying retail utilities (QRUs) that service over 40,000 customers.* Systems of up to two megawatts (MW) are eligible for net metering.

The CPUC rules for interconnection largely follow the Small Generation Interconnection Procedures (SGIP) of FERC Order 2006, issued in May 2005. Interconnection requirements, standards and review procedures are divided into three levels:
– Level 1 Interconnection applies to inverter-based systems with a maximum nameplate capacity of 10 kilowatts (kW). These systems must comply with IEEE 1547, UL 1741 and other applicable standards. Liability insurance with a single occurrence limit of $300,000 is required at the customer's expense.

– Level 2 Interconnection applies to systems with a maximum capacity of 2 megawatts (MW). These systems also must comply with IEEE 1547 and UL 1741 standards, and must be connected to a portion of the distribution system that is subject to the utility's tariff. There are specific limitations on a single system's potential impact and the aggregate potential impact on the grid under Level 2 interconnection. If a proposed interconnection fails one of the various screening tests, the customer-generator may need to pay for a supplemental review by the utility. Liability insurance with a single occurrence limit of $2 million is required.

– Level 3 Interconnection applies to systems up to 10 MW that do not qualify for either Level 1 or Level 2 interconnection procedures. Level 3 interconnection may require studies involving project scope, feasibility, impact and facilities. The customer may need to make a deposit prior to and incur a portion of the total costs associated with these studies. Insurance levels will be determined on a case-by-case basis by the servicing utility.

Colorado's interconnection rules include a dispute-resolution process and provisions for connecting to area networks.

"* Municipal utilities and rural electric cooperatives may opt out of the renewable energy requirement via a customer vote for exemption, given that 25% of eligible consumers participate."

**Source:** http://www.dsireusa.org/

### *Renewable Energy Requirement*

**Incentive Type:** Renewables Portfolio Standard
**Policy Level:** State
**Province/Territory/State:** Colorado

**Eligible Renewable / Other Technologies:** Photovoltaics, Wind, Biomass, Landfill Gas, Geothermal Electric
**Applicable Sectors:** Utility, IOU, Muni, Coop
**Summary:** On November 2, 2004, Colorado voters made history by approving Amendment 37, a proposed renewables portfolio standard (RPS). This was the first time in the nation's history that an RPS was put directly before voters rather than processed through a state's legislature. Amendment 37 took effect December 1, 2004.

The initiative requires Colorado utilities with 40,000 or more customers to generate or purchase a percentage of their electricity from renewable sources according to the following schedule:

– 3% from 2007 through 2010;
– 6% from 2011 through 2014; and
– 10% by 2015 and thereafter.

Of the electricity generated each year from renewable sources, at least 4% must come from solar technologies. At least one-half of this percentage must come from solar systems located on-site at customers' facilities. Other eligible technologies include wind, geothermal heat, biomass facilities that burn nontoxic plants, landfill gas, animal waste, small hydroelectric, and hydrogen fuel cells. Energy generated in Colorado is favored; each kWh of renewable electricity generated in-state will be counted as 1.25 kWh for the purposes of meeting this standard.

The amendment specifies the average residential retail rate may not be impacted more than $0.50 per month. Although the text does not specify a cap on the charges to commercial bills, Colorado law requires the Colorado Public Utilities Commission (CPUC) to prevent discrimination between rate classes. The rate impacts of the RPS will vary by utility; however, it has been projected that the bill impact is highly unlikely to approach the $0.50/month ceiling.

Tradable renewable energy credits may be used to satisfy the standard. Utilities that do not generate the required amount of electricity from renewable energy sources are allowed to purchase “credits” from those utilities that exceed the requirement.

Also outlined in the initiative is a required rebate program. Under the amendment, utility customers may earn a rebate for installing solar electric generation equipment on their property. Customers may be net-metered, with excess annual use sold to the utility, and utilities shall not apply unreasonably burdensome interconnection requirements. In addition, for-profit utilities may earn extra profit and bonuses if their investment in renewable energy technologies reduces the retail cost of electricity to their customers.

The amendment includes provisions for exemption and inclusion procedures. Affected utilities may hold elections to exempt themselves from the renewable energy requirement. Similarly, utilities not subject to the requirement may hold elections to be included. At least 25 percent of the utility’s customers must vote on the issue of exemption or inclusion, with a majority vote required for passage. In addition, a municipal utility or rural electric cooperative may develop a similar renewable energy requirement and be exempted from this initiative. To qualify, the utility must: 1) use at least one of the eligible renewable energy sources, 2) follow the same schedule for electricity generation from renewable sources, and 3) offer an optional pricing program that allows customers to support emerging renewable technologies. Utilities that choose this option are not required to generate electricity from solar sources.

The CPUC issued an order adopting implementation rules for Amendment 37 on December 15, 2005. This order includes rules on net metering, interconnection standards, utility compliance, standard rebates, Renewable Energy Credits (REC's), environmental standards and many other issues. You can download a pdf of the order here.

**Source:** http://www.dsireusa.org/

### *Line Extension and Photovoltaic Cost Evaluation*

**Incentive Type:** Line Extension Analysis
**Policy Level:** State
**Province/Territory/State:** Colorado

**Eligible Renewable / Other Technologies:** Photovoltaics
**Applicable Sectors:** Utility
**Summary:** The rulings by the Colorado Public Utilities Commission require utilities to provide a cost-benefit analysis comparing the cost of line extension to remote customers and the cost of installation of a stand alone, on-site photovoltaic system. This analysis is required in cases where the ratio of monthly kWh consumption to distance in miles is less than or equal to 1,000. That is, if a customer lives a half mile (0.5) from the nearest power line and they consume less than 500 kWh per month, then the utility is required to assess the relative costs of extending the power lines and installing a photovoltaic power system on-site.

**Source:** http://www.dsireusa.org/

### *Fuel Mix Disclosure*

**Incentive Type:** Generation Disclosure
**Policy Level:** State
**Province/Territory/State:** Colorado

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Hydro, Geothermal Electric
**Applicable Sectors:** Utility

**Summary:** In January 1999, the Colorado Public Utility Commission (PUC) adopted regulations requiring the state's investor-owned utilities (IOUs) to disclose information regarding their fuel mix to retail customers. Utilities with a total system load of more than 100 MW are required to provide this information as a bill insert or as a separate mailing twice annually, beginning October 1999. The PUC provided a suggested format for the disclosure. Fuel mix percentages are to be based on the power supply mix for the previous calendar year. Supporting documentation concerning the calculations used to determine the power supply mix percentages must be submitted to the PUC for approval.

**Source:** http://www.dsireusa.org/

### *Solar Access Laws*

**Incentive Type:** Solar Access Law/Guideline
**Policy Level:** State
**Province/Territory/State:** Colorado

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Photovoltaics
**Applicable Sectors:** Residential
**Summary:** Colorado's solar access laws prohibit any residential covenants that restrict solar access. Colorado also has solar easement provisions, which allow property owners to voluntarily create solar easements for the purpose of protecting and maintaining proper access to sunlight.

**Source:** http://www.dsireusa.org/

### *Colorado - Net Metering*

**Incentive Type:** Net Metering Rules
**Policy Level:** State
**Province/Territory/State:** Colorado

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Landfill Gas
**Applicable Sectors:** Industrial, Commercial, Residential, (Customers of utilities with +40,000 customers)
**Summary:** In November 2004, Colorado voters passed Amendment 37, a proposed renewable-energy requirement. The initiative requires Colorado utilities with at least 40,000 customers to generate or purchase a percentage of their electricity from eligible renewables.* Additionally, the initiative establishes statewide net-metering and rebates for solar-electric (PV) systems.

In December 2005, the Colorado Public Utilities Commission (CPUC) issued an order adopting implementation rules for Amendment 37. Systems up to two megawatts (MW) in capacity that generate electricity using qualifying renewable-energy resources are eligible to net meter. Electricity generated at a customer's site can be applied toward meeting the utility's renewable generation requirement. The standard requires that 4% of the renewable requirement be met with solar energy; half of this percentage must come from generation at customer facilities.

Net excess generation (NEG) in a given month will be applied as a credit to the following month. If in a calendar year a customer's generation exceeds consumption, the utility must reimburse the customer for the excess generation at the utility's average hourly incremental cost for the prior 12-month period.

If a customer-generator does not own a single bi-directional meter, then the utility must provide one free of charge. Systems over 10 kilowatts (kW) in capacity require a second meter to measure the output for the counting of renewable-energy credits (RECs). The CPUC's December

2005 order requires all QRUs file tariff rates for net metering by January 15, 2006. The order also includes interconnection standards for distributed generation up to 10 MW in capacity.

"* Municipal utilities and rural electric cooperatives may opt out of the renewable energy requirement via a customer vote for exemption, given that 25% of eligible consumers participate."

**Source:** http://www.dsireusa.org/

### *Operational Demonstration Program*

**Incentive Type:** State Loan Program
**Policy Level:** State
**Province/Territory/State:** Connecticut

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Other DG, Biomass, Landfill Gas, Cogeneration, Fuel Cells
**Applicable Sectors:** Commercial
**Summary:** The Connecticut Clean Energy Fund (CCEF) created the Operational Demonstration Program in August 2005 to enable early-stage companies to demonstrate the effectiveness of their own near-commercial, clean-energy technologies. Through the end of 2006, the program will provide a total of $4 million in funding for projects installed in Connecticut.

The program will support proposals for demonstration projects that have a high likelihood of developing into a commercial product within a reasonable period of time—generally, five years for fuel cells and three years for most other clean-energy technologies. Eligible resources include solar, wind, ocean thermal, wave or tidal, run-of-the-river hydro, fuel cells, hydrogen generation and storage technologies, landfill gas, low-emission advanced biomass-conversion technologies, and usable electricity from combined heat and power (CHP) systems with waste-heat recovery systems. Additionally, the CCEF's authorizing statute includes a provision allowing the fund to support "other energy resources and emerging technologies which do not involve the combustion of coal, petroleum or petroleum products, municipal solid waste or nuclear fission." Projects must have a capacity of at least 1 kilowatt (or the functional equivalent for hydrogen generation).

Funding for the Operational Demonstration Program will be provided in the form of a non-recourse, unsecured debt instrument repaid upon the achievement of commercial success, a level of annual product sales defined by mutual agreement between the CCEF and successful applicants. The CCEF will also collect an additional percentage of product revenues for products that exceed a higher revenue threshold. The fund requires a front-loaded 25% cash cost-share for any funding provided; in-kind contributions are accepted under certain conditions. The maximum amount of funding for each individual award is $750,000. Requests for funding above $500,000 must be justified, however, by the unique nature of the project, the project's large scale, or compelling potential benefits for Connecticut ratepayers.

Applicants must be entrepreneurs, developers or integrators of the technology they hope to commercialize, and must have a demonstrated long-term interest in commercializing the technology. The CCEF will accept applications on a rolling submission basis until January 31, 2006, and will evaluate project proposals based on technology viability, short-term and long-term market opportunities, and other criteria.

The CCEF was created in April 1998 as part of legislation deregulating the state's electric-utility industry. It seeks to accelerate Connecticut's technology economy by investing to develop clean-energy technologies, supporting the creation of clean-energy supply and educating Connecticut's residents about the importance of clean energy to the state's energy future. The CCEF is financed by a surcharge on ratepayers' electric utility bills, and is managed and administered by Connecticut Innovations.

**Source:** http://www.dsireusa.org/

### *On-Site Renewable DG Program*

**Incentive Type:** State Grant Program
**Policy Level:** State
**Province/Territory/State:** Connecticut

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Landfill Gas, Hydro, Fuel Cells
**Applicable Sectors:** Industrial, Commercial, Local, Schools, Institutional, State_Sector
**Summary:** Connecticut's On-Site Renewable Distributed Generation (DG) Program provides grants to support the installation of systems that generate electricity at commercial, industrial and institutional buildings. Systems utilizing solar, wind, fuel cells, landfill gas, low-emission advanced biomass-conversion technologies and/or Class I hydropower are eligible.* Most program support will target photovoltaic (solar-electric) and fuel-cell projects. Projects that have potential to reduce the federally mandated congestion charges in Connecticut will be favored. This program is supported by the Connecticut Clean Energy Fund (CCEF), which has created an objective to assist in contracting for the installation of five megawatts (MW) of customer-side DG projects by mid-2007.

The total funding allocated for all selected projects under the On-Site Renewable DG Program is $20.55 million. Significantly, the program will include targeted funding levels of $9 million for fuel cells and $9 million for photovoltaics. All projects must have a minimum system capacity of 10 kilowatts (kW), and projects must use an energy-generation device that is commercially available and offers warrantees, spare parts and service commensurate with commercial status. Facilities must be located in Connecticut within the Connecticut Light and Power (CL&P) or United Illuminating (UI) service territories. Award recipients are required to operate the system for at least eight years.

The maximum individual project award is $2 million. However, in addition to grant awards, a premium of $0.01 per kilowatt-hour will be disbursed for projects in the congested area of southwestern Connecticut. The actual grant amount will be ascertained by an assessment of the difference between the host site's cost of energy that would be displaced by the proposed on-site generating equipment, and the total cost and value of the energy provided by the DG system. The following funding limits and evaluation timeframes apply to individual projects:
– Solar: $5 per watt; 20-year evaluation timeframe
– Fuel cells: $4.70 per watt; 10-year evaluation timeframe
– Small wind: $3.60 per watt; 15-year evaluation timeframe
– Small biomass: $3.30 per watt; 10-year evaulation timeframe
– Landfill gas: $3.20 per watt; 10-year evaulation timeframe
– Hydro: to be determined; 20-year evaluation timeframe

The grant (excluding the southwestern Connecticut premium) will be disbursed in installments to the owner of the equipment, based on project milestones and according to the following schedule, regardless of technology:
– Delivery of generating equipment to site: 50%
– Startup, commissioning and inspection: 40%
– After six months of successful operation: 10%

The final grant payment will be awarded provided that the system has produced at least 70% of the projected AC energy production during the first six months of operation, as verified by the CCEF's independent consulting engineer.

Applications are accepted on a rolling basis. All applicants are encouraged to schedule pre-application discussions with the CCEF staff before submitting an application under this program.

* “The CCEF is also authorized to fund "other energy resources and emerging technologies which do not involve the combustion of coal, petroleum or petroleum products, municipal solid waste or nuclear fission.” Resources and technologies not listed above will be addressed on a case-by-case basis, with substantial weight being given to those resources and technologies approved as a Class I renewable-energy source by the Connecticut Department of Public Utility Control.”

**Source:** http://www.dsireusa.org/

### *Residential Solar PV Rebate Program*

**Incentive Type:** State Rebate Program
**Policy Level:** State
**Province/Territory/State:** Connecticut

**Eligible Renewable / Other Technologies:** Photovoltaics
**Applicable Sectors:** Residential
**Summary:** The Connecticut Clean Energy Fund (CCEF) approved $2 million for a residential solar photovoltaic (PV) program to complement its existing commercial solar PV program. The three-year residential program, which took effect October 1, 2004, provides installers with monetary incentives that will be passed on to their customers in the form of rebates. Participation by installers is limited to those selected through a Request for Proposals (RFP) process. Installers are responsible for all paperwork necessary to obtain the rebate from the CCEF on behalf of state residents. A list of approved installers is available at the Web site above.

The rebate level is set at $5/watt (PTC rating), with a funding cap of $25,000 per residence (up to 5 kW). Systems may be of any size but must be connected to the electric grid. One-family to four-family residences are eligible. Projections show that the residential program could result in a minimum of 80—and as many as 400—residential installations, depending on the size of the systems installed.

The program will run on a rolling basis with no specific application deadlines. The first RFP within the three-year program will make available an initial block of $500,000. A future component will include $200,000 for low-income housing.

**Source:** http://www.dsireusa.org/

### *Commercial, Industrial, Institutional PV Grant Program*

**Incentive Type:** State Grant Program
**Policy Level:** State
**Province/Territory/State:** Connecticut

**Eligible Renewable / Other Technologies:** Photovoltaics
**Applicable Sectors:** Industrial, Commercial, Fed_Govt, Local, Schools, Institutional, State_Sector
**Summary:** The Connecticut Clean Energy Fund (CCEF), the state's public benefits fund, initiated a grant program for photovoltaics (5 kW and larger) on commercial, industrial, and institutional buildings in December 2003 with a total of $3 million over three years. After a highly successful first year, the CCEF boosted total program funding by an additional $9 million. Nearly $2.5 million was committed in 2004 to install over 500 kW of PV capacity.

This is the second photovoltaic funding program offered by the CCEF. The first program, announced in October 2002, consisted of a single solicitation for proposals. Seven projects were selected for funding in March 2003.

Eligible buildings may include hospitals, municipal and government buildings, universities, libraries, museums, and certain special purpose educational facilities or centers. Projects will be funded at a rate of up to $5 per watt (PTC nameplate capacity) of installed costs. An additional incentive of $0.75 per watt is provided for systems that come with electrical energy storage capacity (e.g., batteries). Disbursement CCEF funding will be disbursed to approved and contracted projects in two installments. The first payment, 90% of the amount, will be paid on the successful installation, commissioning and inspection of an approved project. The second payment, the remaining 10%, will be made promptly after the first sixth-month anniversary of the PV system commissioning, providing that the system has produced at least 70% of the projected AC energy production during the first 6 months of operation and as verified by CCEF's independent consulting engineer.

The system owner is entitled to retain all renewable energy (and all other green power) credits, market premiums and/or similar rights associated with the project. Applications may be submitted at any time, but submission of a letter of intent to apply 60 days prior to application is highly recommended.

PV modules and inverters eligible for this programs are those that have been approved by the California Energy Commission for the California Emerging Renewables Program Rebates (see <http://www.consumerenergycenter.org/erprebate>). Metering equipment must satisfy the applicable interconnection requirements and must have the capability to display the energy production by the system in kWh units. All PV systems must be covered by a five-year full warranty to the purchaser of the PV system. PV panels must have a 20-year warranty.

Note that the RFP provided above contains revisions made in September 2004. The original RFP was released in December 2003.

**Source:** http://www.dsireusa.org/

### *Solar and Wind Contractor Licensing and Training*

**Incentive Type:** Contractor Licensing
**Policy Level:** State
**Province/Territory/State:** Connecticut

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Photovoltaics, Wind
**Applicable Sectors:** Installers_Contractors, Apprentice
**Summary:** The Connecticut Department of Labor is authorized to issue licenses for solar-thermal work, solar-electric work and wind-electric work. Currently, two types of solar-thermal licenses—a solar-thermal contractor's license and a solar-thermal journeyman's license—are available for work performed on solar-thermal systems.*

A solar-thermal contractor's license is available to (1) anyone who acquired a P-1, P-3, S-1, S-3 , S-5, S-7, D-1 or D-3 license on or before July 1, 1984, or has installed six fully operational solar water-heating systems prior to July 1, 1984, and (2) anyone who has served as solar-thermal journeyperson for at least two years.

A solar-thermal journeyman's license is available to (1) anyone who, on or before July 1, 1984, has been issued a P-2, P-4, S-2, S-4, S-6, S-8, D-2 or D-4 license, (2) anyone who, after July 1, 1984, has been issued a P-2, P-4, S-2, S-4, S-6, S-8, D-2 or D-4 license and whose bona fide apprenticeship program includes instruction in solar-thermal work, and (3) anyone who, after July

1, 1984, completes a bona fide solar thermal work apprenticeship program and has at least two years' experience in solar thermal work. A solar-thermal journeyman may work only under the supervision of a licensed solar-thermal contractor.

In addition, the Connecticut Department of Labor may issue a solar-thermal apprentcice's permit for the performance of solar-thermal work for the purpose of training. Such work must be performed only under the supervision of a licensed solar-thermal contractor or journeyman.

Provisions specified in Substitute House Bill No. 6732 (2005) require the state's Electrical Work Board to recommend regulations to establish contractor and journeyman licenses for solar-electric work and wind-electric work. (Wind-electric work is included in the definition of solar-electric work.**) Until licenses specific to solar-electric work and wind-electric work are adopted, an E-1 Electrical Contractor license or an E-2 Journeyperson license may be used for solar-electric work or wind-electric work.

There are no state-sponsored training programs for solar contractors. Training and apprentice programs are available through independent trade schools and labor unions. License applications and instructions are available on the program web site.

“* "Solar-thermal work" is defined as "the installation, erection, repair, replacement, alteration, or maintenance of active, passive and hybrid solar systems that directly convert ambient energy into heat or convey, store or distribute such ambient energy."

** "Solar electricity work" is defined as "the installation, erection, repair, replacement, alteration, or maintenance of photovoltaic or wind generation equipment used to distribute or store ambient energy for heat, light, power or other purposes to a point immediately inside any structure or adjacent to an end use."

**Source:** http://www.dsireusa.org/

### *Connecticut - Net Metering*

**Incentive Type:** Net Metering Rules
**Policy Level:** State
**Province/Territory/State:** Connecticut

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Landfill Gas, Municipal Solid Waste, Fuel Cells
**Applicable Sectors:** Commercial, Residential, MultiFamilyRes, (multi-family of 2-4 units)
**Summary:** As part of its 1998 Electric Restructuring Public Act 98-28, the Connecticut Legislature requires all investor-owned utilities to provide net metering to residential customers who own electrical generators using Class I renewable resources or hydropower. Class I renewables include solar, wind, hydropower, landfill gas, fuel cell, or sustainable biomass. Legislation enacted in June 2003 expanded the scope of Class I renewable energy resources eligible for net metering to include ocean thermal power, wave or tidal power, low emission advanced renewable energy conversion technologies, and new run-of-the-river hydropower that has a generating capacity of not more than 5 MW to the list of Class I renewables.

Net-metering provisions in utility tariffs approved by the Connecticut Department of Public Utility Control (DPUC) established the maximum system size limit for renewables at 100 kW (50kW limit for non-renewable resources). There is no limit on the total net-metered capacity.

Connecticut Light & Power Company’s (CL&P) net metering tariff, Rider N Self-Generator Net Energy Billing Service, is available at <http://www.cl-p.com/esupplier/rates.asp>. The United Illuminating Company (UI) offers net metering service to Customers via Qualifying Facility Net

Energy Rider NE, available at <http://www.uinet.com/suppliers/download/RateTariff.pdf>. Look for CPUCA No. 159 Rider NE and rate SG2 CPUCA No. 337. Although distribution companies are required to offer net metering only to residential customers, CL&P and UI do make it available for businesses under specific conditions.

Net excess generation is purchased at the spot market energy rate, which is essentially the short-term avoided cost (less than retail). CL&P purchases the net output under the terms of Rate 980 Non-Firm Power Purchase. UI purchases the net output under the terms of Self-Generator Rate SG2.

A 2003 amendment revised the law so that only net metered customers with systems greater than 10 kW are charged for the competitive transition assessment and the systems benefits charge based on the amount of energy consumed by the customer from the facilities of the electric distribution company without netting any electricity produced by the customer. Previously, this section applied to customers with systems smaller than 10 kW as well.

Connecticut's Department of Public Utility Control first established net metering in 1990 with Ruling 159. Under this ruling, utilities were required to purchase net excess generation from qualifying facilities up to 50 kW in capacity for systems using non-renewable energy and 100 kW for renewable energy systems.

**Source:** http://www.dsireusa.org/

### *Connecticut Clean Energy Fund*

**Incentive Type:** Public Benefits Fund
**Policy Level:** State
**Province/Territory/State:** Connecticut

**Eligible Renewable / Other Technologies:** Photovoltaics, Wind, Biomass, Landfill Gas, Hydro, Renewable Transportation Fuels, Municipal Solid Waste, Fuel Cells, Hydrogen
**Applicable Sectors:** Industrial, Commercial, Residential, Government, Local, Schools, Utility
**Summary:** The Connecticut Clean Energy Fund (CCEF) was created in April 1998 as part of legislation deregulating the state's electric utility industry. A surcharge on Connecticut ratepayers' utility bills provides the funding for the CCEF. In 2000-2001 the charge was set at $0.0005 per kWh (0.5 mills per kWh), rising to $0.00075 per kWh (0.75 mills per kWh) in 2002-2003 and $0.001 per kWh (1 mill per kWh) from 2004 forward. The CCEF is managed by Connecticut Innovations, a quasi-governmental investment organization. Connecticut Innovations receives guidance from the Renewable Energy Investments Advisory Committee, whose members are appointed by the Connecticut General Assembly, the governor and the chairman of Connecticut Innovations.

According to the statute, the CCEF is authorized to invest in the following clean-energy technologies: "solar energy, wind, ocean thermal energy, wave or tidal energy, fuel cells, landfill gas, and low-emission advanced biomass conversion technologies and other energy resources and emerging technologies which have significant potential for commercialization and which do not involve the combustion of coal, petroleum or petroleum products, municipal solid waste or nuclear fission." Amendments to the statute in 2003 through PA 03-135 added "hydrogen production and hydrogen conversion technologies" to the clean energy technologies in which the CCEF can invest.

Programs began in earnest in January of 2000. Since its inception through September 2004, the CCEF has provided $28.4 million in project funding and has outstanding commitments of $24.4 million for a total of $52.8 million in support of renewable energy development.

The CCEF utilizes a variety of funding mechanisms, including grants and rebates, debt and debt-like, convertible debt, equity and subsidy in funding various ventures. Early investments included funding to Connecticut Electric Cooperative to develop a green-power marketing program; seed funding for a joint venture to develop portable solar power systems; funding for a wind energy study for Connecticut; and funding to Green Mountain Energy Company to increase demand for cleaner and renewable electricity by residential and small business energy customers in Connecticut.

More recently, the fund's initiatives have focused on commercial and demonstration fuel-cell projects (accounting for about 65% of the project funding thus far), photovoltaics for commercial, industrial and institutional buildings, and outreach and education programs. In the fall of 2004, the CCEF launched a photovoltaic rebate program for Connecticut residents who install systems using pre-approved installers.

Other recent initiatives include:

Clean Energy Communities . In partnership with SmartPower, the CCEF has developed this program to assist Connecticut communities to support and purchase clean energy. The program provides free PV systems for qualifying Connecticut cities and towns that commit to purchase clean energy representing 20% of their electricity use by 2010.

Project 100 . Legislation enacted in June 2003 (P.A. 03-135) requires the state's electric-distribution companies to enter into minimum 10-year contracts for at least 100 MW of Class I renewable capacity. Pricing under these contracts will include a premium of up to 5.5¢ per kWh. These long-term power purchase contracts must be filed with the Connecticut Department of Public Utilities by July 1, 2007, and must arise from projects that receive funding from the CCEF, among other criteria. The CCEF issued an RFP in December 2004 to begin the process of funding qualifying projects.

Click here to download CCEF's Strategic Plan for 2004-2007.

**Source:** http://www.dsireusa.org/

### *Renewables Portfolio Standard*

**Incentive Type:** Renewables Portfolio Standard
**Policy Level:** State
**Province/Territory/State:** Connecticut

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Landfill Gas, Hydro, Municipal Solid Waste, Cogeneration, Fuel Cells, Low E Renewables
**Applicable Sectors:** Utility
**Summary:**
Connecticut's renewables portfolio standard (RPS) requires electricity suppliers and electric-distribution companies providing standard offer, transitional standard offer, standard service or back-up electric generation to use renewable resources to generate 4% of all retail electricity sales by January 1, 2004, rising to 10% by 2010.

Separate generation standards are required for renewables classified as "Class I" or "Class II." Class I renewable-energy sources include solar, wind, new sustainable biomass, landfill gas and fuel cells (renewable or non-renewable fuel). RPS revisions enacted in June 2003 added ocean thermal power, wave or tidal power, low-emission advanced renewable-energy conversion technologies, and new run-of-the-river hydropower that has a maximum capacity of 5 MW to the list of Class I renewables. In addition, air emissions limits now apply to biomass-derived energy. Electricity from end-user distributed generation using Class I resources also qualifies.

Class II renewable-energy sources include trash-to-energy facilities, biomass facilities not included in Class I and certain approved hydropower facilities.

Electric providers must meet the standard with at least 7% Class I renewables and 3% Class I or II renewables by January 1, 2010, according to the following schedule:
– 1/1/04 1.0% Class I + 3% Class I or II
– 1/1/05 1.5% Class I + 3% Class I or II
– 1/1/06 2.0% Class I + 3% Class I or II
– 1/1/07 3.5% Class I + 3% Class I or II
– 1/1/08 5.0% Class I + 3% Class I or II
– 1/1/09 6.0% Class I + 3% Class I or II
– 1/1/10 7.0% Class I + 3% Class I or II

Beginning July 1, 2006, RPS requirements may be satisfied by purchasing electricity generated by Class I or Class II renewables within the jurisdiction of the regional independent system operator (ISO New England). Beginning January 1, 2010, RPS requirements may be satisfied by purchasing electricity generated by Class I or Class II renewables within the jurisdiction of New York, Pennsylvania, New Jersey, Maryland and Delaware, provided the DPUC determines these states have a comparable RPS. Alternatively, RPS compliance may be accomplished by participating in an approved renewable-energy trading program. Electric distribution companies that fail to comply with the RPS during an annual period must pay 5.5 cents/kWh to the DPUC; these payments will be allocated to the Renewable Energy Investment Fund for the development of Class I renewables.

Background
Connecticut's 1998 electric utility restructuring law Section 25 of Substitute HB 5005 (Public Act No. 98-28) created a renewables portfolio standard (RPS) requiring 6% of total electricity output to be supplied by renewable resources beginning July 2000, ramping up to 13% in 2009. A 1999 law Section 19 of Substitute HB 6621 of 1999 (Public Act No. 99-225) authorized the Department of Public Utility Control (DPUC) to allow electric suppliers to comply with the RPS up to two years later than otherwise would be required if the department finds that the RPS cannot be reasonably met. Exempt from the law were private power producers, exempt wholesale generators, non-participating municipal electric utilities, municipal electric energy cooperatives, electric cooperatives, and any other electric utility owned, leased, maintained, operated, managed or controlled by any unit of local government. The state's municipal electric utilities were not required to meet restructuring requirements, but could have chosen to "opt-in" to competition, in which case they would have been subject to the RPS.

The original law was ineffective because nearly all of the electricity supplied to consumers was purchased through the state's distribution utilities' standard service—considered a "wholesale" product and therefore exempt from RPS requirements. RPS revisions enacted in June 2003 through PA 03-135 closed this loop-hole by requiring retail electricity suppliers and electric-distribution companies providing standard offer, transitional standard offer, standard service or back-up electric generation to comply with the standard.

**Source:** http://www.dsireusa.org/

### *Energy Conservation Loan*

**Incentive Type:** State Loan Program
**Policy Level:** State
**Province/Territory/State:** Connecticut

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Photovoltaics, Wind, En Eff, Biomass, Geothermal Heat Pumps
**Applicable Sectors:** Residential, MultiFamilyRes
**Summary:** Single-Family Energy Conservation Loans are available through the Connecticut Housing Investment Fund (CHIF) to owners of 1 to 4 family homes who meet established income limits for family size and location. These loans may be used for a variety of conservation improvements. Interest rates vary in accordance with the borrower's family size and income and the loan may be repaid over ten years.

Loans for large residential properties are available through the Multi-Family Energy Conservation Loan Program. The terms of this loan are similar to the single-family ECL Program, with a higher principal available on the loan.

Applications for these programs are available from the program web site listed above. In addition to the application, the borrower should submit copies of the past two years' federal tax returns with schedules and a copy of a monthly mortgage statement or coupon or release of mortgage or deed.

**Source:** http://www.dsireusa.org/

### *Local Option for Property Tax*

**Incentive Type:** Property Tax Exemption
**Policy Level:** State
**Province/Territory/State:** Connecticut

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Photovoltaics, Wind, Hydro, Cogeneration, Fuel Cells
**Applicable Sectors:** Industrial, Commercial, Residential
**Summary:** Connecticut allows municipalities to offer property-tax exemptions for certain renewable-energy systems. Eligible systems include solar space-heating systems, solar water-heating systems, photovoltaics, wind-energy systems, fuel cells, micro-hydropower systems and co-generation systems. Adoption of this exemption varies from one municipality to another. In some cases, the exemption applies to the total value of the qualifying renewable-energy system and can be applied to residential, commercial and industrial property.

In the case of Class I renewable energy sources, defined as "energy derived from solar power, wind power, a fuel cell, methane gas from landfills, or a biomass facility, provided such facility begins operating on or after July 1, 1998, and such biomass is cultivated and harvested in a sustainable manner," and for hydropower systems, the exemption is for residential applications and may apply to the total value of the equipment. Photovoltaic systems are an exception, as the exemption may apply to any building type. For other technologies, the exemption may only apply to the increased value of the system as compared to conventional systems.

Exemptions may be allowed for passive solar energy heating or cooling systems, hybrid systems and co-generation systems in any building type. Contact your local tax assessor's office for more information.

**Source:** http://www.dsireusa.org/

### *Fuel Mix & Emissions Disclosure*

**Incentive Type:** Generation Disclosure
**Policy Level:** State
**Province/Territory/State:** Connecticut

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Landfill Gas, Hydro, Municipal Solid Waste, Fuel Cells
**Applicable Sectors:** Utility, Retail_Suppliers
**Summary:** Under Connecticut's 1998 restructuring law (PA 98-28), electricity suppliers must disclose information on air emissions and resource mix of generation facilities to the Department of Public Utility Control on a quarterly basis. Legislation enacted in June 2003 (PA 03-135) directs investor-owned utilities to disclosure energy source and emission information as well. Requirements for the disclosure label available to consumers will be based on the New England Conference of Public Utility Commissioners model. The Web site above provides disclosure information for individual suppliers and utilities as it becomes available.

**Source:** http://www.dsireusa.org/

### *New Energy Technology Program*

**Incentive Type:** State Grant Program
**Policy Level:** State
**Province/Territory/State:** Connecticut

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics, Wind, En Eff, Biomass, Landfill Gas, Hydro, Geothermal Electric, Geothermal Heat Pumps, Municipal Solid Waste, Cogeneration, Fuel Cells
**Applicable Sectors:** Commercial, Residential
**Summary:** The New Energy Technology program's mission is to develop innovative energy efficient and renewable energy technologies to save energy, to improve air quality, and to help invigorate Connecticut's economy by creating employment opportunities.

Grants are awarded to applicants who submit promising pre-commercial technologies that conserve energy or facilitate the use of renewable energy. These grants provide $10,000 each for up to five small firms each year. A small firm is one that employs 30 or fewer people. Previous award recipients have used the grant funds for product development, prototype testing, patent application, business plan development, payroll, and product marketing and promotion at trade shows.

In addition to the grant, guidance is provided to recipients to find additional technical and financial assistance. This guidance could include locating potential industry partners or identifying and applying for other state and federally sponsored programs.

Key Dates:

– November - Grant Application period opens
– Early February - Grant Application period closes
– During February - Complete Tier I review of Grant Applications
– During March - Complete Tier II review of Grant Applications
– During April/May - Mail out Grant Award Documents
– September 30 - Receive & review combined financial and progress report from grantee*
– October 31 - Submit progress report to Department of Energy*

*Grantees submit progress reports on a quarterly basis until the grant is expended. They are expected to submit a final report after one year, describing the progress and what the funding has accomplished.

**Source:** http://www.dsireusa.org/

### *Interconnection Standards*

**Incentive Type:** Interconnection
**Policy Level:** State
**Province/Territory/State:** Connecticut

**Eligible Renewable / Other Technologies:** Photovoltaics, Wind, Other DG, Biomass, Landfill Gas, Hydro, Municipal Solid Waste, Cogeneration, Fuel Cells
**Applicable Sectors:** Industrial, Commercial, Residential, Fed_Govt, Nonprofit, Local, Schools, State_Sector
**Summary:** Connecticut has finalized interconnection rules and procedures for all distributed generation (DG) technologies up to 25 megawatts (MW) for regulated electric utilities. The two utilities responsible for the distribution of power throughout most of Connecticut—Connecticut Power and Light Company (CL&P) and United Illuminating Company (UI)—developed new interconnection standards for DG; these standards were approved by the Connecticut Department of Public Utility Control in April 2004.

Under Connecticut's interconnection rules, there are five categories of DG systems, based on capacity. CL&P and UI must complete a review of applications for small DG (10 kW and less) interconnection projects within 20 business days. The application processing time increases as DG project capacity increases, with no maximum processing time for DG units greater than 5 MW. The system size breakpoints for technical and procedural requirements are 10 kW, 100 kW, 1 MW and 5 MW. The new rules also address fees, other agreements, disconnection, insurance requirements and technical requirements. The 58-page interconnection rules include standard application and agreement forms. For systems up to 10 kW, there is a separate, simplified application and agreement form.

The rules spell out a screening process similar to that used in other states. There are 11 possible steps involved in the application process for all five DG categories:
– Generator submits application;
– Utility conducts application review;
– Utility conducts feasibility study;
– Applicant authorizes impact study;
– Utility performs impact study;
– Applicant authorizes electric power system facility study;
– Utility performs electric power system facility study;
– Applicant executes interconnection agreement, authorizes work and defrays costs;
– Project construction;
– Applicant completes commissioning, pre-parallel testing;
– Final acceptance, cost reconciliation, authorization to interconnect.</ol>

**Source:** http://www.dsireusa.org/

### *Government Green Power Purchase Plan*

**Incentive Type:** Green Power Purchasing/Aggregation
**Policy Level:** State
**Province/Territory/State:** Connecticut

**Eligible Renewable / Other Technologies:** Photovoltaics, Wind, Biomass, Landfill Gas, Fuel Cells
**Applicable Sectors:** State_Sector
**Summary:** On April 22, 2004, Connecticut's governor signed an executive order directing state-government agencies and universities to purchase an increasing amount of electricity generated by renewable resources. Under terms of the order, the state government has a goal to increase Class I renewable-energy* purchases to 20% of electricity used in 2010, 50% in 2020 and 100%

in 2050. The order also allows state agencies to use savings from energy efficiency and conservation measures to offset the additional cost of the electricity from renewables.

*"Class I renewable-energy resources include solar, wind, new sustainable biomass, landfill gas and fuel cells."

**Source:** http://www.dsireusa.org/

### *Renewable Energy Projects in Pre-Development Program*

**Incentive Type:** State Loan Program
**Policy Level:** State
**Province/Territory/State:** Connecticut

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Landfill Gas, Fuel Cells
**Applicable Sectors:** Commercial, Renewable energy project developers
**Summary:** The Connecticut Clean Energy Fund's (CCEF) Renewable Energy Projects in Pre-Development Program offers financing to encourage the development of renewable energy projects in Connecticut or for renewable power production for the larger ISO New England wholesale electricity market. Activities supported may include site control, environmental assessments, facility design, grid interconnection analysis, development of commercial documents, and public outreach and education.

Project developers that have performed preliminary feasibility studies at a specifically identified site can apply for as much as $250,000 for projects of less than or equal to 5 MW and up to $500,000 for projects greater than 5 MW. Eligible renewable energy resources include wind, solar, fuel cells, wave or tidal power, ocean thermal, low emission advanced biomass conversion technologies, and landfill gas resources.

The funding provided under this Program will generally be in the form of unsecured loans with reasonable interest rates. CCEF will consider alternative investment mechanisms, however, as appropriate to the project type and structure. All projects require a minimum cost share of 25% by the applicant, their partners and/or third party finance sources.

Project developers must agree to the following conditions:

a) The sale of at least fifty percent (50%) of all renewable energy credits (RECs) attributable to the energy generated by the project for a ten-year period from the in-service date of the facility to the Connecticut market OR to participate in a long term contract under CCEF's Project 100 (see description below) if qualified.
b) To deliver greater than 50% of the nameplate rated capacity and energy produced to the wholesale electricity market.

The Pre-Development Program seeks to reduce the financial risk during the early stages to create a pipeline of Class I renewable energy projects that could qualify for long-term power purchase contracts under CCEF's "Project 100" initiative. "Project 100" supports legislation enacted in June 2003 (P.A. 03-135) requiring the state's electric-distribution companies to enter into minimum 10-year contracts for at least 100 MW of Class I renewable capacity. Pricing under these contracts will include a premium of up to 5.5¢ per kWh. These long-term power purchase contracts must be filed with the Connecticut Department of Public Utilities by July 1, 2007, and must arise from projects that receive funding from the CCEF, among other criteria.

Applications for the Pre-Development Program will be accepted continually until June 1, 2005 but will be evaluated on a three-month cycle beginning February 1, 2005.

**Source:** http://www.dsireusa.org/

### *Project 100 Initiative*

**Incentive Type:** State Grant Program
**Policy Level:** State
**Province/Territory/State:** Connecticut

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Landfill Gas, Fuel Cells
**Applicable Sectors:** Commercial, Renewable energy project developers
**Summary:** The Connecticut Clean Energy Fund's (CCEF) Project 100 Initiative supports legislation enacted in June 2003 P.A. 03-135 requiring the state's electric distribution companies to enter into minimum 10-year contracts for at least 100 MW of Class I renewable capacity. Pricing under these contracts will include a premium of up to 5.5¢ per kWh. These long-term power purchase contracts must be filed with the Connecticut Department of Public Utilities by July 1, 2007, and must arise from projects that receive funding from the CCEF, among other criteria.

This Project 100 solicitation is just the first phase toward the establishment of long-term renewable power purchase contracts. The CCEF's role is to identify and select projects to recommend to the Connecticut electric distribution companies for long-term power purchase contracts. Projects selected by CCEF will undergo review by distribution companies. Distribution companies will then request further information and select projects based on a variety of criteria. Once the evaluation is complete, the distribution companies will submit accepted power purchase agreement contracts to the DPUC for a final review. The DPUC will open a separate docket for approval of each contract. Once the DPUC has reviewed and approved the contracts, they will enter into force.

To meet the funding requirement of the legislation, the CCEF intends to award $50,000 to each project selected for recommendation to the electric distribution companies. Funding will be provided as a grant under standardized terms and will be contingent upon successful power purchase agreement negotiations with the distribution company and subsequent acceptance by the DPUC.

Eligible renewable energy resources include wind, solar, fuel cells, wave or tidal power, ocean thermal, low emission advanced biomass conversion technologies, and landfill gas resources. Selected projects must be beyond the pre-development stage; use commercially available technologies; have already achieved substantial progress in permitting and site control; and are ready for deployment. Projects must have first begun operation on or after July 1, 2003 or are not yet in commercial operation and must have a capacity of at least 1 MW (or a combined capacity of at least 1 MW). Renewable energy facilities must be located within the jurisdiction of ISO New England, the Northern Maine Independent System Administrator or the states with a comparable renewables portfolio standard—currently New England, New York, New Jersey, Pennsylvania, Delaware, or Maryland. Eligible facilities must deliver greater than 50% of the nameplate rated capacity and energy produced to the wholesale electricity market.

This Request for Proposals (RFP) represents Round 1 of what CCEF expects to be three solicitation rounds occurring at approximately nine-month intervals. Solicitation for Round 2 and Round 3 will be made through separate RFPs and the specific details of these future RFPs may change.

**Source:** http://www.dsireusa.org/

### *Delaware - Net Metering*

**Incentive Type:** Net Metering Rules
**Policy Level:** State

**Province/Territory/State:** Delaware

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Hydro, Geothermal Electric
**Applicable Sectors:** Commercial, Residential
**Summary:** Delaware's Electric Utility Restructuring Act of 1999 requires Conectiv Power Delivery (Conectiv) and Delaware Electric Cooperative (DEC) to offer net metering to residential and small commercial customers with renewable-energy systems up to 25 kilowatts (kW) in capacity. Eligible systems include "solar, wind, hydro or other forms or renewable energy." There is no statewide limit on the aggregate capacity of net-metered systems.

The treatment of net excess generation (NEG) varies by utility. For Conectiv customers, NEG at the is credited to the next bill at the Standard Offer Service energy kilowatt-hour (kWh) rate. If a customer has an NEG balance greater than $100, the customer may request payment from Conectiv. For customers of other utilities and suppliers, the treatment of NEG is negotiated between the customer and the energy supplier.

DEC allows customers to credit NEG to the following month as a kWh credit for up to 12 months. At the end of this period, the customer may sell unused credits to any electric supplier who agrees to purchase them. If the excess electricty is not purchased, it will be granted to the customer's electric supplier at the end of the previous year.

Electric distribution companies can not impose special fees on customers who net meter. Backup charges, additional controls and additional liability insurance are prohibited, as long as the customer's system meets the interconnection standards and all relevant safety and power-quality standards.

In 2000, the Delaware Public Service Commission approved interconnection standards for Conectiv and Delaware Electric Cooperative (DEC). There are different technical requirements/standards for generators smaller than 25 kW and generators between 25 kW and 1 megawatt (MW). DEC's standards are similar to Conectiv's.

**Source:** http://www.dsireusa.org/

### *Renewable Portfolio Standard*

**Incentive Type:** Renewables Portfolio Standard
**Policy Level:** State
**Province/Territory/State:** Delaware

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Landfill Gas, Hydro, Geothermal Electric
**Applicable Sectors:** Utility, Retail_Suppliers
**Summary:** Delaware's renewable portfolio standard (RPS), enacted in July 2005, requires the state's retail electricity suppliers—including municipal utilities, and rural electric cooperatives that have opted out of regulation by the Delaware Public Service Commission (PSC)—to use renewable energy to generate at least 10% of the electricity they sell in Delaware by 2019. (Municipal utilities, and rural electric cooperatives that have opted out of regulation by the PSC, may, on or before June 1, 2006, elect to be exempt from the RPS.) Significantly, sales to industrial customers with a peak load of more than 1,500 kilowatts (kW) are exempt from the standard's requirements.

The total retail sales of electricity by retail electricity suppliers to end-use customers must meet the following schedule, in terms of cumulative minimum percentage of renewables and compliance date:
– 1% by 6/1/07

– 1.5% by 6/1/08
– 2% by 6/1/09
– 2.75% by 6/1/10
– 3.5% by 6/1/11
– 4.25% by 6/1/12
– 5% by 6/1/13
– 5.75% by 6/1/14
– 6.5% by 6/1/15
– 7.25% by 6/1/16
– 8% by 6/1/17
– 9% by 6/1/18
– 10% by 6/1/19

The PSC will establish cumulative minimum percentage requirements for compliance year 2020 and each year afterward. The minimum requirement for compliance year 2020 is 10%. Beginning in compliance year 2010, and in each year afterward, the PSC may review the schedule and recommend that the state legislature accelerate or decelerate the schedule as necessary. Beginning in compliance year 2014, and in each year afterward, the PSC itself may accelerate or decelerate the schedule. The PSC may only decelerate the schedule if it finds that at least 30% of RPS compliance has been met via the alternative-compliance payment for three consecutive years, despite adequate planning by suppliers. The PSC may only accelerate the schedule if it finds that the average price for renewable-energy credits (RECs) eligible for RPS compliance has, for two consecutive years, been below a predetermined market-based price threshold to be established by the commission. (The state legislature must enact any provision that would alter the schedule for municipal utilities, or for rural electric cooperatives that have opted out of regulation by the PSC.)

Eligible renewable-energy technologies include solar, wind, ocean tidal, ocean thermal, fuel cells powered by renewable fuels, hydroelectric facilities with a maximum capacity of 30 megawatts (MW), sustainable biomass, anaerobic digestion and landfill gas. Suppliers will receive 300% credit toward RPS compliance for energy generated by solar-electric systems, and by fuel cells using renewable fuels. Suppliers will receive 150% credit toward RPS compliance for energy generated by wind turbines sited in Delaware on or before December 31, 2012.

For all suppliers, no more than 1% of each year's total retail sales may be met by eligible renewable resources placed into service on or before December 31, 1997. In compliance year 2020 and each year afterward, all eligible renewable resources used to meet the standard must be placed into service after December 31, 1997.

Energy sold or displaced by interconnected, customer-sited generation on or after June 1, 2006, may be used to create and accumulate RECs for RPS-compliance purposes. Energy production from interconnected, customer-sited systems placed into service after December 1, 1997, may also be used to demonstrate RPS compliance, provided the system is operating in Delaware. Aggregate generation of small renewables is eligible if appropriate documentation is recorded.

The PSC will establish a system for creating and recording RECs for RPS-compliance purposes. In addition, the PSC will establish, maintain or participate in a market-based renewable-energy tracking system to facilitate the creation and transfer of RECs among suppliers. When PJM Interconnection's Generation Attribute Tracking System (GATS) becomes operational and begins issuing RECs, the PSC may approve the use of these RECs for RPS compliance.

Suppliers must submit report an annual report detailing their compliance status. Suppliers who fail to comply with the standard's requirements must pay into the Delaware Green Energy Fund an alternative-compliance payment of $25 for each megawatt-hour (MWh) of shortfall. (Municipal utilities, and rural electric cooperatives that have opted out of regulation by the PSC, may pay the alternative-compliance payment into a fund established by their members.) The alternative-

compliance payment increases for suppliers who fail to meet the standard for more than one compliance year, with maximum payment of $50 per MWh of shortfall for suppliers who fail to meet the standard for any four or more compliance years.

Suppliers may recover actual dollar-for dollar costs of RPS compliance—with a conditional exception of alternative-compliance payments—through a non-bypassable surcharge on customer bills.

The PSC will adopt rules and regulations on or before July 31, 2006, to implement Delaware's RPS. The rules will be as consistent as possible with those of other nearby states with an RPS.

**Source:** http://www.dsireusa.org/

### *Research and Development Grants*

**Incentive Type:** State Grant Program
**Policy Level:** State
**Province/Territory/State:** Delaware

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics, Wind, Solar, Biomass, Landfill Gas, Hydro, Renewable Fuel Vehicles, Geothermal Electric, Municipal Solid Waste, Fuel Cells, Hydrogen
**Applicable Sectors:** Government
**Summary:** The Green Energy Fund's Research and Development Program offers grants to projects that develop or improve renewable energy technology in Delaware. The Department of Natural Resources and Environmental Control will accept proposals for Research and Development Program grants for qualifying projects that improve the engineering, adaptation, or development of products or processes that directly relate to renewable energy technology. These grants are funded by the Delaware public benefits program, the Green Energy Fund, which was established in 1999 and amended in 2003 to outline three renewable energy programs, including the Research and Development Program.

The Delaware Research and Development Program grants are available to applicants located within the State of Delaware for projects conducted in the State of Delaware. Subject to availability of funds, the Research and Development Program offers grants up to 35% of the cost of qualifying projects and shall not exceed $250,000 per project.

Research and Development Program proposals will be accepted by the Department on a biannual basis. The total of all grants awarded in any one fiscal year shall not exceed 10% of all revenue collected for the Green Energy Fund during the previous fiscal year or 10% of the fund balance whichever is greater. Proposals for Research and Development Program grants should be projects that improve the engineering adaptation, or development of products that directly relate to renewable energy technology. See the Green Energy Fund Regulations for detailed requirements for qualifying projects and the application process.

**Source:** http://www.dsireusa.org/

### *Technology and Demonstration Grants*

**Incentive Type:** State Grant Program
**Policy Level:** State
**Province/Territory/State:** Delaware

**Eligible Renewable / Other Technologies:** Passive Solar, Solar Thermal Electric, Photovoltaics, Wind, Hydro, Fuel Cells, Storage, Conversion and Conditioning Equipment
**Applicable Sectors:** Commercial, Government

**Summary:** The Technology and Demonstration Program provides grants to projects that demonstrate the market potential for renewable technologies and accelerate the commercialization of these technologies in Delaware. These grants are funded by the Delaware public benefits program, the Green Energy Fund, which was established in 1999 and amended in 2003 to outline three renewable energy programs, including the Technology and Demonstration Program.

Individual grants awarded under Green Energy Fund's Technology Demonstration Program shall not exceed 25% of the cost of the eligible equipment for a renewable energy technology project and will not exceed $200,000 per project. The total of all Technology Demonstration grants shall not exceed 25% of all revenue collected for the Green Energy Fund during the previous fiscal year or 25% of the fund balance whichever is greater. To be eligible for consideration, a project must demonstrate either a novel technology or a novel application of an available technology. Projects must include a public education component, such as integration into an educational program or location at a facility that allows public tours of the installed renewable energy technology. All projects must be meet code compliance and obtain relevant permits as outlined in Section 6.1.2 and 6.1.3 under authority of 29 Delaware Code, Section 8051 (d).

Project proposals will be accepted on a biannual basis. Applicants for the Technology Demonstration Program shall submit six copies of the proposal and supporting documentation and receive approval prior to beginning the project. See the Regulations Governing the Green Energy Program for more information on the application process.

**Source:** http://www.dsireusa.org/

### *Green Energy Program*

**Incentive Type:** State Rebate Program
**Policy Level:** State
**Province/Territory/State:** Delaware

**Eligible Renewable / Other Technologies:** Active Water Heat, Photovoltaics, Wind, Geothermal Heat Pumps
**Applicable Sectors:** Industrial, Commercial, Residential
**Summary:** The Green Energy Program (formerly known as the Energy Alternatives Program) was established as part of The Electric Utility Restructuring Act of 1999, and is supported under Delaware's public benefits program, the Green Energy Fund. The purpose of the program is to introduce renewable energy technologies into the Delaware market by reducing the net system costs through the use of grants. Under the program, alternative energy grants are available for the installation of qualifying photovoltaic, solar water heating, wind turbine, fuel cell, and geothermal heat pump systems. Grants are available for systems located within the Delmarva Power and Light Company service territory, and the purchaser must be a customer of Conectiv Power Delivery. Grant reservation request forms and interconnection requirements and forms may be downloaded from the Web site shown above.

To ensure that rebates are provided to both residential and nonresidential applicants, 40% of rebate funding is available for residential customers and 60% of funding is available for nonresidential customers. The total of all grants shall not exceed 65% of the total annual revenue collected for the Green Energy Fund. The maximum individual grant amount is 50% of installation costs for photovoltaic, solar water heating, fuel cells, and wind turbine systems, with the following caps:
– PV – Residential, $22,500; non-residential, $250,000
– Solar Water Heating – Residential, $3,000; non-residential, $250,000
– Small Wind Turbines – Residential, $22,500; non-residential, $100,000
– Fuel Cells – Residential, $22,500; non-residential, $250,000

Grants are also available for geothermal heat pumps at a maximum of $600/ton, capped at $3,000 for residential systems and $25,000 for non-residential systems.

All systems must be installed by a participating contractor and carry a full five-year warranty. For further details on systems that qualify for rebates under this program, see the Green Energy Fund Regulations.

**Source:** http://www.dsireusa.org/

### *Green Energy Fund*

**Incentive Type:** Public Benefits Fund
**Policy Level:** State
**Province/Territory/State:** Delaware

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics, Wind, Hydro, Geothermal Heat Pumps
**Applicable Sectors:** Government
**Summary:** The Delaware public benefits program, enacted through the state's electric utility restructuring law in March 1999, provides $1.5 million annually for efficiency and renewable programs and $0.8 million annually for low-income programs. Funds for the public benefit programs are collected from Conectiv's customers; no environmental or low-income public purpose funds are being collected from Delaware Electric Cooperative (DEC). Initiated on October 1, 1999, $0.000178 per kWh (0.178 mills/kWh)—approximately $1.5 million annually—is collected to fund environmental incentive programs for conservation, energy efficiency and renewable energy. This money is collected and distributed through the Green Energy Fund.

In August 2000, the Delaware Senate passed a resolution (SR 30) directing $1 million to grants for solar energy. Legislation signed in June 2003 amending 29 Del. C. § 8051 outlines additional programs to be supported by the Green Energy Fund. Details for all three of these programs were developed in 2004 in the Green Energy Fund Regulations:

Green Energy Program Grants - providing cash grants from the Green Energy Fund to customers who have constructed, purchased or leased renewable energy technology and have placed such Renewable Energy Technology in service. The total of all grants made under this shall not exceed 65% of all expenditures from the Green Energy Fund on an annual basis; individual grant amounts vary by technology and sector. This is a continuation of the Energy Alternatives Rebate program.

Technology and Demonstration Grants - providing cash grants of 25% of the cost of a project which demonstrates the market potential of renewable energy technology in Delaware up to $200,000 per project. Grants made under this program can not 25% of all expenditures from the Green Energy Fund on an annual basis.

Research and Development Grants - supporting qualifying research and graduate studies in energy efficiency and renewable energy technologies. Grants of 35% of project costs are awarded for the development of a product in Delaware directly related to renewable energy technology, up to $250,000 per project. Grants made under this program can not exceed 10% of all expenditures from the Green Energy Fund on an annual basis.

An average of 0.095 mills/kWh (approx. $800,000 annually) is collected to fund low-income fuel assistance and weatherization programs. These funds are administered by the Department of Health & Social Services' Division of State Service Centers, which currently administers similar federally-funded programs.

**Source:** http://www.dsireusa.org/

### *Fuel Mix Disclosure*

**Incentive Type:** Generation Disclosure
**Policy Level:** State
**Province/Territory/State:** Delaware

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Landfill Gas, Hydro, Geothermal Electric
**Applicable Sectors:** Utility
**Summary:** Delaware's 1999 restructuring law (HB 10) authorized the Public Service Commission (PSC) to develop environmental disclosure requirements and consumer protection standards for green power marketing. PSC rules require all electric suppliers to disclose fuel mix information to customers on a quarterly basis, effective August 31, 1999, although a standard label is not required. The fuel resource mix must be reported by percentage for the following resources: coal, oil, natural gas, nuclear, hydroelectric, solar, wind, biomass, geothermal, and other. In addition, each energy supplier must submit an annual report to the Public Service Commission detailing the energy purchasing and selling for each quarter of the previous year.

Energy suppliers offering green power products are also required to accurately label their fuel mix in marketing materials and product offers. Suppliers that market a product as "environmentally beneficial" must show that 50% of the power is derived from renewable resources, such as solar, wind, hydro, biomass (agricultural wastes and landfill gas), or geothermal.

**Source:** http://www.dsireusa.org/

### *Interconnection Standards*

**Incentive Type:** Interconnection
**Policy Level:** State
**Province/Territory/State:** Delaware

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Other DG, Biomass, Hydro, Geothermal Electric
**Applicable Sectors:** Commercial, Residential
**Summary:** Conectiv (aka Delmarva), Delaware's only investor-owned utility, has interconnection rules</a> divided into six categories based on system size, system type (inverter-based or rotating), and energy source (renewable or non-renewable). These categories determine the technical requirements and forms the customer must file.

All inverter-based systems (renewable and non-renewable energy sources) with a generating capacity of 25 kilowatts (kW) or less must comply with IEEE 1547 and UL 1741 in addition to Conectiv's technical guidelines. These installations are exempt from the pre-interconnection study. Furthermore, an external disconnect switch is not required for smaller inverter-based systems. In emergencies, however, the utility reserves the right to disconnect the system without notification. The customer accepts full responsibility for any risks involved with disconnecting the system. Renewable-energy systems in this size category (25 kW or less) are eligible for net metering.

Inverter-based systems generating between 25 kW and 1 MW, as well as systems under 1 megawatt (MW) that use a rotating generator are required to comply with all sections of the utility's technical guidelines. Larger inverter-based systems must also comply with IEEE 1547 and UL 1741. All systems between 25 kW and 1 MW must pass a pre-interconnection study and must have a manual disconnect switch.

Delaware Electric Cooperative (DEC), which is regulated by the Delaware Public Service Commission (PSC), has interconnection rules similar to Conectiv's. For renewable-energy generators 25 kW or less, systems must comply with all applicable safety and performance standards established by the National Electric Code (NEC), IEEE and UL. These systems are also eligible for net metering.

DEC customers with systems greater than 25 kW are required to carry t least $1,000,000 in liability insurance per occurrence, and $1,000,000 in property loss insurance. Higher amounts of coverage may be required at the discretion of the DEC. There is no similar specification in Conectiv's Technical Guidelines. A manual disconnect device is required for these larger systems.

**Source:** http://www.dsireusa.org/

### *Reliable Energy Trust Fund*

**Incentive Type:** Public Benefits Fund
**Policy Level:** State
**Province/Territory/State:** District of Columbia

**Eligible Renewable / Other Technologies:** Active Water Heat, Photovoltaics, Wind, Biomass, Hydro
**Applicable Sectors:** Government
**Summary:** The District of Columbia's Reliable Energy Trust Fund (RETF) was created by the Retail Electric Competition and Consumer Protection Act of 1999 and began operation on January 1, 2001. The RETF—a public benefits fund—supports energy-efficiency projects, energy projects for low-income residents, and renewable-energy projects. It is administered by the DC Energy Office.

The RETF is financed by a non-bypassable surcharge on all electricity customers, excluding Residential Aid Discount (RAD) customers. The DC Public Service Commission evaluates the surcharge annually and may adjust the surcharge if the Commission finds that the charge is not set at an appropriate level. Although the RETF was authorized by statute to collect up to $8 million annually from 2001 to 2004, the Commission permitted the RETF to collect only $2.3 million annually during these four years. In an order issued in March 2005, the Commission allowed the RETF to collect a total of $9.5 million in 2005 and $10.5 million in 2006. (These sums are significantly less than the maximum collection amount possible—$23 million for each year.)

The development of RETF programs has been slow, and most available funding has thus far been allocated to low-income assistance and energy-efficiency projects. (Financial support for renewables was suspended when the RETF initially took effect.) Grants were made available in January 2005 under the Renewable Electricity Generation Demonstration Program. The DC Public Service Commission's decision to increase funding for the RETF in March 2005 will have little impact on the development of renewable energy in the District; RETF programs supporting renewables will receive only $250,000 annually in 2005 and 2006. Most of this funding will be allocated to the Renewable Electricity Generation Demonstration Program.

**Source:** http://www.dsireusa.org/

### *Interconnection Standards*

**Incentive Type:** Interconnection
**Policy Level:** State
**Province/Territory/State:** District of Columbia

**Eligible Renewable / Other Technologies:** Photovoltaics, Wind, Biomass, Landfill Gas, Hydro, Municipal Solid Waste, Fuel Cells

**Applicable Sectors:** Industrial, Commercial, Residential, Fed_Govt, Local, State_Sector
**Summary:** Residential, commercial and industrial electric customers in the District of Columbia can net meter renewables, fuel cells and microturbines up to 100 kilowatts (kW) in capacity. Following a DC Public Service Commission order, Pepco, the electric utility serving the District of Columbia, implemented an interconnection tariff in November 2003 titled "Cogeneration and Small Power Production Interconnection Service," also known as Schedule CG-SPP. This tariff addresses both larger PURPA QFs ("Qualifying Facilities") and smaller systems (less than 100 kW) designated under the District's net metering rule. Pepco also has a detailed interconnection service agreement in place. In addition, interconnected facilities must comply with the PJM interconnection rules. (PJM is the regional independent system operator that covers the District of Columbia.)

Interestingly, despite the District's net-metering rules, the Pepco tariff allows eligible QFs to choose either net metering or what is called "Simultaneous Purchase and Sale." Under the latter arrangement, a system owner may choose to sell all power generated on-site to the utility at an agreed rate, with all power consumption for the site provided by the utility. That is, the power generated locally is not used on site to offset consumption. This billing arrangement was once more common when avoided cost (purchase) rates for QFs were higher than retail rates.

**Source:** http://www.dsireusa.org/

### *District of Columbia Renewable Demonstration Project*

**Incentive Type:** State Grant Program
**Policy Level:** State
**Province/Territory/State:** District of Columbia

**Eligible Renewable / Other Technologies:** Photovoltaics, Wind, Biomass
**Applicable Sectors:** Commercial, Residential, Fed_Govt, Government, Nonprofit, Local, Schools, Institutional
**Summary:** The District of Columbia Renewable Energy Demonstration Project (REDP) was developed by the DC Energy Office to increase the awareness and the use of renewable-energy technologies by District of Columbia residents, businesses and institutions. In early 2005, a total of $180,000 from the DC Reliable Energy Trust Fund—a public benefits fund administered through the DC Energy Office and overseen by the DC Public Service Commission—was available for renewable-energy projects. Under this initial solicitation, eligible technologies included photovoltaics, wind, biomass, fuel cells and hydro. (Applications were due February 18, 2005.)

In March 2005, the DC Public Service Commission approved $200,000 in annual funding for the REDP in 2005 and 2006. Contact the DC Energy Office for more information regarding the time frame of future grant opportunities.

**Source:** http://www.dsireusa.org/

### *Fuel Mix Disclosure*

**Incentive Type:** Generation Disclosure
**Policy Level:** State
**Province/Territory/State:** District of Columbia

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Hydro, Geothermal Electric
**Applicable Sectors:** Utility
**Summary:** According to the Retail Electric Competition and Consumer Protection Act of 1999, by July 1, 2003, and every two years afterwards, the District of Columbia Public Service Commission must provide a report to the DC Council on the overall fuel mix of electricity sold in the District.

The report must include the amount of electricity generated by renewable-energy sources that is sold in the District. On June 13, 2003, the Commission issued an order (Order No. 12765) directing PEPCO and other DC electricity suppliers to report their fuel mix to the commission and to the consumers in June and December of each year.

In December 2004, the D.C. Council passed Bill 15-872 (codifed in D.C. Code § 34-1504), which requires the PSC to direct, if determined feasible, electricity suppliers to disclose emissions information for electricity sold in the District of Columbia. If feasible, electricity suppliers must disclose emissions every six months on a pound per megawatt-hour basis. Emissions reporting includes carbon dioxide, nitrogen oxide, sulfur dioxide, and any other pollutants specified by the Commission. All of the 2005 filings by electricity suppliers and PEPCO are expected to contain emissions as well as fuel mix information.

**Source:** http://www.dsireusa.org/

### *District of Columbia - Net Metering*

**Incentive Type:** Net Metering Rules
**Policy Level:** State
**Province/Territory/State:** District of Columbia

**Eligible Renewable / Other Technologies:** Cogeneration, Fuel Cells, "Renewable Energy Sources" (not defined)
**Applicable Sectors:** Industrial, Commercial, Residential
**Summary:** In the District of Columbia, net metering is available to residential and commercial customer-generators with systems powered by "renewable energy sources," combined heat and power (CHP), fuel cells, and microturbines, with a maximum capacity of 100 kW. The term "renewable energy sources" is not defined in the District's net-metering rules. (However, it is defined in the District's 1999 restructuring legislation as "solar; wind; tidal; geothermal; biomass; hydroelectric facilities; and digester gas.")

The District's net-metering rules specify that metering equipment must be capable of measuring the flow of electricity in two directions. Utilities are not prohibited from installing an additional meter on the facilities of eligible customer-generators, but utilities that choose to do so must pay for the added cost of the second meter and/or other necessary equipment. Net excess generation (NEG) is credited to customer-generators at the utility's full retail rate. Utilities must develop a standard net-metering contract subject to review and approval by the PSC.

Systems must meet all applicable safety and performance standards established by the National Electric Code (NEC), National Electric Safety Code (NESC), the Institute of Electrical and Electronics Engineers (IEEE), Underwriters Laboratories (UL), and any other relevant standards established by the DC Public Service Commission.

**Source:** http://www.dsireusa.org/

### *Renewables Portfolio Standard*

**Incentive Type:** Renewables Portfolio Standard
**Policy Level:** State
**Province/Territory/State:** District of Columbia

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Landfill Gas, Hydro, Geothermal Electric, Municipal Solid Waste, Cofiring
**Applicable Sectors:** Utility
**Summary:** In January 2005, the Council of the District of Columbia passed Bill A15-755 (2004), enacting a renewables portfolio standard (RPS) that will be implemented by the DC Public Service Commission. The RPS, which involves a two-tiered system, applies to all retail electricity

sales in the District. "Tier one" renewable resources include solar, wind, biomass, landfill gas, wastewater-treatment gas, geothermal, ocean (mechanical and thermal) and fuel cells fueled by "tier one" resources. "Tier two" renewable resources include hydropower (other than pumped storage generation) and municipal solid waste.

Utilities must use renewable energy to generate a specific percentage of their electricity supply according to the following schedule:
– In 2007, 1.5% from "tier one" resources; 2.5% from "tier two" resources; and 0.005% from solar energy
– In 2012, 4.0% from "tier one" resources; 2.5% from "tier two" resources; and at least 0.066% from solar energy
– In 2017, 6.5% from "tier one" resources; 1.5% from "tier two" resources; and at least 0.192% from solar energy
– In 2022 and beyond, 11% from "tier one" resources; 0% from "tier two" resources; and at least 0.386% from solar energy

Energy from "tier one" resources is eligible for inclusion in meeting the RPS regardless of when the generating system or facility was activated. "Tier one" energy may be applied to the percentage requirements of the standard for either "tier one" or "tier two" renewable resources. Electricity suppliers that fail to comply with the requirements must pay $0.025 (2.5 cents) per kWh of shortfall from required "tier one" resources, $0.01 for each kWh of shortfall from "tier two" resources, and $0.30 for each kWh of shortfall from required solar resources.

Certain renewable resources receive preferential treatment under terms of the District of Columbia's RPS. Before January 1, 2007, electricity suppliers will receive 120% credit toward meeting the RPS for energy generated by wind or solar. Between January 1, 2007, and December 31, 2009, electricity suppliers will receive 110% credit for energy generated by wind or solar. Before January 1, 2010, electricity suppliers will receive 110% credit for energy generated by landfill methane or wastewater-treatment methane.

The DC Public Service Commission will select a market-based renewable-energy credit (REC) tracking system to facilitate the creation and transfer of RECs. This system likely will resemble the tracking system developed by PJM Interconnection.

In devising the District's RPS, the DC Council determined "it is in the public interest to recognize the economic, environmental, fuel diversity and security benefits of renewable-energy resources, to establish a market for electricity from these resources in the District, and to lower the cost to consumers of electricity produced from these resources."

In the same act, the DC Council created the Renewable Energy Development Fund. This fund will be administered by the DC Energy Office and will be used solely to make loans and grants to support the creation of new solar-energy resources in the District. The fund will primarily be supported by compliance payments related to the RPS, payments received in repayment of a loan, and investment earnings of the fund.

The DC Public Service Commission is currently in the process of adopting regulations governing the application and transfer of renewable energy credits and implementation of the RPS. For a summary of recent commission orders and reports, please visit the DC PSC web site

**Source:** http://www.dsireusa.org/

### *Energy Star Financing and Mortgages*

**Incentive Type:** Federal Loan Program
**Policy Level:** State
**Province/Territory/State:** Federal

**Eligible Renewable / Other Technologies:** En Eff, Geothermal Heat Pumps, Renewable techs if other requirements are met
**Applicable Sectors:** Commercial, Residential, Local, Schools, Construction, Installers_Contractors, Utility, State_Sector
**Summary:** An ENERGY STAR Mortgage combines the features of conventional or FHA energy-efficient mortgages with at least one additional feature designed to encourage borrowers to purchase ENERGY STAR qualified new homes. Common additional features include closing cost discounts, payments for home energy ratings, interest rate discounts, and fee waivers.

"Energy Efficient Mortgages" (or EEMs) make it easier for borrowers to qualify for loans to purchase homes with specific energy-efficiency improvements. Lenders can offer conventional EEMs, FHA-insured EEMs (or VA EEMs), ENERGY STAR Mortgages, or loans that combine the features of these different mortgages.

Conventional EEMs are offered by some lenders who sell their loans to Fannie Mae and Freddie Mac. These EEMs increase the purchasing power of the borrower by allowing the lender to increase the maximum Principal, Interest, Taxes and Insurance (PITI) amount by a dollar amount equal to the estimated energy savings. Loan officers are required to submit a HERS report or an Energy Addendum (Form 1004A or Form 70A) to verify the expected energy savings.

For more information on how a home qualifies for the ENERGY STAR label and for a list of lenders offering ENERGY STAR mortgages, visit <http://www.energystar.gov>www.energystar.gov>.

**Source:** http://www.dsireusa.org/

### *Tribal Energy Program Grant*

**Incentive Type:** Federal Grant Program
**Policy Level:** State
**Province/Territory/State:** Federal

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Photovoltaics, Wind, Biomass, Hydro, Geothermal Electric, Geothermal Heat Pumps
**Applicable Sectors:** Tribal_Govt
**Summary:** DOE's Office of Energy Efficiency and Renewable Energy's Tribal Energy Program provides financial and technical assistance to tribes for feasibility studies and shares the cost of implementing sustainable renewable energy installations on tribal lands. This program seeks to promote tribal energy self-sufficiency and fosters employment and economic development on America's tribal lands.

Tribal Energy Program funding is awarded through a competitive process. Each solicitation will include instructions on how to apply, application content, and the criteria by which applications will be selected for funding. Consult the program Web site above for current funding opportunities and past solicitations.

The program is managed by EERE's Weatherization and Intergovernmental Program, implemented by the DOE Goldern Field Office, and technical support is provided by Sandia National Laboratories and the National Renewable Energy Laboratory.

**Source:** http://www.dsireusa.org/

### *Renewable Energy Systems and Energy Efficiency Improvements Program*

**Incentive Type:** Federal Grant Program
**Policy Level:** State

**Province/Territory/State:** Federal

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Photovoltaics, Wind, En Eff, Biomass, Geothermal Electric, Geothermal Heat Pumps, Hydrogen, Direct-Use Geothermal
**Applicable Sectors:** Commercial, Agricultural
**Summary:** Section 9006 of the 2002 Farm Bill requires the U.S. Department of Agriculture (USDA) to create a program to make direct loans, loan guarantees, and grants to agricultural producers and rural small businesses to purchase renewable-energy systems and make energy-efficiency improvements. This program is known as the Renewable Energy Systems and Energy Efficiency Improvements Program.

The maximum “grant” award is 25% of eligible project costs up to $500,000 for renewable energy projects and up to $250,000 for energy efficiency improvements. Assistance to one individual or entity is not to exceed $750,000. The minimum grant request is $2,500 for renewable energy projects and $1,500 for efficiency projects. Eligible renewable energy projects include wind, solar, biomass and geothermal; and hydrogen derived from biomass or water using wind, solar or geothermal energy sources. Applications must be submitted to the appropriate Rural Development State Office.

Under the “guaranteed loan” option, funds up to 50% of eligible project costs (with a maximum project cost of $10 million) are available. The minimum amount of a guaranteed loan made to a borrower is $5,000. A combined grant and guaranteed loan under this program cannot exceed 50% of eligible project costs, and the applicant or borrower is responsible for having other funding sources for the remaining funds. The maximum percentage of guarantee ranges from 70% to 85% depending on the loan value; the percentage for a given project will be negotiated between the lender and the Rural Business-Cooperative Service. The interest rate will be negotiated between the lender and the applicant and the repayment term must not exceed 30 years for real estate, 20 years for machinery and equipment, and seven years for working capital.

The USDA has implemented this program through a Notice of Funds Availability (NOFA) for each of the last three years. The latest round of funding was made available in March 2005. The selection of 150 applicants to receive almost $21 million in grant assistance was announced in September 2005. Future grant and loan guarantee opportunities will be announced and made according to the final rule governing the program effective July 18, 2005 (see link above).

The USDA will determine each year if “direct loan” funds are available. If funds are available, a NOFA will appear in the “Federal Register”.

2003-2004 Program Results

2003 Renewable Energy Funding Results

– 35 wind projects totaling $7.4 million;
– 30 anaerobic digester projects totaling $7 million;
– 6 solar projects totaling $1.1 million; and
– 16 project involving ethanol plants/anaerobic digesters, or direct combustion and fuel pellet systems totaling $3.9 million.

2004 Renewable Energy Funding Results
– 38 wind projects totaling nearly $7.9 million
– 37 anaerobic digester projects totaling $9.5 million;
– 13 Biomass/bioenergy projects totaling $3.1 million;
– 2 solar, 2 hybrid, and 2 geothermal projects were also funded.

For further details, visit the program web site above or contact your state's

Rural Energy Coordinator.

**Source:** http://www.dsireusa.org/

### *Energy Efficient Mortgage (EEM)*

**Incentive Type:** Federal Loan Program
**Policy Level:** State
**Province/Territory/State:** Federal

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Photovoltaics, En Eff
**Applicable Sectors:** Residential
**Summary:** The Energy Efficient Mortgage (EEM) and Energy Improvement Mortgage can be used by homeowners to pay for energy efficiency measures in a new or existing home. EEMs are federally recognized and can be applied to most home mortgages. Both government insured (e.g., FHA, VA) and conventional (e.g., Fannie Mae) EEMs are available. All buyers who qualify for a home loan qualify for the EEM. The EEM is intended to give the buyer additional benefits on top of their usual mortgage deal. The lender will use the energy-efficiency of the house, as determined by a HERS rating, to determine what these benefits will be.

EEMs can be used to finance technologies such as photovoltaics, solar water and space heating, and energy efficiency.

DOE's Office of Energy Efficiency and Renewable Energy, provides a factsheet on Financing an Energy-Efficient Home.

**Source:** http://www.dsireusa.org/

### *Veterans Housing Guaranteed and Insured Loans*

**Incentive Type:** Federal Loan Program
**Policy Level:** State
**Province/Territory/State:** Federal

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, En Eff
**Applicable Sectors:** Residential, Veterans, Retired Service Personnel, Unmarried Surviving Spouses of Veterans
**Summary:** The Department of Veterans Affairs (VA) may guarantee or insure loans for veterans wishing to make improvements to their homes, including the installation of solar heating systems, solar heating and cooling systems, window and skylight glazing, window insulation, movable insulation panels, portions of a residential structure that serve as solar furnaces, thermal walls, floors, and roofs, caulking and weather-stripping, furnace efficiency modifications, clock thermostats, building insulation, water heater insulation, storm windows and doors, heat pumps, and other energy conservation measures.

The VA guarantees 50% for loans up to $45,000. Loans are not to exceed the cost of the energy efficiency improvements. The maximum is $3,000 but may be extended to $6,000 if the projected savings in monthly utility costs from the improvements exceed the monthly payment for principal and interest. The borrower must own and occupy the home, unless they are refinancing a loan from a previously-occupied home. Borrowers may use the loans to refinance existing loans for energy efficiency improvements. See the authority for additional information on refinancing such loans.

To secure the loan, borrowers should obtain a Certificate of Eligibility from their local VA office and present it to the private lender willing to make the loan. Eligibility depends on veteran status

(see web site for further details). Applicants must have a sufficient income to meet loan repayment terms and must have a satisfactory credit record. Applications are processed by Veterans Benefits Administration Regional Loan Centers in the applicants' regions. Contacts are listed in Appendix IV of the Veterans Benefit Administration Catalog.

**Source:** http://www.dsireusa.org/

### *Business Energy Tax Credit*

**Incentive Type:** Corporate Tax Credit
**Policy Level:** State
**Province/Territory/State:** Federal

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics, Geothermal Electric, Fuel Cells, Solar Hybrid Lighting, Direct Use Geothermal
**Applicable Sectors:** Industrial, Commercial
**Summary:**
The Energy Policy Act of 2005 expanded the business energy tax credit for solar and geothermal energy property to include fuel cells and microturbines installed in 2006 and 2007 and to hybrid solar lighting systems installed on or after January 1, 2006. (A 10% federal energy tax credit is available to businesses that invested in or purchased solar or geothermal energy property in the United States prior to January 1, 2006.)

For eligible equipment installed from January 1, 2006 through 2007, the credit is set at 30% of expenditures for solar technologies, fuel cells and solar hybrid lighting; microturbines are eligible for a 10% credit during this two-year period. For equipment installed on or after January 1, 2008, the tax credit for solar energy property and solar hybrid lighting reverts to 10% and expires for fuel cells and microturbines. The geothermal credit remains unchanged at 10%.

The credit for fuel cells is capped at $500 per 0.5 kW of capacity. The maximum microturbine credit is $200 per kW of capacity. No maximum is specified for the other technologies.

Solar energy property includes equipment that uses solar energy to generate electricity, to heat or cool (or provide hot water for use in) a structure, or to provide solar process heat. Hybrid solar lighting systems are those that use solar energy to illuminate the inside of a structure using fiber-optic distributed sunlight. Geothermal energy property includes equipment used to produce, distribute, or use energy derived from a geothermal deposit. It does NOT include geothermal heat pumps. For electricity produced by geothermal power, equipment qualifies only up to, but not including, the electrical transmission stage. Energy property does not include public utility property, passive solar systems, pool heating, or equipment used to generate steam for industrial or commercial processes.

To qualify, the original use of the equipment must begin with the taxpayer or it must be constructed by the taxpayer. The equipment must also meet any performance and quality standards in effect at the time the equipment is acquired. The energy property must be operational in the year in which the credit is first taken.

If the project is financed in whole or in part by subsidized energy financing or by tax-exempt private activity bonds, the basis on which the credit is calculated must be reduced. (The formula is described in the tax credit instructions.) Subsidized energy financing means "financing provided under a federal, state, or local program, a principal purpose of which is to provide subsidized financing for projects designed to conserve or produce energy." Therefore, a business must reduce the basis for calculating the credit by the amount of any such incentives received.

**Source:** http://www.dsireusa.org/

### *Residential Energy Conservation Subsidy Exclusion (Personal)*

**Incentive Type:** Personal Exemption
**Policy Level:** State
**Province/Territory/State:** Federal

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Photovoltaics, En Eff
**Applicable Sectors:** Residential, MultiFamilyRes
**Summary:** According to Section 136 of the IRS Code, energy conservation subsidies provided by public utilities, either directly or indirectly, are nontaxable: "Gross income shall not include the value of any subsidy provided (directly or indirectly) by a public utility to a customer for the purchase or installation of any energy conservation measure."

“Energy conservation measure” includes installations or modifications that are primarily designed to reduce consumption of electricity or natural gas, or improve the management of energy demand. “Dwelling unit” includes a house, apartment, condominium, mobile home, boat, or similar property. If a building or structure contains both dwelling and other units, any subsidy must be properly allocated.

Given the definition of "energy conservation measure" there is strong evidence that utility rebates for residential solar thermal and solar electric projects may be nontaxable. However, the IRS has not ruled definitively on this issue. For taxpayers considering using this provision for renewable energy systems, consultation with a tax attorney is advised.

Other types of utility subsidies that may come in the form of credits or reduced rates are also nontaxable, as IRS Publication 525 states (see link above):

" Utility rebates. If you are a customer of an electric utility company and you participate in the utility’s energy conservation program, you may receive on your monthly electric bill either: a reduction in the purchase price of electricity furnished to you (rate reduction), or a nonrefundable credit against the purchase price of the electricity. The amount of the rate reduction or nonrefundable credit is not included in your income."

**Source:** http://www.dsireusa.org/

### *Residential Energy Conservation Subsidy Exclusion (Corporate)*

**Incentive Type:** Corporate Exemption
**Policy Level:** State
**Province/Territory/State:** Federal

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Photovoltaics, En Eff
**Applicable Sectors:** Residential, MultiFamilyRes
**Summary:** According to Section 136 of the IRS Code, energy conservation subsidies provided by public utilities, either directly or indirectly, are nontaxable: "Gross income shall not include the value of any subsidy provided (directly or indirectly) by a public utility to a customer for the purchase or installation of any energy conservation measure."

“Energy conservation measure” includes installations or modifications that are primarily designed to reduce consumption of electricity or natural gas, or improve the management of energy demand. “Dwelling unit” includes a house, apartment, condominium, mobile home, boat, or

similar property. If a building or structure contains both dwelling and other units, any subsidy must be properly allocated.

Given the definition of "energy conservation measure" there is strong evidence that utility rebates for residential solar thermal and solar electric projects may be nontaxable. However, the IRS has not ruled definitively on this issue. For taxpayers considering using this provision for renewable energy systems, consultation with a tax attorney is advised.

Other types of utility subsidies that may come in the form of credits or reduced rates are also nontaxable, as IRS Publication 525 states (see link above):

Utility rebates. If you are a customer of an electric utility company and you participate in the utility's energy conservation program, you may receive on your monthly electric bill either: a reduction in the purchase price of electricity furnished to you (rate reduction), or a nonrefundable credit against the purchase price of the electricity. The amount of the rate reduction or nonrefundable credit is not included in your income."

**Source:** http://www.dsireusa.org/

### *Renewable Energy Production Incentive (REPI)*

**Incentive Type:** Production Incentive
**Policy Level:** State
**Province/Territory/State:** Federal

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Landfill Gas, Geothermal Electric, Livestock Methane
**Applicable Sectors:** Muni, Coop, Tribal_Govt, State/local gov't that sell project's electricity
**Summary:** The Renewable Energy Production Incentive (REPI) provides financial incentive payments for electricity produced and sold by new qualifying renewable energy generation facilities. Qualifying facilities are eligible for annual incentive payments of 1.5 cents per kilowatt-hour (1993 dollars and indexed for inflation) for the first ten year period of their operation, subject to the availability of annual appropriations in each Federal fiscal year of operation.

REPI was originally authorized under section 1212 of the Energy Policy Act of 1992 and had expired for new projects as of 9/30/03. However, Section 202 of the Energy Policy Act of 2005 (H.R. 6) reauthorized appropriations for fiscal years 2006 through 2026 and expanded the list of eligible technologies and facilities owners. See 42 USCS § 13317 above for the new REPI statute. New regulations established as a result of the new law will be posted when they become available.

Eligible electric production facilities include not-for-profit electrical cooperatives, public utilities, state governments, Commonwealths, territories, possessions of the U.S., the District of Columbia, Indian tribal governments, or a political subdivision thereof, or Native Corporations that sell the project's electricity to someone else.

Qualifying facilities must use solar, wind, geothermal (with certain restrictions as contained in the rulemaking), or biomass (except for municipal solid waste combustion), landfill gas, livestock methane, and ocean (including tidal, wave, current, and thermal) generation technologies. Fuel cells using hydrogen derived from eligible biomass facilities are also considered an eligible technology.

If there are insufficient appropriations to make full payments for electric production from all qualified facilities for a fiscal year, 60% of appropriated funds are to be assigned to facilities that use solar, wind, ocean (including tidal, wave, current, and thermal), geothermal, or closed-loop biomass technologies; and 40% of appropriated funds for the fiscal year to other projects.

REPI complements sections 1914 and 1916 of the Energy Policy Act of 1992, which provide tax incentives to certain private sector entities for certain types of new renewable energy generation facilities.

The point of contact for questions concerning REPI policy issues and the availability of appropriations for the REPI program is Dan Beckley. The point of contact on REPI implementation (facility qualifications, applications, and payments) is Christine Carter.

**Source:** http://www.dsireusa.org/

### *Renewable Electricity Production Tax Credit*

**Incentive Type:** Corporate Tax Credit
**Policy Level:** State
**Province/Territory/State:** Federal

**Eligible Renewable / Other Technologies:** Wind, Biomass, Landfill Gas, Hydro, Geothermal Electric, Municipal Solid Waste, Refined Coal, Indian Coal
**Applicable Sectors:** Industrial, Commercial
**Summary:** The Renewable Electricity Production Credit (REPC) is a per kilowatt-hour tax credit for electricity generated by qualified energy resources. Enacted as part of the Energy Policy Act of 1992, the credit expired at the end of 2001, and was subsequently extended in March 2002 as part of the Job Creation and Worker Assistance Act of 2002 (H.R. 3090). The tax credit then expired at the end of 2003 and was not renewed until October 4, 2004, as part of H.R. 1308, the Working Families Tax Relief Act of 2004, which extended the credit through December 31, 2005. The Energy Policy Act of 2005 modified the credit and extended it once again through December 31, 2007.

Section 710 of the "American Jobs Creation Act of 2004," expanded REPC to include additional eligible resources—geothermal energy, open-loop biomass, solar energy, small irrigation power, landfill gas, municipal solid waste combustion, and refined coal—in addition to the formerly eligible wind energy, closed-loop biomass, and poultry-waste energy resources. The Energy Policy Act of 2005 (EPAct 2005) further expanded the credit to certain hydropower facilities and Indian coal (coal reserves owned by an Indian tribe or were held in trust by the U.S. for the benefit of an Indian tribe). Note that as a result of EPAct 2005, solar facilities placed into service after December 31, 2005, are no longer eligible for this incentive.

REPC now applies to the following resources:
– wind
– closed-loop biomass
– open-loop biomass
– geothermal energy
– small irrigation power (150 kW - 5 MW)
– municipal solid waste
– landfill gas
– refined coal
– hydropower
– Indian coal

The REPC provides a tax credit of 1.5 cents/kWh, adjusted annually for inflation, for wind, closed-loop biomass and geothermal. The adjusted credit amount for projects in 2005 is 1.9 cents/kWh. Electricity from open-loop biomass, small irrigation hydroelectric, landfill gas, municipal solid waste resources, and hydropower receive half that rate—currently 0.9 cents/kWh.

The duration of the credit is 10 years. However, open-loop biomass geothermal, small irrigation hydro, landfill gas, and municipal solid waste combustion facilities placed into service after 10/22/04 and before enactment of the Energy Policy Act of 2005 (8/8/05) are eligible for the credit for a five-year period. Refined-coal facilities will receive $4.375 per ton (indexed for inflation) for a 10-year term. Indian coal production facilities will receive an increase in tax credit during the 7-year period beginning January 1, 2006 in the amount of $1.50/ton through 2009, and $2.00/ton after 2009.

Note, however, that owners of geothermal projects who claim the federal business energy tax credit</a> may “not” also claim this production tax credit.

A business can take the credit by completing Form 8835, "Renewable Electricity Production Credit," and Form 3800, "General Business Credit."

**Source:** http://www.dsireusa.org/

### *Modified Accelerated Cost-Recovery System (MACRS)*

**Incentive Type:** Corporate Depreciation
**Policy Level:** State
**Province/Territory/State:** Federal

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics, Wind, Geothermal Electric
**Applicable Sectors:** Industrial, Commercial
**Summary:** Under the Modified Accelerated Cost-Recovery System (MACRS), businesses can recover investments in solar, wind and geothermal property through depreciation deductions. The MACRS establishes a set of class lives for various types of property, ranging from three to 50 years, over which the property may be depreciated. For solar, wind and geothermal property placed in service after 1986, the current MACRS property class is five years.

For more information, see “IRS Publication 946, IRS Form 4562: Depreciation and Amortization”, and “Instructions for Form 4562”. The IRS web site provides a search mechanism for forms and publications. Enter the relevant form, publication name or number, and click "GO" to receive the requested form or publication.

**Source:** http://www.dsireusa.org/

### *Residential Solar and Fuel Cell Tax Credit*

**Incentive Type:** Personal Tax Credit
**Policy Level:** State
**Province/Territory/State:** Federal

**Eligible Renewable / Other Technologies:** Active Water Heat, Photovoltaics, Fuel Cells
**Applicable Sectors:** Residential
**Summary:** The Energy Policy Act of 2005 establishes a 30% tax credit up to $2,000 for the purchase and installation of residential photovoltaic (solar electric) and solar water heating property. An individual can take both a 30% credit up to the $2,000 cap for a photovoltaics system and a 30% credit up to a separate $2,000 cap for a solar water heating system. A 30% tax credit up to $500 per 0.5 kW is also available for fuels cells.

Solar water heating property must be certified for performance by the Solar Rating Certification Corporation or a comparable entity endorsed by the government of the state in which the property is installed. Note that the tax credit does not apply to solar water heating property for swimming pools or hot tubs.

The credit is calculated based on the individual's expenditures excluding subsidized energy financing, which is defined as "financing provided under a federal, state, or local program a principal purpose of which is to provide subsidized financing for projects designed to conserve or produce energy." "Consumers who receive other incentives are advised to consult with a tax professional regarding how to calculate this federal tax credit."

If the federal tax credit exceeds tax liability, the excess amount may be carried forward to the succeeding taxable year. Expenditures include labor costs for the onsite preparation, assembly, or original installation of the system and for piping or wiring to interconnect the system to the dwelling.

To be eligible for the credit, a system must be "placed in service" or activated between January 1, 2006, and December 31, 2007. Expenditures with respect to the equipment are treated as made when the installation is completed. This provision is particularly important for expenditures made before 2006 for projects not "placed in service" until 2006. If the installation is on a new home, the "placed in service" date is the date of occupancy by the homeowner. The IRS will be issuing further guidance on claiming this credit.

**Source:** http://www.dsireusa.org/

### *Renewable Energy Access Laws*

**Incentive Type:** Solar Access Law/Guideline
**Policy Level:** State
**Province/Territory/State:** Florida

**Eligible Renewable / Other Technologies:** Passive Solar, Active Water Heat, Photovoltaics, Wind, Clotheslines
**Applicable Sectors:** Industrial, Commercial, Residential
**Summary:** Florida law forbids ordinances, deed restrictions, covenants or similar binding agreements from prohibiting solar equipment use. Homeowners may not be denied—by "any entity granted the power or right in any deed restriction, covenant or similar binding agreement to approve, forbid, control, or direct alteration of property"—permission to install solar collectors, clotheslines, or other energy devices based on renewable resources is expressly prohibited.

This law specifically prohibits a homeowner association from preventing the installation of solar collectors on the roof. While a homeowner may not be prevented from installing a solar energy system, certain restrictions may be imposed without violating the law. However, those restrictions must be reasonable, not arbitrary, and uniformly imposed on homeowners in a subdivision. A restriction may not act to impair the performance of a solar system, or it may be seen as effectively prohibiting solar.

Florida law also allows easements for the purpose of maintaining exposure of a solar energy system to sunlight. Easements must be created in writing and are subject to being recorded and indexed in the same manner as any other instrument affecting the title to real property.

**Source:** http://www.dsireusa.org/

### *Fuel Mix Disclosure*

**Incentive Type:** Generation Disclosure
**Policy Level:** State
**Province/Territory/State:** Florida

**Eligible Renewable / Other Technologies:**
**Applicable Sectors:** Utility
**Summary:**

In March 1999, the Florida Public Service Commission issued an order requiring the state's investor-owned electric utilities (which serve about 80-85% of the state's customers) to provide information on their fuel mix to customers on a quarterly basis, effective April 18, 1999. This information must be included as a bill insert or on the bill itself, and must be based on data available for the most recent 12-month period. A standard label is not required. Florida was the first state to institute an environmental-disclosure requirement without restructuring its electricity market.

**Source:** http://www.dsireusa.org/

### *Interconnection of Small Photovoltaic Systems*

**Incentive Type:** Interconnection
**Policy Level:** State
**Province/Territory/State:** Florida

**Eligible Renewable / Other Technologies:** Photovoltaics
**Applicable Sectors:** Industrial, Commercial, Residential
**Summary:** Florida has created administrative rules addressing the interconnection of photovoltaic (PV) systems up to 10 kilowatts (kW) in capacity. The rule applies to investor-owned utilities in Florida, but not to municipal utilities or rural electric cooperatives. There is no specified limit on enrollment for each utility. Utilities such as Gainesville Regional Utilities (GRU), Gulf Power, and Florida Power & Light (FPL) have filed standard interconnection agreements with the Florida Public Service Commission (PSC). These agreements require interconnected customers to comply with Underwriters Laboratories (UL) and the Institute of Electrical and Electronic Engineers (IEEE) safety standards for PV modules and inverters. All customers must have at least $100,000 in liability insurance for interconnected PV systems.

Floridas rules allow each utility to specify within its standard interconnection agreement if an external manual disconnect switch is required. Both Gulf Power and FPL require customers to install this equipment at the customer's expense.

**Source:** http://www.dsireusa.org/

### *Solar Contractor Licensing*

**Incentive Type:** Contractor Licensing
**Policy Level:** State
**Province/Territory/State:** Florida

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics
**Applicable Sectors:** Installers_Contractors
**Summary:**
Until 1994, Florida offered limited specialty licenses for residential solar hot water and pool heating, as well a general solar contractor's license. These specialty licenses have not been issued since that time, although people holding these licenses may renew them.

The new solar contractor license defines a broader scope of work. With the new license, solar contractors have the authority to install, maintain and repair solar hot water systems, solar pool heating systems and photovoltaic systems in residential, commercial and industrial facilities. To qualify for a license, installers must have four years of experience, which may include both installation and education. At least one year of experience must be in a supervisory role. Solar contractor training is offered by the Florida Solar Energy Center (FSEC).

**Source:** http://www.dsireusa.org/

### *Solar Energy Standards Act of 1976*

**Incentive Type:** Equipment Certification
**Policy Level:** State
**Province/Territory/State:** Florida

**Eligible Renewable / Other Technologies:** Active Water Heat, Photovoltaics
**Applicable Sectors:** Industrial, Commercial, Residential, Government, Construction
**Summary:**
Under the Solar Energy Standards Act of 1976, the Florida Solar Energy Center (FSEC) is responsible for certifying all solar equipment sold in Florida.

**Source:** http://www.dsireusa.org/

### *Florida Energy Conservation in Buildings Act of 1974*

**Incentive Type:** State Construction Policy
**Policy Level:** State
**Province/Territory/State:** Florida

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics
**Applicable Sectors:** Schools, Construction, State_Sector
**Summary:**
Florida law encourages the use of solar technologies in state buildings when life-cycle costs indicate they are economically feasible. The Florida Energy Conservation in Buildings Act of 1974, while focusing on energy efficiency, mandates the use of solar energy devices for heating and cooling state buildings where life-cycle cost analysis determines the solar systems will be cost-effective over the life of the building.

Florida law also requires that all new educational facilities include passive solar design. The statute mandates that schools with hot water demands exceeding 1,000 gallons per day must include a solar hot water heating system to provide at least 65% of hot water needs whenever economically feasible.

**Source:** http://www.dsireusa.org/

### *Solar Energy Equipment Exemption*

**Incentive Type:** Sales Tax Exemption
**Policy Level:** State
**Province/Territory/State:** Florida

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Photovoltaics
**Applicable Sectors:** Commercial, Residential, Government
**Summary:** Solar energy systems have been exempt from Florida's sales and use tax since July 1, 1997. The term "solar energy system" means the equipment and requisite hardware that provide and are used for collecting, transferring, converting, storing or using incidental solar

energy for water heating, space heating and cooling, or other applications that would otherwise require the use of a conventional source of energy such as petroleum products, natural gas, manufactured gas or electricity. Vendors of solar energy systems or components are required to document exempt sales.

This exemption was originally set to expire July 1, 2002, but was extended an additional three years. In May 2005, the exemption was made permanent when HB 805 was signed into law.

The Florida Solar Energy Center (FSEC) maintains a list of eligible solar equipment and requisite solar hardware, and provides this list to the Florida Department of Revenue. The list includes collectors, pumps and controls, photovoltaic power and conditioning equipment, storage units, and accessories used as an integral part of a solar system.

For a more detailed list of exempt solar equipment and hardware, visit <http://taxlaw.state.fl.us/sut_out_tip.asp?r=04A01%2D03+In+%23%5B>.

**Source:** http://www.dsireusa.org/

### *Interconnection Standards*

**Incentive Type:** Interconnection
**Policy Level:** State
**Province/Territory/State:** Georgia

**Eligible Renewable / Other Technologies:** Photovoltaics, Wind, Fuel Cells
**Applicable Sectors:** Industrial, Commercial, Residential, Fed_Govt, Nonprofit, Local, Schools, State_Sector
**Summary:** The Georgia Cogeneration and Distributed Generation Act of 2001 allows residential electricity customers with solar, wind or fuel-cell systems with a maximum capacity of 10 kW, and commercial facilities up to 100 kW, to connect such systems to the utility grid. A utility is not required to enroll customers beyond 0.2% of the previous year's peak load.

As in many states, Georgia customers who wish to interconnect must comply with all national standards: Institute of Electrical and Electronic Engineers (IEEE), Underwriters Laboratories (UL), and National Electrical Safety Code (NEC). The Georgia Public Service Commission (PSC) may adopt additional safety, power quality and interconnection requirements. There is no specification regarding a manual external disconnect device. Utilities may not require additional tests or additional liability insurance.

Georgia Power, the state's largest utility, has established a green-power program, whereby green resources connected to the grid under the utility's net-metering provisions are sold to other customers as green power. System owners are paid a premium rate above what they would be compensated under standard net metering.

**Source:** http://www.dsireusa.org/

### *Solar Easement Act of 1978*

**Incentive Type:** Solar Access Law/Guideline
**Policy Level:** State
**Province/Territory/State:** Georgia

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics
**Applicable Sectors:** Industrial, Commercial, Residential, Fed_Govt, Nonprofit, Local, Schools, State_Sector

**Summary:** In determining that the use of solar energy can help reduce the nation's reliance on imported fuels, Georgia encourages the development of solar energy. Accordingly, solar easements may be established in Georgia to allow the owner of a solar-energy system to negotiate for assurance of continued access to sunlight.

**Source:** http://www.dsireusa.org/

### *Georgia - Net Metering*

**Incentive Type:** Net Metering Rules
**Policy Level:** State
**Province/Territory/State:** Georgia

**Eligible Renewable / Other Technologies:** Photovoltaics, Wind, Fuel Cells
**Applicable Sectors:** Industrial, Commercial, Residential
**Summary:** Georgia's Cogeneration and Distributed Generation Act was enacted in 2001. While resembling a standard net-metering law on the surface, Georgia's net-metering legislation helps paves the way for a new relationship between utility and customer-generator by combining net metering with green pricing.

Utilities will purchase energy until renewable-energy capacity reaches 0.2% of the utility's system peak. Eligible technologies include PV, fuel cells and wind systems up to 10 kilowatts (kW) for residential applications and up to 100 kW for commercial applications. Eligible systems must meet standards specified by Underwriters Laboratories, the Institute of Electrical and Electronics Engineers, and the National Electrical Safety Code. System owners are not required to purchase additional liability insurance.

Electricity flowing to and from the home is separately measured so that customers will see added value based on the excess kilowatt-hours the utility will sell under a green-power program. This is the first state law designed to accommodate a net-metering/green-power symbiosis.

Customers are given a choice of metering arrangements. Systems either can be interconnected on the customer side of the meter and have a bi-directional meter to measure flows in each direction, or customers can send all power from a system directly to the grid by connecting ahead of the customer meter and essentially selling all power (rather than meeting on-site load with part of the energy and then selling any excess generation).

**Source:** http://www.dsireusa.org/

### *Guam Energy Code*

**Incentive Type:** Construction/Design Standard
**Policy Level:** State
**Province/Territory/State:** Guam

**Eligible Renewable / Other Technologies:** Active Water Heat
**Applicable Sectors:** Residential, Construction
**Summary:** The Guam Energy Code, which became effective in October of 2000, requires that piping stubouts be provided for water heaters installed in low-rise residential buildings to enable the future installation of solar collectors.

**Source:** http://www.dsireusa.org/

### *Solar Water Heating Systems for State Facilities*

**Incentive Type:** State Construction Policy
**Policy Level:** State

**Province/Territory/State:** Hawaii

**Eligible Renewable / Other Technologies:** Active Water Heat
**Applicable Sectors:** Construction, State_Sector
**Summary:** Administrative Directive No. 98-03, Policy Governing the Use of Solar Water Heating Systems for State Facilities, was made effective on January 1,1999 and required that all plans and designs for new or renovated facilities using state funds or located on state land and incorporating the use of hot water must include a comparative analysis to determine the cost-benefit of using a conventional water heating system or a solar water heating system.

The analysis must be based on the projected life-cycle costs to purchase and operate the water heating systems. If the life-cycle analysis is positive, the facility must incorporate solar water heating. If water heating entirely by solar is not cost-effective, the analysis must also evaluate the life-cycle, cost-benefit of solar water heating for preheating water. To implement this Directive, each Department must be responsible for conducting an analysis for every facility which provides hot water. The Department of Business, Economic Development, and Tourism will develop guidelines for conducting a life-cycle cost analysis.

**Source:** http://www.dsireusa.org/

### *Renewable Portfolio Standard*

**Incentive Type:** Renewables Portfolio Standard
**Policy Level:** State
**Province/Territory/State:** Hawaii

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics, Wind, En Eff, Biomass, Landfill Gas, Hydro, Renewable Transportation Fuels, Geothermal Electric, Geothermal Heat Pumps, Municipal Solid Waste, Cogener
**Applicable Sectors:** Utility
**Summary:** On June 2, 2004, with the signing of SB2474 SD3 HD2 (Act 95, Session Laws of Hawaii 2004), Hawaii's existing renewable portfolio standard (RPS) goal was replaced with an enforceable standard.

Under Hawaii's original RPS goal, which was established by Act 272, SLH 2001, electricity was to be generated from renewable resources by the end of 2010. Under the new standard, 20% of electricity is to be generated from renewable resources by the end of 2020.

Each electric utility is required to establish the following RPS percentages:

(1) 7% of its net electricity sales by December 31, 2003;
(2) 8% of its net electricity sales by December 31, 2005;
(3) 10% of its net electricity sales by December 31, 2010;
(4) 15% of its net electricity sales by December 31, 2015; and
(5) 20% of its net electricity sales by December 31, 2020.

Existing renewables, about 8.2% statewide in 2003, can be counted in the total. In addition, an electric utility company and its electric utility affiliates may aggregate their renewable portfolios in order to achieve the renewable portfolio standard (i.e. the Hawaiian Electric Company affiliates—Hawaiian Electric, Maui Electric, and Hawaii Electric Light Company—may add together their renewable energy numbers to meet the goal).

"Renewable energy" means electrical energy produced by wind, solar energy, hydropower, landfill gas, waste to energy, geothermal resources, ocean thermal energy conversion, wave energy, biomass, including municipal solid waste, biofuels, or fuels derived from organic sources,

hydrogen fuels derived from renewable energy, or fuel cells where the fuel is derived from renewable sources. Where biofuels, hydrogen, or fuel cell fuels are produced by a combination of renewable and nonrenewable means, the proportion attributable to the renewable means shall be credited as renewable energy. Where fossil and renewable fuels are co-fired in the same generating unit, the unit shall be considered to produce renewable electricity in direct proportion to the percentage of the total heat value represented by the heat value of the renewable fuels.

"Renewable energy" also means electrical energy savings brought about by the use of solar and heat pump water heating, seawater air conditioning district cooling systems, solar air conditioning and ice storage, quantifiable energy conservation measures, use of rejected heat from small scale co- generation and combined heat and power systems excluding fossil-fueled qualifying facilities that sell electricity to electric utility companies, and central station power projects. Solar and heat pump water heating, seawater air conditioning district cooling systems, and solar air conditioning all use natural energy to provide energy services otherwise provided by fossil fuels. While ice storage is often used to shift cooling loads to low cost electrical service periods, in Hawaii, use of ice storage may reduce curtailment of renewable energy due to low night-time loads. Part of a compromise required to gain passage, inclusion of heat pump water heating, use of rejected heat from small cogenerators, and energy conservation measures provides credit for these measures that, while not renewable, help to reduce fossil fuel use.

The 2004 changes also require the Public Utilities Commission (PUC) to establish that the rate paid to a renewable energy generator may not be more than 100% of the avoided cost, which had been permitted by previous statute and may have hampered contract negotiations. The PUC has also been directed to adopt rules and implement a rate structure by Dec. 31, 2006, and to provide incentives to encourage achieving the RPS standard, and to determine its impact on utility profit margins. If the PUC decides a utility can not meet the standard in a cost-effective manner, they can issue a temporary waiver.

Notably, Hawaii's RPS carries the intent of expanded use of RE beyond 20% and beyond 2020. It requires the PUC to contract with the University of Hawaii's Hawaii Natural Energy Institute to do a peer-reviewed study each five years and to provide a recommendation as to whether to revise the RPS. It empowers the PUC to review and revise the RPS, up or down, every five years, and does not set 20%, or the year 2020 as limits.

**Source:** http://www.dsireusa.org/

### *Corporate Solar and Wind Energy Credit*

**Incentive Type:** Corporate Tax Credit
**Policy Level:** State
**Province/Territory/State:** Hawaii

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Solar Thermal Electric, Photovoltaics, Wind
**Applicable Sectors:** Commercial
**Summary:** Originally enacted in 1990, the Hawaii Energy Tax Credits allow individuals or corporations to claim an income tax credit of 20% of the cost of equipment and installation of a wind system and 35% of the cost of equipment and installation of a solar thermal or photovoltaic system. In SB 855 of 2003, the tax credits were revised and extended to the end of 2007. As a result of the passage of SB 3162 in June of 2004, a credit that exceeds the taxpayer's income tax liability may be carried forward to subsequent years until exhausted. The revised credits apply to renewable energy technology systems installed and placed in service after June 30, 2003. There is a cap of $250,000 on the amount of credit allowed for commercial property.

Note that the state Capital Goods Excise Tax may not be claimed in conjunction with the state Energy Tax Credit. When claiming both the federal Business Energy Tax Credit and the state

Energy Tax Credit, the 10% federal credit is deducted from the installed cost before the state tax credit is applied.

For solar thermal and photovoltaic energy systems the maximum allowable credits are as follows:
– Single family residential property is eligible for a credit of 35% of the actual cost or $1,750, whichever is less;
– Multi-family residential property is eligible for a credit of 35% of the actual cost or $350 per unit, whichever is less;
– Commercial property is eligible for a credit of 35% of the actual cost or $250,000, whichever is less.
For wind powered energy systems the maximum allowable credits are as follows:
– Single family residential property is eligible for a credit of 20% of the actual cost or $1,500, whichever is less;
– Multi-family residential property is eligible for a credit of 20% of the actual cost or $200 per unit, whichever is less;
– Commercial property is eligible for a credit of 20% of the actual cost or $250,000, whichever is less.

**Source:** http://www.dsireusa.org/

### *Residential Solar and Wind Energy Credit*

**Incentive Type:** Personal Tax Credit
**Policy Level:** State
**Province/Territory/State:** Hawaii

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Solar Thermal Electric, Photovoltaics, Wind
**Applicable Sectors:** Residential
**Summary:** Originally enacted in 1990, the Hawaii Energy Tax Credits allow individuals or corporations to claim an income tax credit of 20% of the cost of equipment and installation of a wind system and 35% of the cost of equipment and installation of a solar thermal or photovoltaic system. In SB 855 of 2003, the tax credits were revised and extended to the end of 2007. As a result of the passage of SB 3162 in June of 2004, a credit that exceeds the taxpayer's income tax liability may be carried forward to subsequent years until exhausted. The revised credits apply to renewable energy technology systems installed and placed in service after June 30, 2003.

For solar thermal and photovoltaic energy systems the maximum allowable credits are as follows:
– Single family residential property is eligible for a credit of 35% of the actual cost or $1,750, whichever is less;
– Multi-family residential property is eligible for a credit of 35% of the actual cost or $350 per unit, whichever is less;
– Commercial property is eligible for a credit of 35% of the actual cost or $250,000, whichever is less.

For wind powered energy systems the maximum allowable credits are as follows:
– Single family residential property is eligible for a credit of 20% of the actual cost or $1,500, whichever is less;
– Multi-family residential property is eligible for a credit of 20% of the actual cost or $200 per unit, whichever is less;
– Commercial property is eligible for a credit of 20% of the actual cost or $250,000, whichever is less.

Note: Any federal tax credits are deducted from the actual cost before the state tax credit is calculated.

**Source:** http://www.dsireusa.org/

### *Hawaii - Net Metering*

**Incentive Type:** Net Metering Rules
**Policy Level:** State
**Province/Territory/State:** Hawaii

**Eligible Renewable / Other Technologies:** Photovoltaics, Wind, Biomass, Hydro
**Applicable Sectors:** Commercial, Residential, Fed_Govt, Local, State_Sector
**Summary:** Hawaii's original net-metering law was enacted in 2001 and expanded in 2004 by HB 2048, which increased the eligible capacity limit of net-metered systems from 10 kilowatts (kW) to 50 kW. In 2005 the law was further amended by HB 606, which removed a provision that would have allowed utilities to impose additional requirements on net-metered systems, and by SB 1003, which allows the Hawaii Public Utilities Commission (PUC) to increase certain limits outlined in the law and provides for the carryover of net excess generation (NEG) to the following month's bill.

Net metering is available to residential and "small commercial" customers (including government entities) with solar, wind, biomass or hydroelectric systems. Utilities currently offer net metering on a first-come, first-serve basis to eligible customers until total net-metered capacity equals 0.5% of each utility's peak demand. However, SB 1003 (2005) allows the PUC to raise the aggregated net-metering limit. The PUC is also authorized to increase the 50-kW limit for individual systems.

A customer whose system produces more electricity than the customer consumes during the month may carry forward NEG in the form of kilowatt-hour (kWh) credits that can be applied to the next month's bill. Excess credits can be carried over for a maximum of 12 months. At the end of the 12-month reconciliation period, NEG credits will be granted to the utility without customer compensation—unless the customer enters a purchase agreement with the utility.

Hawaii joined other U.S. states in adopting uniform, standardized interconnection requirements as part of its net-metering law. Hawaii's law requires eligible systems to meet national standards developed by the IEEE and UL, and to be installed in accordance with the requirements of the National Electrical Code (NEC) and local codes. Utilities may not require ownders to install additional controls, perform or pay for additional tests, or purchase additional liability insurance.

**Source:** http://www.dsireusa.org/

### *High Technology Business Investment Tax Credit*

**Incentive Type:** Industry Recruitment
**Policy Level:** State
**Province/Territory/State:** Hawaii

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics, Wind, Solar, Biomass, Landfill Gas, Hydro, Renewable Transportation Fuels, Geothermal Electric, Geothermal Heat Pumps, Fuel Cells
**Applicable Sectors:** Industrial
**Summary:** On July 1, 2001, Hawaii became the only state in the nation to offer a 100% tax credit on an equity investment in a qualified high tech business (QHTB). The purpose of this credit is to encourage investment in Hawaii's high tech companies. A "qualified high technology business" is defined as "a business that conducts more than fifty per cent of its activities in qualified research." "Qualified research" includes "non-fossil fuel energy-related technology," which is defined as "energy produced by wind, solar energy, hydropower, geothermal resources, ocean thermal

energy conversion, wave energy, hydrogen, fuel cells, landfill gas, waste to energy, biomass including municipal solid waste, and biofuels."

The credit will be allocated as follows:

(1) 35% in the year the investment was made (maximum credit of $700,000)
(2) 25% in the first year following the year in which the investment was made (maximum credit of $500,000
(3) 20% in the second year following the investment (maximum credit of $400,000)
(4) 10% in the third year following the investment (maximum credit of $200,000)
(5) 10% in the fourth year following the investment (maximum credit of $200,000)

HB 2396 of 2004 extended the expiration date of the tax credit "to taxable years beginning after December 31, 2010" (previously 12/31/05).

**Source:** http://www.dsireusa.org/

### *Interconnection Standards*

**Incentive Type:** Interconnection
**Policy Level:** State
**Province/Territory/State:** Hawaii

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Other DG, Biomass, Landfill Gas, Hydro, Geothermal Electric, Municipal Solid Waste, Cogeneration, Fuel Cells
**Applicable Sectors:** Industrial, Commercial, Residential, Fed_Govt, Nonprofit, Schools, State_Sector
**Summary:** Hawaii has established both simplified interconnection rules for small renewables and, more recently, separate rules for all other distributed generation (DG). Simplified interconnection and net metering are available for solar, wind, biomass and hydroelectric systems up to 50 kilowatts (kW) in capacity. (This limit was raised from 10 kW to 50 kW in 2005 by SB 1003.)

The state's largest electric utility, Hawaii Electric (HECO), which also owns Hawaii Electric Light Company (HELCO) and Maui Electric Company (MECO), uses a set of simple "how-to" interconnection guidelines. HECO also uses a simple, two-page net-metering agreement. A manual, lockable disconnect is required for net-metered systems. There are no additional liability-insurance requirements, and a provision for mutual indemnification is included. The state's only other utility, Kauai Island Electric Cooperative, has a similar set of net-metering and interconnection rules.

The interconnection of DG systems is governed by Rule 14, instituted in Hawaii Public Utilities Commission (PUC) Order No. 19773, issued in 2002 and modified in 2003. Rule 14 includes by reference the utilities' technical interconnection standards (Appendix I), interconnection agreement (Appendix II) and interconnection procedures (Appendix III). The rules cover all DG technologies.

Appendix I states that a manual disconnect is required for all installations, and a dedicated transformer may be required by the utility depending on the short circuit contribution of the DG device. Interconnection with network distribution systems (as opposed to radial systems) is addressed, although it is unclear when additional studies would be needed to address such interconnections.

In October 2003, the PUC initiated a new proceeding (Docket No. 03-0371) to review and improve the state's DG interconnection rules. This proceeding is still under way.

**Source:** http://www.dsireusa.org/

### *Covenant Restrictions*

**Incentive Type:** Solar Access Law/Guideline
**Policy Level:** State
**Province/Territory/State:** Hawaii

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Photovoltaics
**Applicable Sectors:** Residential, townhouse and condominium owners
**Summary:** Hawaii statute §196-7 prohibits the creation of any covenant or restriction contained in any document restricting the installation or use of a solar energy system on a residential dwelling or townhouse. As of September 1, 2005, these rules are strengthened by HB 1017, which directs associations of homeowners to adopt rules that provide for the placement of solar energy systems.

In addition, HB 1017, recognizes that §196-7 allows the installation of a solar energy device on any single-family residential dwelling or townhouse by its owner, regardless of any code or contract to the contrary. Thus, corresponding amendments to Hawaii Revised Statutes 514A-89 (dealing with additions and alterations made to condominiums) have been made to recognize solar energy systems accordingly.

**Source:** http://www.dsireusa.org/

### *Solar Contractor Licensing*

**Incentive Type:** Contractor Licensing
**Policy Level:** State
**Province/Territory/State:** Hawaii

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Solar Thermal Process Heat, Photovoltaics
**Applicable Sectors:** Installers_Contractors
**Summary:** Hawaii offers the following specialty licenses for solar contractors through Hawaii's Department of Commerce and Consumer Affairs: Solar Power Systems Contractor (C-60); Solar Energy Systems Contractor (C-61); Solar Hot Water Systems Contractor (C-61a); and Solar Heating and Cooling Systems Contractor (C-61b). These licenses require business and trade exams plus four years of experience. Note that an Electrical Contractor (C-13) license is required to install photovoltaic systems and it includes the work of the C-60 solar power systems contractor. Plumbing contractors (C-37) are also allowed to install solar hot water heating systems.

**Source:** http://www.dsireusa.org/

### *Avista Utilities - Interconnection Guidelines*

**Incentive Type:** Interconnection
**Policy Level:** State
**Province/Territory/State:** Idaho

**Eligible Renewable / Other Technologies:** Photovoltaics, Wind, Biomass, Hydro, Fuel Cells
**Applicable Sectors:** Industrial, Commercial, Residential
**Summary:** Idaho has not established uniform interconnection rules and procedures for net-metered systems or for large distributed-generation (DG) systems. However, through their respective net metering tariffs, Idaho Power and Avista Utilities have established outlines for the

interconnection of small renewable-energy systems up to 25 kilowatts (kW). (Idaho Power's guidelines also address interconnection of systems over 1 MVA.)

Avista Utilities' (Idaho) interconnection guidelines do not specify in any detail the technical requirements for interconnection. For systems under 25 kW that are eligible for net metering, a lockable disconnect switch is required, and the system must comply with UL, NEC and IEEE standards. For larger, non-net-metered systems, Avista has established a seven-step process for interconnecting systems. Rates for buyback of net excess generation (NEG) from distributed generation are included in Avista's Schedule 62 tariff, which also contains rules for net metering. Before interconnecting, DG system owners must submit an interconnection application. System owners should contact Avista directly for instructions on how to initiate the process.

**Source:** http://www.dsireusa.org/

### *Renewable Energy Project Bond Program*

**Incentive Type:** State Bond Program
**Policy Level:** State
**Province/Territory/State:** Idaho

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Landfill Gas, Hydro, Geothermal Electric, Cogeneration, Fuel Cells
**Applicable Sectors:** Commercial, (Independent Power Producer)
**Summary:** Enacted on April 6, 2005, Senate Bill 1192 allows independent (non-utility) developers of renewable energy projects in the state to request financing from the Idaho Energy Resources Authority, a new state bonding authority created in March 2005 through the Environment, Energy and Technology Energy Resources Authority Act (House Bill 106). The Authority was created to finance the construction of electric generation and transmission projects by electric utilities. SB 1192 extends the financing opportunities to independent renewable energy producers.

For the purposes of this program, renewable energy is defined as "a source of energy that occurs naturally, is regenerated naturally or uses as a fuel source, a waste product or byproduct from a manufacturing process including, but not limited to, open or closed-loop biomass, fuel cells, geothermal energy, waste heat, cogeneration, solar energy, waterpower and wind."

**Source:** http://www.dsireusa.org/

### *Idaho Power - Net Metering*

**Incentive Type:** Net Metering Rules
**Policy Level:** State
**Province/Territory/State:** Idaho

**Eligible Renewable / Other Technologies:** Photovoltaics, Wind, Biomass, Hydro, Fuel Cells
**Applicable Sectors:** Commercial, Residential, Agricultural
**Summary:** Idaho does not have statewide net-metering rules. However, each of the state's three investor-owned utilities, including Idaho Power, has a net-metering tariff on file with the Idaho Public Utilities Commission (PUC).

In 2002, the PUC issued Order No. 28951, which allowed Idaho Power to file a new net-metering tariff, Schedule 84. This schedule made net metering available only to residential and small commercial customers generating up to 25 kilowatts of electricity using wind, solar, biomass, hydroelectric systems or fuel cells. In August 2002, the PUC issued Order No. 29094, amending Idaho Power's Schedule 84 to include other schedules, such as large commercial and irrigation. As a result, Idaho Power allows net-metering for systems up to 100 kilowatts for all customers other than residents and small buisnesses.

For any monthly net excess generation (NEG), non-residential customers and small commercial customers are paid at a rate equal to 85% of the Mid-Columbia market price for non-firm energy. Idaho Power credits its residential and small commercial customers for NET at the utility's retail rate. Total enrollment cannot exceed 2.9 megawatts, or 0.1% of Idaho Power's peak demand in 2000.

**Source:** http://www.dsireusa.org/

### *Avista Utilities - Net Metering*

**Incentive Type:** Net Metering Rules
**Policy Level:** State
**Province/Territory/State:** Idaho

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Hydro, Fuel Cells
**Applicable Sectors:** Commercial, Residential, Agricultural
**Summary:** Idaho does not have statewide net-metering rules. However, all three investor-owned utilities—Avista Utilities, Idaho Power Company, and Utah Power & Light Company (owned by PacifiCorp)—have net-metering tariffs on file with the Idaho Public Utilities Commission.

Avista, which serves the northern part of Idaho, allows net metering to all customers generating up to 25 kilowatts (kW) of electricity using solar, wind, biomass, hydropower or fuel cells. Enrollment is limited to 0.1% of 1996 peak demand (1.52 megawatts). Excess generation is credited to the customer's monthly bill and used to reduce the bill for the following period. At the end of the year, any remaining credits are granted to Avista. These requirements are a result of the 1999 PUC Order No. 28035, which allowed Avista to add net metering to its Schedule 62.

Avista has interconnection requirements and requires customers to submit an interconnection application. For information on Avista's net metering or interconnection requirements, contact the utility at 1-800-227-9187.

**Source:** http://www.dsireusa.org/

### *Renewable Energy Equipment Sales Tax Refund*

**Incentive Type:** Sales Tax Exemption
**Policy Level:** State
**Province/Territory/State:** Idaho

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Landfill Gas, Hydro, Geothermal Electric, Cogeneration, Fuel Cells
**Applicable Sectors:** Industrial, Commercial, Residential
**Summary:** Idaho offers a sales-and-use tax rebate for qualifying equipment and machinery used to generate electricity from fuel cells, low-impact hydro, wind, geothermal resources, biomass, cogeneration, solar and landfill gas. Purchasers qualify for a rebate only if the equipment is used to develop a facility or a project capable of generating at least 25 kW of electricity.

To receive the rebate, the taxpayer must pay any sales and use tax on the purchase. After a public utility, a cooperative utility, a municipal utility or the Idaho Public Utilities Commission certifies that the project will generate at least 25 kW of electricity, the taxpayer may file a refund request with the Idaho State Tax Commission. A claim for this rebate must be filed on or before the last day of the third calendar year following the year in which the taxes sought to be refunded were paid.

The rebate is scheduled to sunset July 1, 2011.

**Source:** http://www.dsireusa.org/

### *Solar, Wind, and Geothermal Deduction*

**Incentive Type:** Personal Deduction
**Policy Level:** State
**Province/Territory/State:** Idaho

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Solar Thermal Electric, Photovoltaics, Wind, Geothermal Electric
**Applicable Sectors:** Residential
**Summary:** This statute allows taxpayers an income tax deduction of 40% of the cost of a solar, wind or geothermal device used for heating or electricity generation. Taxpayers can apply this 40% deduction in the year in which the system is installed and can also deduct 20% of the cost for three years thereafter. The maximum deduction in any one year is $5,000. Total maximum deduction is $20,000.

**Source:** http://www.dsireusa.org/

### *Idaho Power - Interconnection Guidelines*

**Incentive Type:** Interconnection
**Policy Level:** State
**Province/Territory/State:** Idaho

**Eligible Renewable / Other Technologies:** Photovoltaics, Wind, Other DG, Biomass, Hydro, Fuel Cells
**Applicable Sectors:** Industrial, Commercial, Residential, Developer
**Summary:** Idaho has not established uniform interconnection rules and procedures for net-metered systems or for large distributed-generation (DG) systems. However, through their respective net-metering tariffs, Idaho Power and Avista Utilities have established outlines for the interconnection of small renewable energy systems up to 25 kilowatts (kW). Idaho Power's guidelines also address interconnection of systems over 1 MVA.

Idaho Power’s interconnection tariff and guidelines, which were revisited by the Idaho Public Utilities Commission in August 2002, cover net-metered systems up to 25 kW and larger DG over 1 MVA. Idaho Power's rules are broken down by system capacity, and include provisions for systems under 100 kW; systems between 100 kW and 1 megawatt (MW), and systems larger than 1 MW. The rules are intended to be simple for systems under 100 kW—particularly for net-metered systems under 25 kW.

Idaho Power's interconnection guidelines include these provisions:
– For small net-metered systems, simple bi-directional meters are used.
– Dedicated transformers may be required but likely will not be required for systems under 100 kW.
– Manual, lockable disconnect switches are required for all systems.
– All electrical specifications, such as voltage ranges, harmonics and power factor, are based on current UL, IEEE and NEC standards.
– Control relays are required for systems not using IEEE 1547-compliant inverters.
– Acceptance testing is not required for UL-listed inverters.
– Systems under 25 kW must be inspected once every three years if the project uses interconnection equipment that meets nationally recognized standards and if the system is approved by Idaho Power in advance. All other projects must be inspected annually.

DG systems larger than 100 kW have more complex interconnection requirements, which also are detailed in the company's interconnection guidelines.

**Source:** http://www.dsireusa.org/

### *Low-Interest Energy Loan Program*

**Incentive Type:** State Loan Program
**Policy Level:** State
**Province/Territory/State:** Idaho

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Photovoltaics, Wind, En Eff, Biomass, Landfill Gas, Hydro, Geothermal Heat Pumps, Cogeneration
**Applicable Sectors:** Industrial, Commercial, Residential, Local, Schools, State_Sector, Agricultural, Hospitals
**Summary:** This low interest loan program, administered by the Energy Division of the Idaho Department of Water Resources, makes funds available at a 4% interest rate for energy efficiency projects, for active solar, photovoltaic, wind, geothermal, hydropower, biomass energy projects. Loans are available for retrofit only, with the exception of some renewable resources. Residentail customers may chose one of two loan options, either the standard Residential program or the Home Performance with Energy Star program.

Eligibile energy efficiency technologies for residential customers under both programsinclude insulation, electric and gas heating and air conditioning upgrades, water heating system improvements, and windows. Commercial customers may undertake projects to improve insulation, windows and doors, heating systems, building commssioning, or custom-designed projects. Specific energy-efficient agricultural equipment may also be eligible.

Residential loans are available from $1,000 to $15,000. In commercial, industrial, agricultural, and public sectors there is a minimum loan amount of $1,000 and a maximum cap of $100,000. Loans are repaid in five years or less.

Loans for 80 percent of the project costs are available to residents for on-grid, residential PV systems, with a maximum of $10,000. Payback criteria are waived for these projects only.

Certain restrictions apply to this program. For existing homes or businesses, the savings from reduced usage of conventional fuel must be sufficient to pay for the project's installation cost (e.g. simple payback of 15 years or less). For new projects, use of a renewable energy resource must be the least cost alternative. Renewable energy projects that are intended to sell the energy generated or the commodity produced are not eligible. While the program's financing requires repayment within five years, this further stipulation for existing homes and businesses states that the project's cumulative energy savings over a fifteen year period must be great enough to offset the cost of the project.

**Source:** http://www.dsireusa.org/

### *Solar Easements*

**Incentive Type:** Solar Access Law/Guideline
**Policy Level:** State
**Province/Territory/State:** Idaho

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Solar Thermal Electric, Photovoltaics, Solar
**Applicable Sectors:** Commercial, Residential
**Summary:** Idaho's solar easement provisions allow for the rights to access to sunlight for a solar energy device. The easement is transferred with the property title. Only a few Idaho communities have passed solar easement ordinances.

**Source:** http://www.dsireusa.org/

### *Utah Power & Light - Net Metering*

**Incentive Type:** Net Metering Rules
**Policy Level:** State
**Province/Territory/State:** Idaho

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Hydro
**Applicable Sectors:** Commercial, Residential
**Summary:** Idaho does not have statewide net-metering rules. However, all three investor-owned utilities—Avista Utilities, Idaho Power Company, and Utah Power & Light (owned by PacifiCorp)—have net-metering tariffs on file with the Idaho Public Utilities Commission (PUC). Utah Power's net-metering tariff was approved by the PUC on June 20, 2003.

Utah Power allows net metering to residential and small-commercial customers with systems up to 25 kilowatts (kW) of capacity that generate electricity using solar, wind, biomass or hydropower. Irrigation and large commercial systems up to 100 kW in capacity also are eligible. Enrollment is limited to 0.1% of the company’s Idaho retail peak demand in 2002 (714 kW).

Customers can interconnect their generators to the company's system, but must pay interconnection fees and any additional metering costs that may be necessary. Residential and small commercial customers are credited the current retail rate for net excess generation (NEG). For NEG created by irrigation and large commercial systems, customers receive a credit equal to 85% of the Dow Jones Mid-C Index Price for non-firm energy.

**Source:** http://www.dsireusa.org/

### *ComEd - Wind & Photovoltaic Generation Program*

**Incentive Type:** Net Metering Rules
**Policy Level:** State
**Province/Territory/State:** Illinois

**Eligible Renewable / Other Technologies:** Photovoltaics, Wind
**Applicable Sectors:** Industrial, Commercial, Residential, All Other ComEd Retail Customers
**Summary:** In April 2000, Commonwealth Edison (ComEd), an investor-owned utility serving Chicago and surrounding areas, established a net-metering program for photovoltaic and wind-energy systems up to 40 kW. The program is available to all customer classes. The total installed capacity of all net-metered systems is limited to 0.1% of the utility's annual peak demand. ComEd installs a special dual-register meter for net-metered systems.

ComEd pay customer-generators, on a monthly basis, the utility's avoided costs for any net excess generation (NEG). In addition, in order to simulate the economics of net metering, ComEd makes an additional annual payment for the customer's total excess power added to ComEd's system during the year (up to the amount of power the customer took from ComEd during the year). Customers are paid at a rate representing the difference between the average avoided cost paid to the customer for NEG and the average retail rate paid by the customer for retail purchases during the year.

**Source:** http://www.dsireusa.org/

### *Fuel Mix and Emissions Disclosure*

**Incentive Type:** Generation Disclosure
**Policy Level:** State

**Province/Territory/State:** Illinois

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Hydro
**Applicable Sectors:** Utility
**Summary:** As part of the state's 1997 electric-utility restructuring legislation, Illinois included provisions for the quarterly disclosure of fuel mix and emissions by all retail suppliers of electricity in the state. Electric bills must list by percentage the electricity generated by each of the energy sources in the fuel mix. These percentages also must be presented in the form of a pie chart on customer bills.

Utilities also must provide statistics regarding carbon dioxide, nitrous oxides and sulfur-dioxide emissions, as well as nuclear waste. The inclusion of nuclear waste is significant because Illinois is one of the most nuclear-dependent states in the nation. Prior to disclosing to consumers, the energy companies must file with the Illinois Commerce Commission a notarized document detailing the fuel mix, emissions and other information that will be included in customer bills.

**Source:** http://www.dsireusa.org/

### *Special Assessment for Renewable Energy Systems*

**Incentive Type:** Property Tax Exemption
**Policy Level:** State
**Province/Territory/State:** Illinois

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Photovoltaics, Wind, Geothermal Electric
**Applicable Sectors:** Industrial, Commercial, Residential
**Summary:**
Illinois offers a special assessment of solar-energy systems for property-tax purposes. For property owners who register with a chief county assessment officer, solar equipment is valued at no more than a conventional energy system. Eligible equipment includes active solar-energy systems, passive solar-energy systems, wind-energy systems and geothermal-energy systems.

**Source:** http://www.dsireusa.org/

### *Renewable Energy Resources Trust Fund*

**Incentive Type:** Public Benefits Fund
**Policy Level:** State
**Province/Territory/State:** Illinois

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics, Wind, Biomass, Hydro, Geothermal Electric, Fuel Cells
**Applicable Sectors:** Government
**Summary:** Illinois's Public Benefit Program was created as part of the state's 1997 electric utility restructuring law. The program funds low-income rate assistance and weatherization, the Renewable Energy Resources Trust Fund (RERTF), and the Energy Efficiency Program. The RERTF supports renewables through grants, loans and other incentives administered by the Illinois Department of Commerce and Community Affairs. The 10-year program is slated to expire in December 2006. In addition to the RERTF, the $250 million Clean Energy Community Trust Fund was established through a settlement with Commonwealth Edison (ComEd).

The RERTF is supported by a surcharge on electric bill and gas bills. Half of the money collected by the surcharges supports the RERTF, while the other half supports the Coal Technology Development Assistance Fund. The surcharge varies by customer:
– $0.05 per month per residential electric service
– $0.05 per month per residential gas service
– $0.50 per month per nonresidential electric service taking less than 10 megawatts of peak demand during the previous calendar year
– $0.50 per month per nonresidential gas service taking less than four million therms of gas during the previous calendar year
– $37.50 per month per nonresidential electric service taking 10 megawatts or greater of peak demand during the previous calendar year
– $37.50 per month per nonresidential gas service taking four million or more therms of gas during the previous calendar year

Approximately $100 million in revenue will be collected for the fund through 2006. The RERTF receives approximately $5 million to $5.5 million per year to fund eligible projects. Moneys for the Coal Technology Development Assistance Fund are distributed according to the Illinois Coal Technology Development Assistance Act.

For the Energy Efficiency Program, each electric utility and alternative retail electric supplier contributes annually a pro rata share of a total amount of $3 million based on kilowatt-hour sales. Money from this program will be distributed by the Department of Commerce and Community Affairs to residential electric customers. Eligible projects include energy-efficiency improvements for low-income households; window, appliance and insulation replacement; and other energy efficiency improvements.

According to the Department of Commerce and Community Affairs, the RERTF had facilitated $235.5 million of total investment in renewable-energy projects in Illinois from the fund's inception through December 31, 2004. This total investment has been supported by $25.3 million in program expenditures.

In May of 1999, Illinois and ComEd reached a settlement as part of the state's approval of ComEd's merger with PECO Energy of Pennsylvania. Through a one-time payment by ComEd, the settlement created a $250 million fund for renewable energy and energy efficiency—the Illinois Clean Energy Community Trust (CECT). This fund is administered by the Illinois Clean Energy Community Foundation.

Of the $250 million, $200–$225 million is used toward programs for efficiency and renewables, and at least $25 million is earmarked for clean-coal programs. Funding includes grants, loans, venture-capital support and other financial incentives. Funding is limited to in-state projects that benefit Illinois's environment or economy.

**Source:** http://www.dsireusa.org/

### *Renewable Portfolio Goal*

**Incentive Type:** Renewables Portfolio Standard
**Policy Level:** State
**Province/Territory/State:** Illinois

**Eligible Renewable / Other Technologies:** Active Water Heat, Solar Thermal Electric, Photovoltaics, Wind, Biomass, Landfill Gas, Hydro, Cogeneration, "Other Such Alternative Sources of Environmentally Preferable Energy"
**Applicable Sectors:** Utility
**Summary:** In July 2005, the Illinois Commerce Commission (ICC) issued a resolution creating a renewable portfolio “goal” that is more specific than a similar statewide goal enacted in 2001.

Under the new goal, Illinois's electric utilities are expected to use renewable-energy resources to generate certain percentages of their bundled retail load, according to the following schedule:
– 2% in 2007
– 3% in 2008
– 4% in 2009
– 5% in 2010
– 6% in 2011
– 7% in 2012
– 8% in 2013

The resolution specifies that 75% of the renewable energy generated to meet the state's goal should come from wind, and the remaining amount (25%) should come from other eligible renewables. These resources include solar thermal, solar electric, dedicated crops grown for energy production and organic waste biomass, landfill gas, hydropower that does not involve the construction of new dams or significant expansion of existing dams, and "other such alternative sources of environmentally preferable energy," which may include (among other resources) waste heat from industrial processes. Several means of energy production are specifically excluded from standard eligibility: the incineration of waste wood; tires; garbage; general household, institutional and commercial waste; industrial or office waste; landscape waste, and construction or demolition debris.

The expenditures on renewable energy may not increase retail electricity rates by more than 0.5% in any one year, or by more than 2% cumulatively. Renewable energy procured to meet the goal should be generated in Illinois or in a directly adjacent serious or severe National Ambient Air Quality Standard non-attainment area, as designated by the U.S. Environmental Protection Agency.

The ICC noted that there is limited need for renewable-energy credit (REC) trading under a voluntary renewable-energy goal. However, Illinois utilities could participate in a regional REC-trading system put in place by a federal authority or by the two regional transmission organizations (RTOs) that serve the state—PJM Interconnection and Midwest ISO.

The ICC's resolution also creates an energy-efficiency portfolio goal (EEPG). This goal specifies that utilities should reduce load growth by certain percentages according to the following schedule:
– 10% for years 2007-08
– 15% for years 2009-11
– 20% for years 2012-14
– 25% for years 2015-17

The expenditures to meet the EEPG may not increase retail electricity rates by more than 0.5% in any one year.

The ICC will determine a process to allow utilities to pass along to customers any added costs associated with the resolution's conditions. Moreover, the ICC may consider penalties for utilities that have formally agreed to meet the goals and then back out.

The state's 2001 renewable-energy goal calls for 5% renewable energy by 2010 and 15% renewable energy by 2020. The 2001 law does not include an implementation schedule, compliance verification, credit-trading provisions or an energy-efficiency portfolio goal, and the list of eligible renewable-energy resources is more limited.

**Source:** http://www.dsireusa.org/

### *Renewable Energy Resources Program (RERP) Rebates*

**Incentive Type:** State Rebate Program
**Policy Level:** State
**Province/Territory/State:** Illinois

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Photovoltaics
**Applicable Sectors:** Industrial, Commercial, Residential, Nonprofit, Schools, Associations
**Summary:** The Renewable Energy Resources Program (RERP) promotes the development and adoption of renewable energy in Illinois. This program is funded by the Renewable Energy Resources Trust Fund, the state's public benefits fund, and is administered by the Illinois Department of Commerce and Economic Opportunity (DCEO).

Under new program guidelines issued by the DCEO in January 2006, rebates are available for new solar-energy systems installed in Illinois on or after January 1, 2006. The DCEO may award a rebate equal to 30% of eligible project costs for a photovoltaic (PV) or solar-thermal system, with a maximum rebate of $10,000.* Rebate eligibility is limited to projects that do not also accept support from foundations in excess of 30% of the total project cost. Rebate applications will be accepted on an ongoing basis until April 30, 2006.

Eligible applicants include individuals, businesses, associations, public and private schools, colleges and universities, and not-for-profit organizations. Applicants must be customers of an investor-owned electric or gas utility, a municipal gas or electric utility, or an electric cooperative that imposes the Renewable Energy Resources and Coal Technology Development Assistance Charge. (A list of participating utilities appears in the program guidelines, available on the program web site.)

PV system must either be listed by Underwriters Laboratories (UL) or have successfully completed at least one year of field testing. PV systems must have a rated design capacity above 800 watts.

Solar-thermal systems must be approved by the Solar Rating and Certification Corporation (SRCC) or a comparable organization, and must be designed to produce a minimum of 50,000 Btus per day or contain at least 60 square feet of collectors. In order for a solar pool-heating system to qualify, the pool must be open to the general public on a regular basis to be eligible for funding.

All solar-energy systems, except those constructed by the homeowner, must be installed by a licensed, bonded and insured professional. Applicants are required to submit a completed rebate application to the DCEO prior to making any financial investments.

Regarding the expansion of existing systems, only those costs that are directly related to “new” panels (equipment and installation) are eligible. Costs associated with new pumps, storage or any other balance-of-system components for expansion projects, except for new panels, are ineligible.

Complete guidelines and application materials are available at the web site listed above.

“* Qualifying systems with a total cost up to $50,000 are eligible; systems with a total cost of $33,000-$50,000 are eligible for the maximum rebate amount of $10,000.”

**Source:** http://www.dsireusa.org/

### *ComEd - Interconnection Guidelines*

**Incentive Type:** Interconnection
**Policy Level:** State
**Province/Territory/State:** Illinois

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Other DG, Biomass, Landfill Gas, Hydro, Geothermal Electric, Municipal Solid Waste, Cogeneration, Fuel Cells
**Applicable Sectors:** Industrial, Commercial, Residential
**Summary:** Illinois does not have statewide interconnection standards in place for distributed generation (DG), but the Illinois Commerce Commission (ICC) is now in the process of developing rules. Individual utility rules are in place to address the interconnection of small-scale DG. The state's largest electric utility, ComEd, has interconnection guidelines for net metering and DG.

ComEd's DG rules divide systems into three capacity categories: 25 kVA to 2,500 kVA; 2,500 kVA to 10,000 kVA; and systems over 10 MVA. In general, customer-generators are responsible for all interconnection study charges, and systems must be an eligible qualifying facility (QF) under the Public Utility Regulatory Policies Act of 1978 (PURPA) to receive any payment for power sent to utility. Significantly, there is an exception for net-metered photovoltaic (PV) and wind-energy systems with a capacity less than 40 kilowatts (kW); these systems are not required to file to become a QF. All small systems up to 25 kVA (and net-metered PV and wind systems up to 40 kVA) require a manual, lockable disconnect switch accessible to the utility, but special interconnection relays are not required.

The difference in interconnection requirements for systems in the three capacity categories involves specific relay standards. Procedurally, all systems require a series of reviews by ComEd engineering staff. ComEd does not allow interconnection of DG within "The Loop," an area network that serves the heart of downtown Chicago. As a result, DG systems that could be used as back-up generation for downtown high rises are unable to interconnect.

**Source:** http://www.dsireusa.org/

### *State of Illinois - Green Power Purchasing*

**Incentive Type:** Green Power Purchasing/Aggregation
**Policy Level:** State
**Province/Territory/State:** Illinois

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Solar, Biomass
**Applicable Sectors:** State_Sector
**Summary:** Illinois Governor George Ryan marked Earth Day 2002 by issuing an executive order committing the state to purchase by 2010 green power for at least 5% of the electricity used by buildings owned or operated by agencies under the governor's control. The amount of renewable energy purchased will grow to at least 15% by 2020. The executive order defines "green power" as electricity generated from renewable sources such as wind, solar, organic wastes and hydropower. It excludes the burning of municipal solid waste, wood waste and tires. Most of the state government's green power will be supplied by wind and biomass resources.

**Source:** http://www.dsireusa.org/

### *Energy Education and Demonstration Grant Program*

**Incentive Type:** State Grant Program
**Policy Level:** State

**Province/Territory/State:** Indiana

**Eligible Renewable / Other Technologies:** Photovoltaics, Wind, Other DG, En Eff, Biomass, Landfill Gas, Geothermal Electric, Geothermal Heat Pumps, Cogeneration
**Applicable Sectors:** Commercial, Nonprofit, Local, Schools
**Summary:**
This program makes small-scale grants for projects that demonstrate applications of energy efficiency and renewable energy technologies for businesses, public and non-profit institutions, schools, and local governments. To be eligible for consideration, a project must demonstrate a commercially available technology; research projects will not be funded. Each project must demonstrate either a novel technology or a novel application of an available technology, or a technology that is uncommon in Indiana. Projects must include a public education component, such as integration into an educational program or location at a public facility that provides tours.

**Source:** http://www.dsireusa.org/

### *Renewable Energy Systems Exemption*

**Incentive Type:** Property Tax Exemption
**Policy Level:** State
**Province/Territory/State:** Indiana

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Wind, Hydro, Geothermal Electric, Geothermal Heat Pumps
**Applicable Sectors:** Industrial, Commercial, Residential
**Summary:**
Indiana's property tax code contains four separate statutes pertaining to solar, wind, hydropower, and geothermal systems, respectively. The definition of "solar" is restricted to active solar systems used for heating or cooling. Wind, hydropower, and geothermal systems are defined generally. Interestingly, geothermal heat pump systems are exempt. The exemption is allowed every year that a qualifying system functions on the relevant property.

Indiana code includes two provisions that make the exemption more encompassing and effective than exemptions in other states. First, the statutes exempt from property taxes the entire renewable energy device and affiliated equipment, including equipment for storage and distribution. This differs from most property tax exemptions for renewable energy systems available in other states, which typically allow for the renewable energy system to be valued at no more than the value of a conventional system (as opposed to exempted entirely). Second, Indiana's code explicitly includes renewable energy systems attached to mobile homes.

The property tax exemptions in Indiana were added one at a time, beginning with the solar system exemption in 1975. Wind systems were added in 1979, and hydropower and geothermal were added in 1981.

**Source:** http://www.dsireusa.org/

### *Alternative Power & Energy Grant Program*

**Incentive Type:** State Grant Program
**Policy Level:** State
**Province/Territory/State:** Indiana

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Solar Thermal Electric, Photovoltaics, Wind, Biomass, Landfill Gas, Hydro, Renewable Transportation Fuels, Geothermal Electric, Municipal Solid Waste
**Applicable Sectors:** Commercial, Nonprofit, Local, Schools

**Summary:** The Energy Policy Division (EPD) of the Indiana Department of Commerce offers this grant program to enable businesses and institutions to install and study alternative and renewable energy system applications. This program replaces all non-transportation applications of the EPD's previous Alternative Energy Systems Grant Program.

Businesses, non-profit institutions and units of local government (including public schools) are eligible to apply for these grants. Eligible projects include non-transportation applications of solar, wind, fuel cell, geothermal, hydropower, alcohol fuels, waste-to-energy, landfill gas, and biomass technologies. These applications may be applied to the direct generation of electricity (for either on-site use or placement of power onto a utility grid), heating and/or cooling of buildings, or the production of fuels.

Grant amounts range from $5,000 to $30,000. Up to 30% of project costs (or $30,000, whichever is less) may be awarded. Grant funds may only be used for the purchase and installation of power generation, heating, and cooling equipment, and for other equipment necessary for the operation of the renewable energy system. Other associated costs (such as engineering studies, system design, site preparation, storage facilities, building improvements, etc.) may, however, be included in the total project cost used to determine the amount of the award. Project budgets may include funding from third-party sources, but the applicant must directly contribute at least 20% of the project's total budget.

If a project is accepted for award, the applicant may receive funds on a reimbursement basis only. Payments are paid in two stages. An initial payment equal to 70% of the grant award is paid after a grant contract has been completed and the recipient submits valid claim vouchers. A second payment equal to 30% of the grant amount is made upon successful completion of two site visits, spaced at least six months apart, by EPD representatives.

**Source:** http://www.dsireusa.org/

### *Distributed Generation Grant Program (DGGP)*

**Incentive Type:** State Grant Program
**Policy Level:** State
**Province/Territory/State:** Indiana

**Eligible Renewable / Other Technologies:** Photovoltaics, Wind, Biomass, Landfill Gas, Cogeneration, Fuel Cells
**Applicable Sectors:** Industrial, Commercial, Local, Schools, State_Sector
**Summary:** The Distributed Generation Grant Program (DGGP) offers awards of up to $30,000 to enable businesses and institutions to install and study alternatives to central generation. Eligible technologies include fuel cells, microturbines, cogeneration, photovoltaics (PV), wind, biomass and landfill gas.

Projects should be technically feasible for full-scale operation. Commercially proven projects are preferred. Eligible projects are those that demonstrate measurable energy savings in kWh, Btu or other units of measurement. Projects must be installed in Indiana and should comply with all applicable environmental, safety and legal regulations. In addition, projects must provide baseload power of at least 20 kW for the facility at which they are located, and should have a thermal efficiency of 50% or greater. Cogeneration projects are strongly encouraged.

Grant amounts range from $5,000 to $30,000 and are determined according to the following formulas:

– If the average thermal efficiency of the distributed generation facility is greater than 50%, the eligible amount is equal to 20% of the equipment cost or $30,000, whichever is less.

– If the average thermal efficiency of the distributed generation facility is greater than 70%, the eligible amount is equal to 30% of the equipment cost or $30,000, whichever is less.
– If the distributed generation facility uses renewable energy, and/or low or zero-emissions technology fuel cells, the eligible amount is equal to 30% of the equipment cost or $30,000, whichever is less.

The DGGP is administered by the Indiana Office of Energy Policy. Interested parties should review the DGGP program guidelines and contact the industrial program manager to request an application.

**Source:** http://www.dsireusa.org/

### *Interconnection Standards*

**Incentive Type:** Interconnection
**Policy Level:** State
**Province/Territory/State:** Indiana

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Other DG, Biomass, Landfill Gas, Hydro, Cogeneration, Fuel Cells
**Applicable Sectors:** Industrial, Commercial, Residential, Fed_Govt, Nonprofit, Local, Schools, Institutional, State_Sector, Agricultural
**Summary:** In November 2005, the Indiana Utility Regulatory Commission (IURC) issued rules governing the interconnection of distributed generation (DG). Indiana's interconnection rules require the state's investor-owned utilities to provide three levels of interconnection to customer-generators.
– Level 1 interconnection applies to inverter-based systems with a maximum nameplate capacity of 10 kilowatts (kW). These systems must comply with IEEE 1547 and UL 1741 standards. There are no application fees or other fees for Level 1 interconnection review. Utilities may not impose additional requirements not specified in the IURC rules. There are specific limitations on a single system's potential impact and the aggregate potential impact on the grid under Level 1 interconnection.

– Level 2 interconnection applies to systems with a maximum capacity of 2 megawatts (MW). These systems also must comply with IEEE 1547 and UL 1741 standards. For Level 2 interconnection, a utility may charge fees of up to $50, plus $1 per kW of the system's nameplate capacity, plus the cost of any minor modifications to the electric distribution system or additional review. Costs for engineering work done as part of any additional review may not exceed $100 per hour. There are specific limitations on a single system's potential impact and the aggregate potential impact on the grid under Level 2 interconnection.

– Level 3 interconnection applies to systems that do not qualify for either Level 1 or Level 2 interconnection procedures. For Level 3 interconnection review, a utility may charge up to $100 plus $2 per kW of the system's nameplate capacity, as well as charges for actual time spent on any impact or facilities studies required by Indiana's rules. Costs for engineering work done as part of any impact or facilities study may not exceed $100 per hour.

Utilities must use an interconnection application and interconnection agreement approved by the IURC. A mutual indemnification provision and reasonable time limits on application review are included in the rules. Customer-generators must obtain "only reasonable amounts of insurance against risks for which there is a likelihood of occurrence." (Customers with net-metered systems must abide by the indemnification and insurance provisions specified in the state's net-metering rules.) However, utilities may require customers to install an external disconnect switch at the customer's expense. Any disputes between customers and utilities will be settled according to the IURC's consumer-complaint rules.

Utilities must use an IURC-approved interconnection agreement and interconnection form for each of the three levels of review. In addition, utilities must file an annual report on or before March 1 of each year. The report must specify the number, size and type of facilities interconnected as of December 31 of each year.

Qualifying facilities (QFs) and net-metered systems also must comply with the applicable requirements of Indiana's DG interconnection standards.

**Source:** http://www.dsireusa.org/

### *Solar Access Laws*

**Incentive Type:** Solar Access Law/Guideline
**Policy Level:** State
**Province/Territory/State:** Indiana

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics
**Applicable Sectors:** Industrial, Commercial, Residential, Fed_Govt, Nonprofit, Local, Schools, State_Sector
**Summary:** Indiana law includes both covenant restrictions and solar-easement provisions. The state's covenant restrictions prevent planning and zoning authorities from prohibiting or unreasonably restricting the use of solar energy. Indiana's solar-easement provisions are similar to those in many other states; although they do not create an automatic right to sunlight, they allow parties to voluntarily enter into solar-easement contracts which are enforceable by law. Passive-solar structures are explicitly included in the type of solar-collection equipment which may be protected by solar easements.

**Source:** http://www.dsireusa.org/

### *Energy Efficiency and Renewable Energy Set-Aside*

**Incentive Type:** State Grant Program
**Policy Level:** State
**Province/Territory/State:** Indiana

**Eligible Renewable / Other Technologies:** Photovoltaics, Wind, Other DG, En Eff, Biomass, Landfill Gas, Hydro, Cogeneration, Fuel Cells
**Applicable Sectors:** Industrial, Utility
**Summary:** Indiana's Energy Efficiency and Renewable Energy (EERE) Set-Aside is a joint effort of the Indiana Energy and Recycling Office (ERO) and the Indiana Office of Air Quality (OAQ) that offers potential financial incentives to large-scale energy-efficiency projects and renewable-energy projects that significantly reduce nitrogen-oxide (NOx) emissions. The program arose from a 1998 order by the U.S. Environmental Protection Agency (EPA) requiring Indiana and 21 other states to submit plans to reduce emissions of NOx, a contributor to ground-level ozone.

ERO and OAQ jointly developed a program within the Indiana NOx plan to reward certain types of large-scale efficiency and renewables projects by setting aside a large number of NOx allowances each year for such projects. These allowances can be sold in the national NOx-trading system developed by the EPA. Indiana's new NOx rules took effect in May 2004.

The following types of projects are eligible for NOx allowances under the EERE Set-Aside:

– End-use energy-efficiency projects.
– Highly efficient electricity generation for the predominant use of a single end-user (distributed generation) that meets specified efficiency levels.

– Renewable-energy projects, including wind, solar-electric (photovoltaic), landfill and sewer methane, anaerobic digesters and certain hydropower projects.
– Highly efficient electricity generation equipment for the sale of power where such equipment replaces or displaces retired electrical generating units and that meets certain energy efficiency levels.

In general, because the EPA requires that awards of NOx allowances be made in one-ton increments, only projects that offset a very large volume of NOx emissions will be eligible for awards. Several smaller projects may also be aggregated to apply for NOx allowances.

Allowances are awarded through a process of initial application and project verification. Through a variety of formulas, ERO and OAQ will award allowances to projects in proportion to the NOx emissions they offset, with projects that save the most energy or that generate the most renewable energy receiving more allowances. Applicants must specify the amount of renewable energy produced and/or energy saved as a result of the project. Project results will be verified through a combination of allowance recipient-reports and site visits by ERO and OAQ staff. The initial round of allowances was awarded to projects for the reduction of NOx emissions in the 2004 summer ozone season. Initial applications for allowances for the 2004 ozone season were due September 1, 2003, and will be due annually thereafter. Projects are eligible for allowances for up to five years, with annual reapplication required by September 1 of each year.

The value of the NOx allowances that the EERE Set-Aside grants will determine the incentive provided under this program. NOx allowances are traded among energy and commodity brokers, utilities and others in an open market. Utilities and industries that are unable to meet the emission levels prescribed by states' NOx rules may purchase allowances in this market in order to meet EPA requirements. The value of this allowance will be determined by the ability of utilities and industries to meet their emissions targets, the cost of meeting those targets through technical means, and the number of allowances available on the market for a given year. In recent years, NOx allowances have traded in a range between $2,500 and $6,000 per ton, depending upon the year they are available.

See the program web site for links to (1) an overview of the current market for NOx allowances; (2) program forms, manuals and detailed explanations; (3) applications and reapplications; and (4) project-reporting forms.

**Source:** http://www.dsireusa.org/

### *Indiana - Net Metering*

**Incentive Type:** Net Metering Rules
**Policy Level:** State
**Province/Territory/State:** Indiana

**Eligible Renewable / Other Technologies:** Photovoltaics, Wind
**Applicable Sectors:** Residential, Schools
**Summary:** The Indiana Utility Regulatory Commission (IURC) issued net-metering rules in September 2004, requiring the state's investor-owned utilities (IOUs) to offer net metering to residential customers and K-12 schools. The rules, which apply to solar, wind and hydroelectric projects with a maximum capacity of 10 kilowatts (kW), include the following provisions:
– A utility may limit the aggregate amount of net-metering (nameplate) capacity to 0.1% of its most recent summer peak load.
– An interconnection agreement between the utility and the customer must be executed before the facility may be interconnected.
– Net-metered systems must comply with Indiana's interconnection standards (170 IAC 4-4.3).
– Either a single meter or a dual-meter arrangement may be used.

– Utilities may not charge customers any fees for additional metering for single-phase configurations installed by the utility, for customers' requests to net meter, or for an initial net-metering facility inspection.
– Net excess generation (NEG) is credited to the customer in the next billing cycle. The rules do not address the expiration of NEG.
– Any disputes between customers and utilities will be settled according to the IURC's consumer-complaint rules.

Before the IURC issued mandatory net-metering rules in September 2004, three of the state's IOUs—Indianapolis Power & Light Company (IPL), Southern Indiana Gas and Electric Company (SIGECO), and PSI Energy—voluntarily offered net metering to customers with renewable-energy systems.

**Source:** http://www.dsireusa.org/

### *Solar Access Easements*

**Incentive Type:** Solar Access Law/Guideline
**Policy Level:** State
**Province/Territory/State:** Iowa

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Solar Thermal Electric, Photovoltaics
**Applicable Sectors:** Industrial, Commercial, Residential, Fed_Govt, Nonprofit, Local, Schools, State_Sector
**Summary:** Iowa's solar access easement provision allows for access to sunlight to operate a solar energy system. Those who are unable to obtain a voluntary solar easement from a property owner may apply to the solar access regulatory board for an order granting a solar access easement, if the relevant city council or county board of supervisors has created such a board. Iowa code also grants municipalities the right to issue ordinances prohibiting subdivisions from including restrictive covenants that limit the use of solar collectors.

**Source:** http://www.dsireusa.org/

### *Renewable Energy Production Tax Credit (Personal)*

**Incentive Type:** Personal Tax Credit
**Policy Level:** State
**Province/Territory/State:** Iowa

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Landfill Gas, Hydrogen
**Applicable Sectors:** Industrial, Commercial, Residential, Schools, Coop, Agricultural
**Summary:**
In June 2005, Iowa enacted legislation creating two separate production tax credits for electricity generated by eligible renewable-energy facilities under Iowa Code § 476C and Iowa Code § 476B (SF 390 and HF 882). The two tax credits created by Iowa Code § 476C and § 476B are mutually exclusive; that is, a facility can qualify for only one of the two credits. On June 20, 2005, the Iowa Utilities Board (IUB) issued emergency rules to clarify the facility eligibility process (Docket No. RMU-05-7). See the program web site for a summary of facility-eligibility applications received by the IUB, as well as the status of these applications. The IUB will issue rules governing tax-credit applications and administration at a later date.

Iowa Code § 476C Tax Credit – Wind and Other Renewable-Energy Facilities

Iowa Code § 476C (SF 390) created a production tax credit of 1.5¢ per kilowatt-hour for electricity generated by and purchased from eligible wind and other renewable-energy facilities, including

biomass and solar. Under the same law, Iowa offers $4.50 per million BTUs of biogas used to generate either electricity or heat for commercial purposes, or $1.44 per thousand cubic feet of hydrogen fuel generated by and purchased from an eligible renewable-energy facility. This credit may be applied toward the state's personal income tax, business tax, financial institutions tax, or sales and use tax.

To be eligible for the credit, a renewable-energy facility must be at least 51% owned by specifically defined qualifying owners, and must be approved by the IUB. Furthermore, facilities must be placed into service on or after July 1, 2005, and before January 1, 2011. The maximum total amount of wind generating capacity eligible for this credit is 90 MW. The maximum total amount of generating capacity from other eligible renewables is 10 MW. A facility's combined capacity may not exceed 2.5 MW per qualifying owner, and facility owners may not own more than two eligible facilities. Facilities must be operational within 18 months of IUB approval to maintain eligibility status.

As of August 1, 2005, the 90 MW of wind capacity available for the credit under Iowa Code § 476C had also been fully subscribed, but approval had not been granted for any of the 10 MW reserved for other renewable technologies. If there is a reduction in capacity for any of the eligible facilities, or if any of the facilities are not operational within 18 months, released capacity will become available to those who either did not receive a full allocation of requested capacity or to those who filed an application after capacity limits were fully subscribed. If any capacity is released, applications will be processed in the order received.

The designated facility producer or energy purchaser may apply for renewable-energy tax-credit certificates for 10 years, beginning with the initial production of electricity, biogas or hydrogen. The IUB will verify the number of kilowatt-hours or BTUs generated by each eligible facility, and the Iowa Department of Revenue will issue and track tax-credit certificates. Certificates may be transferred or sold one time to a third party.

Iowa Code § 476B Tax Credit – Wind-Energy Facilities Only

Iowa Code § 476B (House File 882) created a production tax credit of 1.0¢ per kilowatt-hour for electricity generated by and purchased from eligible wind-energy facilities. The tax credit may be applied toward the state's personal income tax, business income tax or financial institutions tax. However, this credit is not available to facility owners who have received the state's property tax exemption for renewable-energy systems, the local option special assessment of wind-energy devices, or the sales tax exemption for wind-energy equipment. (See the DSIRE records for these incentives for more information.)

To be eligible for the credit, a wind-energy facility must be approved by the IUB. There are no specific ownership or capacity criteria for individual projects; however, facility owners may not own more than two eligible facilities. Facilities must be placed into service on or after July 1, 2005, but before January 1, 2008. The maximum total amount of generating capacity eligible for the credit is 450 MW. Facilities must be operational within 18 months of IUB approval to maintain eligibility status.

As of August 1, 2005, the 450 MW of wind capacity reserved for the credit under Iowa Code § 476B had been fully subscribed. If there is a reduction in capacity for any of the eligible facilities, or if any of the facilities are not operational within 18 months, released capacity will become available to those who either did not receive a full allocation of requested capacity or to those who filed an application after capacity limits were fully subscribed. If any capacity is released, applications will be processed in the order received.

Facility owners may apply for renewable-energy tax-credit certificates for 10 years, beginning with the initial production of electricity. The IUB will verify the number of kilowatt-hours generated by

each eligible facility, and the Iowa Department of Revenue will issue and track tax-credit certificates. Certificates may be transferred or sold one time to a third party.

**Source:** http://www.dsireusa.org/

### *Alternative Energy Law (AEL)*

**Incentive Type:** Renewables Set Aside
**Policy Level:** State
**Province/Territory/State:** Iowa

**Eligible Renewable / Other Technologies:** Photovoltaics, Wind, Biomass, Hydro, Municipal Solid Waste
**Applicable Sectors:** Utility
**Summary:**
Iowa requires its investor-owned utilities to contract a combined total of 105 megawatts of their generation from renewable-energy resources, including small hydropower facilities. The Iowa Utilities Board has allocated the 105 megawatts between the state's two investor-owned utilities—Mid-American and Interstate Power and Light—based on each utility's percentage of the total Iowa retail peak demand. Mid-American and Interstate Power and Light are fulfilling this requirement mostly with wind power and biomass resources.

Originally, for incentive ratemaking purposes, the Iowa Utilities Board (IUB) interpreted the 105 megawatts specified in the statute as "average capacity" based on kilowatt-hour output. As a result, the IUB's interpretation of the statute mandated the payment of incentive rates for 260 megawatts of renewable energy—the nameplate capacity of 105 "average" megawatts. After the FERC overturned Iowa's incentive rate concept in 1997, the IUB rescinded the "average capacity" ratemaking concept, which is no longer part of the IUB rules.

**Source:** http://www.dsireusa.org/

### *Wind Energy Equipment Exemption*

**Incentive Type:** Sales Tax Exemption
**Policy Level:** State
**Province/Territory/State:** Iowa

**Eligible Renewable / Other Technologies:** Wind
**Applicable Sectors:** Commercial, Residential, Government, Agricultural
**Summary:** This statute exempts from the state sales tax the total cost of wind energy equipment and all materials used to manufacture, install or construct wind energy systems. The exemption does not apply to equipment used to construct a plant to manufacture wind energy systems.

**Source:** http://www.dsireusa.org/

### *Iowa - Net Metering*

**Incentive Type:** Net Metering Rules
**Policy Level:** State
**Province/Territory/State:** Iowa

**Eligible Renewable / Other Technologies:** Photovoltaics, Wind, Biomass, Hydro, Municipal Solid Waste
**Applicable Sectors:** Industrial, Commercial, Residential
**Summary:** Adopted by the Iowa Utilities Board in 1983, Iowa's net-metering rules allow customers with alternative energy generation systems to sell electricity to investor-owned utilities on a netted basis against their metered retail usage. The rules apply to all customer classes.

There is no mention of a limit on either the size of a net-metered system or on total enrollment. However, a rule waiver by the Iowa Utilities Board (IUB) allows MidAmerican Energy to limit individual systems to 500 kilowatts (kW). A similar waiver has been allowed for Interstate Power and Light.

Iowa's net-metering rules require utilities to purchase customers' net excess generation (NEG) at the utility's avoided-cost rate. However, a rule waiver allows MidAmerican Energy customers to carry NEG forward for use in future months; a similar waiver has been allowed for Interstate Power and Light.

**Source:** http://www.dsireusa.org/

### *Methane Gas Conversion Property Tax Exemption*

**Incentive Type:** Property Tax Exemption
**Policy Level:** State
**Province/Territory/State:** Iowa

**Eligible Renewable / Other Technologies:** Biomass, Landfill Gas
**Applicable Sectors:** Industrial, Commercial, Residential
**Summary:**
Under Iowa's Methane Gas Conversion Property Tax Exemption, real and personal property used for methane gas collection and conversion into energy and connected with, or in conjunction with, a publicly-owned sanitary landfill, is exempt from property tax. If other fuels are burned as well, the exemption is equal to the ratio of methane in the overall fuel mix.

**Source:** http://www.dsireusa.org/

### *Grants for Energy Efficiency and Renewable Energy Research*

**Incentive Type:** State Grant Program
**Policy Level:** State
**Province/Territory/State:** Iowa

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Solar Thermal Electric, Photovoltaics, Wind, En Eff, Biomass, Landfill Gas, Hydro, Renewable Transportation Fuels, Geothermal Electric, Municipal Solid Waste
**Applicable Sectors:** Industrial, Commercial, Residential, Transportation, Agricultural
**Summary:** The Iowa Energy Center provides grants for energy research on topics that have strong relevance to Iowa. Eligible organizations are Iowa’s colleges and universities, Iowa-based private non-profit organizations, and Iowa-based foundations. Private sector research partnerships are encouraged. Research grants are awarded in two broad categories: renewable energy and energy efficiency.

A request for pre-proposals is issued annually in July. Specific projects are selected for further review via full proposals. Grants are provided for projects demonstrating highest value and relevance to current Iowa-specific energy research needs.

Past grants have supported research in biofuels, wind resource assessment, photovoltaic research, biomass gasification, energy-efficient livestock confinement ventilation, process manufacturing efficiency, and commercial building HVAC control.

**Source:** http://www.dsireusa.org/

### *State of Iowa - Green Power Procurement*

**Incentive Type:** Green Power Purchasing/Aggregation

**Policy Level:** State
**Province/Territory/State:** Iowa

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Landfill Gas
**Applicable Sectors:** State_Sector
**Summary:** In April 2005, Iowa Governor Tom Vilsack issued Executive Order Number 41, directing state agencies to obtain at least 10% of their electricity from renewable-energy sources by 2010. To satisfy this requirement, agencies may generate their own renewable energy or may participate in an Iowa utility's green-power program. All state agencies are required to submit quarterly reports on their progress toward meeting the goals of this policy. The order also directs state agencies to buy energy-efficient equipment and reduce energy use in buildings 15% by 2010, relative to their energy use in 2000.

Furthermore, under terms of the order, by 2010 the state's light-duty vehicle fleets (vehicles other than heavy trucks) must consist of hybrid-electric vehicles and/or vehicles that use alternative fuels, with the exception of law-enforcement vehicles. Bulk diesel fuel purchased by the state must contain 5% renewable fuel (such as biodiesel) by 2007, increasing to 20% by 2010.

**Source:** http://www.dsireusa.org/

### *Mandatory Utility Green Power Option*

**Incentive Type:** Mandatory Utility Green Power Option
**Policy Level:** State
**Province/Territory/State:** Iowa

**Eligible Renewable / Other Technologies:** Photovoltaics, Wind, Biomass, Hydro, Municipal Solid Waste
**Applicable Sectors:** Utility
**Summary:**
All electric utilities operating in Iowa, including those not rate-regulated by the Iowa Utilities Board (IUB), are required to offer green power options to their customers. These programs allow customers to make voluntary contributions to support the development of renewable energy sources in Iowa. Utilities must file their program plans and tariff schedules with the IUB. This policy took effect January 1, 2004.

**Source:** http://www.dsireusa.org/

### *Local Option Special Assessment of Wind Energy Devices*

**Incentive Type:** Property Tax Assessment
**Policy Level:** State
**Province/Territory/State:** Iowa

**Eligible Renewable / Other Technologies:** Wind
**Applicable Sectors:** Industrial, Commercial, Residential
**Summary:** This statute allows any city or county to pass an ordinance assessing wind energy conversion equipment at a special valuation for property tax purposes, beginning at 0% of the net acquisition cost in the first assessment year and increasing annually by five percentage points to a maximum of 30% of the net acquisition cost in the 7th and succeeding years. If a city or county repeals the ordinance, the wind energy property shall be valued at the special rate until the end of the 19th assessment year following the first assessment year. The taxpayer must file for the special valuation by February 1 of the assessment year in which the wind system is first assessed for property tax purposes. If the ordinance has not been adopted, or if the taxpayer fails to file for the special valuation, the system shall be assessed under Iowa Code 428.24 to 428.29 and

441.21(8), which provide that the assessable and taxable value of property shall not increase with the new construction of wind or solar energy systems for five years.

**Source:** http://www.dsireusa.org/

### *Alternate Energy Revolving Loan Program*

**Incentive Type:** State Loan Program
**Policy Level:** State
**Province/Territory/State:** Iowa

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Solar Thermal Electric, Photovoltaics, Wind, Biomass, Landfill Gas, Hydro
**Applicable Sectors:** Industrial, Commercial, Residential
**Summary:** The Alternate Energy Revolving Loan Program (AERLP) is administered by the Iowa Energy Center and funded by the state's investor-owned utilities. The AERLP provides loan funds to individuals and organizations that seek to build renewable energy production facilities in Iowa. Eligible renewable energy technologies include solar, biomass, wind and small hydro. Successful applicants will receive a single, low-interest loan that consists of a combination of AERLP funds and lender-provided funds. The AERLP provides 50% of the total loan at 0% interest, with a maximum of $250,000. The remainder of the loan is provided by a lender at market rate. The maximum loan term allowed for the AERLP funds is 20 years. As the loans are paid back to the Iowa Energy Center, those funds are channeled back into the program and are made available to new applicants.

**Source:** http://www.dsireusa.org/

### *Interconnection Standards*

**Incentive Type:** Interconnection
**Policy Level:** State
**Province/Territory/State:** Iowa

**Eligible Renewable / Other Technologies:** Photovoltaics, Wind, Biomass, Hydro, Municipal Solid Waste
**Applicable Sectors:** Industrial, Commercial, Residential, Fed_Govt, Nonprofit, Local, Schools, State_Sector
**Summary:** Iowa allows net metering for renewable-energy systems, but no uniform interconnection standards are currently in place either for small renewables or larger distributed generation. Existing provisions in the Iowa Administrative Code limits the discretion of utilities to impose onerous interconnection requirements. The law states that where systems meet the relevant requirements of the National Electrical Code (NEC), the Institute of Electrical and Electronics Engineers (IEEE), and Underwriters Laboratories (UL), utilities may not require system owners to comply with additional safety or performance standards, perform or pay for additional tests, or purchase additional liability insurance.

In November 2005, the Iowa Department of Natural Resources (DNR) announced it would no longer manage the state's interconnection and net-metering programs. Accordingly, the DNR will not commission related studies or reports, or to hold future meetings on interconnection or net metering. It is unclear when the Iowa Utilities Board will take action to create statewide interconnection standards for net-metered systems and/or non-net-metered distributed generation.

**Source:** http://www.dsireusa.org/

### *Property Tax Exemption for Renewable Energy Systems*

**Incentive Type:** Property Tax Exemption
**Policy Level:** State
**Province/Territory/State:** Iowa

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Solar Thermal Electric, Photovoltaics, Wind
**Applicable Sectors:** Industrial, Commercial, Residential, Agricultural
**Summary:** In Iowa, the market value added to a property by a solar or wind energy system is exempt from the state's property tax. According to Iowa law, eligible systems include (1) a system of equipment capable of collecting and converting incident solar radiation or wind energy into thermal, mechanical, or electrical energy and transforming these forms of energy by a separate apparatus to storage or to a point of use which is constructed or installed after January 1, 1978; or (2) a system that uses the basic design of the building to maximize solar heat gain during the cold season and to minimize solar heat gain in the hot season and that uses natural means to collect, store and distribute solar energy which is constructed or installed after January 1, 1981.

**Source:** http://www.dsireusa.org/

### *Iowa Building Energy Management Program (Iowa Energy Bank)*

**Incentive Type:** State Loan Program
**Policy Level:** State
**Province/Territory/State:** Iowa

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Solar Thermal Electric, Photovoltaics, Wind, En Eff, Biomass, Hydro, Renewable Transportation Fuels, Geothermal Heat Pumps
**Applicable Sectors:** Nonprofit, Local, Schools, Institutional, State_Sector
**Summary:** Initiated in 1986, Iowa's Building Energy Management Program provides financing for public and some non-profit organizations for energy management programs through the Iowa Energy Bank and the State of Iowa Facilities Improvement Corporation (SIFIC). Eligible organizations include public and private K-12 schools, community colleges, area education agencies, hospitals, local government, private colleges and state agencies. One of the program's primary goals is to make budget-neutral energy improvements for participating agencies and organizations. This is possible by offering loans that can be repaid by the energy savings resulting from energy improvement projects.

After signing a memorandum of agreement (MOA), a participating organization receives a six-month, interest-free loan for an energy analysis, which is performed by an auditing firm that has been pre-qualified by Iowa's Department of Natural Resources (DNR). Only energy improvements that will pay for themselves within their useful lives are eligible. Financing is available via a pre-arranged, low-interest capital loan note or lease purchase-agreement with a local or regional investment bank.

Iowa's Building Energy Management Program, supported by state oil overcharge funds, aims to implement more than $500 million in energy improvements. The Iowa DNR actively markets the program to all eligible sectors. To date, most of Iowa's school districts have participated, as have dozens of hospitals and private colleges. Local governments and state agencies have also participated in large numbers, according to the Iowa DNR.

**Source:** http://www.dsireusa.org/

### *Energy Replacement Generation Tax Exemption*

**Incentive Type:** Excise Tax Incentive

**Policy Level:** State
**Province/Territory/State:** Iowa

**Eligible Renewable / Other Technologies:** Wind, Biomass, Landfill Gas, Hydro
**Applicable Sectors:** Industrial, Commercial, Residential
**Summary:**
Iowa imposes a replacement generation tax of 0.06 cents ($0.0006) per kWh on various forms of electricity generated within the state. This tax is imposed in lieu of a property tax on generation facilities. However, under the Energy Replacement Generation Tax Exemption, all energy generated by methane gas conversion property (including digester gas facilities) and wind energy conversion property is exempt from the replacement generation tax. In addition, large hydroelectric generators (100 MW or more) pay a reduced generation tax equivalent to $0.000001847 per kWh.

**Source:** http://www.dsireusa.org/

### *Renewable Energy Production Tax Credits (Corporate)*

**Incentive Type:** Corporate Tax Credit
**Policy Level:** State
**Province/Territory/State:** Iowa

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Landfill Gas, Hydrogen
**Applicable Sectors:** Industrial, Commercial, Residential, Schools, Coop, Agricultural
**Summary:** In June 2005, Iowa enacted legislation creating two separate production tax credits for electricity generated by eligible renewable-energy facilities under Iowa Code § 476C and Iowa Code § 476B (SF 390 and HF 882). The two tax credits created by Iowa Code § 476C and § 476B are mutually exclusive; that is, a facility can qualify for only one of the two credits. On June 20, 2005, the Iowa Utilities Board (IUB) issued emergency rules to clarify the facility eligibility process (Docket No. RMU-05-7). See the program web site for a summary of facility-eligibility applications received by the IUB, as well as the status of these applications. The IUB will issue rules governing tax-credit applications and administration at a later date.

Iowa Code § 476C Tax Credit – Wind and Other Renewable-Energy Facilities

Iowa Code § 476C (SF 390) created a production tax credit of 1.5¢ per kilowatt-hour for electricity generated by and purchased from eligible wind and other renewable-energy facilities, including biomass and solar. Under the same law, Iowa offers $4.50 per million BTUs of biogas used to generate either electricity or heat for commercial purposes, or $1.44 per thousand cubic feet of hydrogen fuel generated by and purchased from an eligible renewable-energy facility. This credit may be applied toward the state's personal income tax, business tax, financial institutions tax, or sales and use tax.

To be eligible for the credit, a renewable-energy facility must be at least 51% owned by specifically defined qualifying owners, and must be approved by the IUB. Furthermore, facilities must be placed into service on or after July 1, 2005, and before January 1, 2011. The maximum total amount of wind generating capacity eligible for this credit is 90 MW. The maximum total amount of generating capacity from other eligible renewables is 10 MW. A facility's combined capacity may not exceed 2.5 MW per qualifying owner, and facility owners may not own more than two eligible facilities. Facilities must be operational within 18 months of IUB approval to maintain eligibility status.

As of August 1, 2005, the 90 MW of wind capacity available for the credit under Iowa Code § 476C had also been fully subscribed, but approval had not been granted for any of the 10 MW reserved for other renewable technologies. If there is a reduction in capacity for any of the eligible

facilities, or if any of the facilities are not operational within 18 months, released capacity will become available to those who either did not receive a full allocation of requested capacity or to those who filed an application after capacity limits were fully subscribed. If any capacity is released, applications will be processed in the order received.

The designated facility producer or energy purchaser may apply for renewable-energy tax-credit certificates for 10 years, beginning with the initial production of electricity, biogas or hydrogen. The IUB will verify the number of kilowatt-hours or BTUs generated by each eligible facility, and the Iowa Department of Revenue will issue and track tax-credit certificates. Certificates may be transferred or sold one time to a third party.

Iowa Code § 476B Tax Credit – Wind-Energy Facilities Only

Iowa Code § 476B (House File 882) created a production tax credit of 1.0¢ per kilowatt-hour for electricity generated by and purchased from eligible wind-energy facilities. The tax credit may be applied toward the state's personal income tax, business income tax or financial institutions tax. However, this credit is not available to facility owners who have received the state's property tax exemption for renewable-energy systems, the local option special assessment of wind-energy devices, or the sales tax exemption for wind-energy equipment. (See the DSIRE records for these incentives for more information.)

To be eligible for the credit, a wind-energy facility must be approved by the IUB. There are no specific ownership or capacity criteria for individual projects; however, facility owners may not own more than two eligible facilities. Facilities must be placed into service on or after July 1, 2005, but before January 1, 2008. The maximum total amount of generating capacity eligible for the credit is 450 MW. Facilities must be operational within 18 months of IUB approval to maintain eligibility status.

As of August 1, 2005, the 450 MW of wind capacity reserved for the credit under Iowa Code § 476B had been fully subscribed. If there is a reduction in capacity for any of the eligible facilities, or if any of the facilities are not operational within 18 months, released capacity will become available to those who either did not receive a full allocation of requested capacity or to those who filed an application after capacity limits were fully subscribed. If any capacity is released, applications will be processed in the order received.

Facility owners may apply for renewable-energy tax-credit certificates for 10 years, beginning with the initial production of electricity. The IUB will verify the number of kilowatt-hours generated by each eligible facility, and the Iowa Department of Revenue will issue and track tax-credit certificates. Certificates may be transferred or sold one time to a third party.

**Source:** http://www.dsireusa.org/

### *Fuel Mix Disclosure*

**Incentive Type:** Generation Disclosure
**Policy Level:** State
**Province/Territory/State:** Iowa

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Solar, Other DG, Biomass, Hydro
**Applicable Sectors:** Utility
**Summary:**
Iowa electric utilities must report annually to customers the percentage mix of fuel and energy used to produce electricity. The disclosure report must, "to the extent practical," specify percentages of electricity produced by coal, nuclear energy, natural gas, renewables that fulfill the utility's mandatory green-power program, and renewables not used to fulfill the utility's mandatory

green-power program. The percentages for renewables must further be broken down into percentages of electricity generated by wind, solar, hydropower, biomass and other resources.

Each utility's annual report must also include an estimate of sulfur dioxide, nitrogen oxides and carbon-dioxide emissions for each known fuel and resource. Emissions must be expressed in pounds per 1,000 kWh.

This requirement applies to all rate-regulated utilities in Iowa, excluding electric public utilities with fewer than 10,000 customers and electric cooperatives that have chosen to have their rates regulated by the Iowa Utilities Board (IUB). (The rates of electric public utilities with fewer than 10,000 customers and electric cooperatives are not regulated by the IUB unless the board of directors or the membership of an electric cooperative corporation or association has chosen to allow the IUB to regulate the utility's rates.)

**Source:** http://www.dsireusa.org/

### *Renewable Energy Property Tax Exemption*

**Incentive Type:** Property Tax Exemption
**Policy Level:** State
**Province/Territory/State:** Kansas

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Landfill Gas, Hydro, Geothermal Electric
**Applicable Sectors:** Industrial, Commercial, Residential
**Summary:**
This statute exempts renewable energy equipment from property taxes. Renewable energy includes wind, solar thermal electric, photovoltaic, biomass, hydropower, geothermal, and landfill gas resources or technologies that are actually and regularly used predominantly to produce and generate electricity.

**Source:** http://www.dsireusa.org/

### *Interconnection Standards*

**Incentive Type:** Interconnection
**Policy Level:** State
**Province/Territory/State:** Kansas

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Landfill Gas, Hydro, Geothermal Electric, Municipal Solid Waste
**Applicable Sectors:** Industrial, Commercial, Residential
**Summary:** Through statutory authority, Kansas allows residential renewable energy facilities of up to 25 kilowatts (kW) and commercial facilities of up to 100 kW to connect to the utility grid. However, there are currently no statewide uniform interconnection standards for these systems, and Kansas does not have a net-metering law. All that is currently specified is a utility's option to enforce any safety, equipment or power-quality requirements it deems appropriate. Utilities may also install a manual external disconnect device if the customer refuses to do so.

Legislation enacted in April 2003 (HB 2018) required the Kansas Corporation Commission (KCC) to develop uniform interconnection standards for all distributed renewable-energy systems up to 5 megawatts (MW) in capacity. To implement this law, the KCC initiated a proceeding (Docket No. 04-GIME-080-GIE); this proceeding is still in progress. When adopted, the resulting rules will apply to rural electric co-ops, municipal utilities and investor-owned utilities.

**Source:** http://www.dsireusa.org/

### *State Energy Program Grants*

**Incentive Type:** State Grant Program
**Policy Level:** State
**Province/Territory/State:** Kansas

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics, Wind, En Eff, Biomass, Landfill Gas, Hydro, Renewable Transportation Fuels, Renewable Fuel Vehicles, Geothermal Electric, Geothermal He
**Applicable Sectors:** Industrial, Commercial, Nonprofit, Local, Schools, State_Sector
**Summary:** The Kansas Corporation Commission Energy Programs offers grants each year as part of the State Energy Program (SEP), a program of the Department of Energy. The Commission's Energy Programs goals are to accelerate the deployment of energy efficiency, renewable energy technologies, and education, and to facilitate the commercialization of emerging and underutilized energy efficiency and renewable energy technologies. Grants are available to fund state agencies, counties, municipalities, universities, schools, non-profit organizations, small businesses, consultants, and others. All renewable energy technologies are eligible. Normally, individual projects—such as residential or for-profit businesses—cannot be funded because of limited resources unless the project would involve an innovative use of renewable resources or demonstrate energy conservation and/or efficiency.

An application package and instructions will be provided by KCC Energy Programs and is also available at program web site. Proposals are accepted on an ongoing basis; with applications due in March of each year. Approximately $200,000 in funding is available for FY 2006.

The Energy Program has funded a number of renewable energy projects over the years, including:

– photovoltaic applications for the Kansas Department of Wildlife and Parks, PV projects at the Topeka Zoo and Overland Park Golf Course, and a Gridless Home project;
– activities of the Kansas Renewable Energy Working Group;
– biomass applications for energy;
– promotion of ethanol and biodiesel for transportation;
– hydropower education; and
– development of a sophisticated interactive wind map for Kansas (in progress).

**Source:** http://www.dsireusa.org/

### *Solar Easements*

**Incentive Type:** Solar Access Law/Guideline
**Policy Level:** State
**Province/Territory/State:** Kansas

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics
**Applicable Sectors:** Industrial, Commercial, Residential, Fed_Govt, Nonprofit, Local, State_Sector
**Summary:** A solar easement may be obtained for the purpose of ensuring access to direct sunlight. An easement must be expressed in writing and recorded with the register of deeds for that county.

**Source:** http://www.dsireusa.org/

### *Solar Easements*

**Incentive Type:** Solar Access Law/Guideline
**Policy Level:** State
**Province/Territory/State:** Kentucky

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Solar Thermal Process Heat, Photovoltaics
**Applicable Sectors:** Industrial, Commercial, Residential, Fed_Govt, Nonprofit, Local, Schools, State_Sector
**Summary:** In Kentucky, solar easements may be obtained for the purpose of ensuring access to direct sunlight. Easements must be expressed in writing and will become an interest in real property that may be acquired and transferred.

**Source:** http://www.dsireusa.org/

### *Kentucky - Net Metering*

**Incentive Type:** Net Metering Rules
**Policy Level:** State
**Province/Territory/State:** Kentucky

**Eligible Renewable / Other Technologies:** Photovoltaics
**Applicable Sectors:** Commercial, Residential, Nonprofit, Local, Schools, Institutional, State_Sector, Agricultural
**Summary:** Kentucky enacted statewide net-metering legislation (SB 247) in April 2004, requiring all investor-owned utilities and rural electric cooperatives to offer net metering to customers with solar-electric (PV) systems of 15 kW or less. (TVA utilities are exempt from this law.) Utilities have since filed tariffs with the Kentucky Public Service Commission (PSC) that include all terms and conditions of their net-metering programs, including interconnection standards. Two Kentucky utilities—Kentucky Utilities (KU) and Louisville Gas and Electric (LG&E)—that previously offered pilot net-metering programs also offer net metering to customers with wind and hydroelectric systems.

Kentucky's net-metering law requires the use of a single, bi-directional meter. Any additional meter, meters or distribution upgrades needed to monitor the flow in each direction is installed at the customer-generator's expense. If the electricity fed back to the utility by the customer-generator exceeds the electricity supplied by the utility during a billing period, the customer-generator will be credited at the utility's retail rate. This credit will appear on the customer-generator's next bill will carry forward indefinitely. Credits are not transferable.

Although net metering is available to all utility customers, the state's low system-capacity limit likely will not encourage large-scale electricity consumers to participate. If the cumulative generating capacity of net metering systems reaches 0.1% of a utility's single-hour peak load during the previous year, the obligation of a utility to offer net metering to a new customer-generator may be limited by the PSC.

When time-of-day or time-of-use metering is used, the electricity fed back to the grid by customers is net-metered and accounted for at the specific time it is fed back to the grid in accordance with the time-of-day or time-of-use billing agreement currently in place.

Electric-generating systems and interconnecting equipment used by eligible customer-generators must meet all applicable safety and power quality standards established by the National Electrical Code (NEC), Institute of Electrical and Electronics Engineers (IEEE), and accredited testing laboratories such as Underwriters Laboratories (UL).

**Source:** http://www.dsireusa.org/

### *Interconnection Standards*

**Incentive Type:** Interconnection
**Policy Level:** State
**Province/Territory/State:** Kentucky

**Eligible Renewable / Other Technologies:** Photovoltaics
**Applicable Sectors:** Commercial, Residential
**Summary:** Kentucky enacted statewide net-metering legislation (SB 247) in April 2004, requiring all investor-owned utilities and rural electric cooperatives to offer net metering to customers with solar-electric (PV) systems of 15 kW or less. (TVA utilities are exempt from this law.) Utilities have since filed tariffs with the Kentucky Public Service Commission (PSC) that include all terms and conditions of their net-metering programs, including interconnection standards. Two Kentucky utilities—Kentucky Utilities (KU) and Louisville Gas and Electric (LG&E)—that previously offered pilot net-metering programs offer net metering to customers with wind and hydroelectric systems.

Interconnection rules for net-metered systems include the following key provisions:

– System owners must have liability insurance of at least $100,000.
– A manual, lockable, external disconnect switch is required.
– Systems and interconnecting equipment must meet all applicable safety and power quality standards established by the National Electrical Code (NEC), Institute of Electrical and Electronics Engineers, and accredited testing laboratories such as Underwriters Laboratories.

Additionally, KU; LG&E; and Union Light, Heat and Power Company (ULH&P) have filed cogeneration interconnection tariffs for qualifying facilities (QF) and other systems up to 100 kW. KU and LG&E have identical rules, which offer little technical detail and provide utilities with full discretion over the approval process. National standards or procedural timetables are not referenced. The ULH&P tariff is similarly focused on larger systems but includes details in the company's "Guideline Technical Requirements for Parallel Operation of Customer Generation on the Transmission System."

Click the links below to access the relevant tariffs:

– KU cogeneration and small power producer tariff
– LG&E small power production and cogeneration tariff
– ULH&P cogeneration and small power production tariff

**Source:** http://www.dsireusa.org/

### *Louisiana - Net Metering*

**Incentive Type:** Net Metering Rules
**Policy Level:** State
**Province/Territory/State:** Louisiana

**Eligible Renewable / Other Technologies:** Photovoltaics, Wind, Biomass, Hydro, Geothermal Electric
**Applicable Sectors:** Commercial, Residential, Agricultural
**Summary:** In November 2005, the Louisiana Public Service Commission (PSC) issued rules for net metering and the interconnection of net-metered systems. Louisiana's rules, based largely on those in place in Arkansas, require publicly-owned utilities and rural electric cooperatives to offer net metering to customers with systems that generate electricity using solar, wind, hydropower, geothermal or biomass resources. (Fuel cells and microturbines that generate electricity entirely derived from renewable resources are eligible.) The rules apply to residential facilities with a

maximum capacity of 25 kilowatts (kW) and commercial systems with a maximum capacity of 100 kW.

Utilities must provide customer-generators with a meter capable of measuring the flow of electricity in both directions. Utilities must pay for the cost of the meter itself, but customer-generators must pay a one-time charge to cover the installation cost of the meter. Net excess generation (NEG) is credited to the customer's next bill indefinitely. For the final month in which the customer takes service from the utility, the utility will pay the customer for the balance of any credit at the utility's avoided-cost rate.

Customer-generators seeking to interconnect and net meter must submit an interconnection agreement to a utility 45 days prior to interconnection. Utilities must use a PSC-approved standard interconnection agreement for net-metered facilities. Customers must pay for "interconnection costs," which are defined in the PSC's rules.*

By the end of each calendar year, utilities must file with the PSC a report listing all existing net-metered systems and their capacities, and, where applicable, the inverter rating for each facility. Regarding renewable-energy credits (RECs), the PSC will review the feasibility of a REC-trading program as part of the commission’s ongoing renewable portfolio standard (RPS) rulemaking process.

* See the DSIRE record for Louisiana's interconnection standards for details.

**Source:** http://www.dsireusa.org/

### *Solar Energy Equipment Certification*

**Incentive Type:** Equipment Certification
**Policy Level:** State
**Province/Territory/State:** Louisiana

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Solar Thermal Process Heat, Photovoltaics
**Applicable Sectors:** Industrial, Commercial, Residential, Government, Construction
**Summary:**
The state of Louisiana mandates that local building code departments conduct certification of solar thermal and electric collectors. The Solar Rating and Certification Corporation (SRCC) Certification Program is recommended.

**Source:** http://www.dsireusa.org/

### *Interconnection Standards*

**Incentive Type:** Interconnection
**Policy Level:** State
**Province/Territory/State:** Louisiana

**Eligible Renewable / Other Technologies:** Photovoltaics, Wind, Biomass, Hydro, Geothermal Electric
**Applicable Sectors:** Industrial, Commercial, Agricultural
**Summary:** In November 2005, the Louisiana Public Service Commission (PSC) issued rules for net metering and the interconnection of net-metered systems. Louisiana's rules, based on those in place in Arkansas, require publicly-owned utilities and rural electric cooperatives to offer net metering to customers with systems that generate electricity using solar, wind, hydropower, geothermal or biomass resources. (Fuel cells and microturbines that generate electricity entirely derived from renewable resources are eligible.) The rules apply to residential facilities with a

maximum capacity of 25 kilowatts (kW) and commercial systems with a maximum capacity of 100 kW.

Utilities must provide customer-generators with a meter capable of measuring the flow of electricity in both directions. Although utilities must pay for the cost of the meter itself, customer-generators must pay a one-time charge to cover the installation cost of the meter. Interconnected systems must meet all safety and performance standards established by local and national electric codes, including the National Electric Code (NEC), the Institute of Electrical and Electronics Engineers (IEEE), the National Electrical Safety Code (NESC), and Underwriters Laboratories (UL). A manual external disconnect switch is required for all interconnected systems.

Customer-generators seeking to interconnect and net meter must submit an interconnection agreement to a utility 45 days prior to interconnection. Utilities must use a PSC-approved standard interconnection agreement for interconnected facilities.

Customers must pay for "interconnection costs," defined as "the reasonable costs of connection, switching, metering, transmission, distribution, safety provisions and administrative costs incurred by the electric utility directly related to the installation and maintenance of the physical facilities necessary to permit interconnected operations with a net-metering facility, to the extent the costs are in excess of the corresponding costs which the electric utility would have incurred if it had not engaged in interconnected operations, but instead generated an equivalent amount of electric energy itself or purchased in equivalent amount of electric energy or capacity from other sources." Furthermore, following notice and opportunity for public comment, the PSC may authorize a utility to assess customer-generators "a greater fee or customer charge, of any type, if the electric utility's direct costs of interconnection and administration of net metering outweigh the distribution system, environmental and public-policy benefits of allocating the costs among the electric utility's entire customer base."

**Source:** http://www.dsireusa.org/

### *Solar Energy System Exemption*

**Incentive Type:** Property Tax Exemption
**Policy Level:** State
**Province/Territory/State:** Louisiana

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Photovoltaics
**Applicable Sectors:** Residential
**Summary:** In Louisiana, any equipment attached to an owner-occupied residential building or swimming pool as part of a solar energy system is considered personal property that is exempt from ad valorem taxation. The value of a solar energy system will not be included in the assessment of such buildings or swimming pools.

A solar energy system is defined as "any device that uses the heat of the sun as its primary energy source and is used to heat or cool the interior of a structure or swimming pool, or to heat water for use within a structure or swimming pool." Solar energy systems include but are not limited to systems utilizing solar collectors, solar cells and passive roof ponds.

**Source:** http://www.dsireusa.org/

### *Renewable Resources Matching Fund Program*

**Incentive Type:** State Grant Program
**Policy Level:** State
**Province/Territory/State:** Maine

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Hydro, Geothermal Electric, Municipal Solid Waste, Fuel Cells
**Applicable Sectors:** Nonprofit, Institutional
**Summary:**
Maine's Renewable Resources Matching Fund (RRMF), created by the state's Public Benefits Fund, supports renewable resource research & development and community demonstration projects using renewable-energy technologies. The RRMF currently contains over $100,000 and is administered by the Maine Technology Institute (MTI). The first request for proposals was issued in 2003. Proposals are accepted on a rolling basis.

Grant funding is awarded as match funding for approved projects that qualify for funding under the MTI Cluster Enhancement Award program and that enhance or support cluster development in the energy industry. The maximum award is $50,000 per project. This limit may be changed as more or less funding becomes available. The match requested from RRMF may not exceed either $50,000 or 50% of the total match required for the project.

As outlined in 5MRSA, Title 35-A, §3210, funding must be used to support research and development projects for the University of Maine System, the Maine Maritime Academy or the Maine Technical College System, and for Maine-based nonprofit organizations for demonstration community projects using renewable energy technologies.

In order to be eligible for funding, the generation facility must either (1) qualify as a small power production facility under Federal Energy Regulatory Commission (FERC) rules, or (2) must not exceed 100 megawatts in capacity and use one or more of the following resources: fuel cells, tidal power, solar energy, wind energy, geothermal energy, hydropower, biomass energy, and/or municipal solid waste used in a generator in conjunction with recycling.

Thus far, one project has been funded under this program. Chewonki Foundation and the Hydrogen Energy Center were approved for a demonstration project to accelerate deployment of renewable energy systems using hydrogen generators, storage and fuel cells. The scope of work includes a technical and financial evaluation of the system components and the specification, installation, operation and maintenance of a hydrogen generator, storage and fuel cell stem, which will provide backup power for Chewonki's building. It will then serve as a demonstration to interest architects, engineers, electrical and energy systems contractors, energy producers and developers. Chewonki will promote it through its educational programs. The request is for $80,100 to be match by $40,050 from Renewable Resources Matching Fund and $142,316 from their own grants, labor and materials.

**Source:** http://www.dsireusa.org/

### *Solar Rebate Program*

**Incentive Type:** State Rebate Program
**Policy Level:** State
**Province/Territory/State:** Maine

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Photovoltaics
**Applicable Sectors:** Commercial, Residential
**Summary:** In June 2005, Maine enacted legislation (L.D. 1586) creating a rebate program for solar-energy systems installed at homes or businesses. The law takes effect in September 2005, and applies to solar-electric (PV) systems and solar-thermal systems purchased after July 1, 2005. The Maine Public Utilities Commission is developing rules to implement the program, including standards for qualification.

An owner or tenant who purchases a PV system qualifies for a rebate of $3 per watt (AC) for the first 2,000 watts of installed capacity and $1 per watt (AC) for the next 1,000 watts, if:
– For a system installed after July 1, 2005, but before January 1, 2007, the system is installed by a master electrician who has completed a training course to prepare for certification by the North American Board of Certified Energy Practitioners (NABCEP), or by a master electrician working with either a person certified by NABCEP or who has completed a training course to prepare for NABCEP certification; or
– For a system installed after January 1, 2007, the system is installed by a master electrician who is certified by NABCEP, or by a master electrician working with a person certified by NABCEP.

An owner or tenant who purchases a solar water-heating system qualifies for a rebate of 25% of the cost of the system (including installation), or $1,250, whichever is less. Solar water-heating systems must be installed by licensed plumbers certified by the Maine Public Utilities Commission. Likewise, an owner or tenant who purchases a solar-thermal system designed to heat air qualifies for a rebate of 25% of the cost of the system (including installation), or $1,250, whichever is less.

The rebate program is funded by an assessment on the state's transmission and distribution utilities. A total of $500,000 in funding will be available for rebates annually. Of this sum, 25% will be allocated to rebates for PV systems, and 75% will be allocated to rebates for solar-thermal systems. The program is scheduled to expire December 31, 2008.

**Source:** http://www.dsireusa.org/

### *Solar Energy Equipment Warranties*

**Incentive Type:** Equipment Certification
**Policy Level:** State
**Province/Territory/State:** Maine

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Solar Thermal Process Heat
**Applicable Sectors:** Construction, Installers_Contractors
**Summary:** Maine has established a mandatory minimum warranty for the sale and installation of all solar-energy equipment in the state. The mandatory warranty is a result of a determination by the state legislature that a lack of consumer confidence in the performance and reliability of solar-energy equipment is a major impediment to commercialization of the technology.

The Maine Public Utilities Commission (PUC) has been directed to establish an express warranty for the sale and installation of solar-energy equipment in Maine. This express warranty will, at a minimum, include the following:
– A five-year manufacturer's express warranty against defects in materials or manufacture of solar collectors;
– A one-year warranty against failure of the solar system when system failure is the result of improper installation; and
– Those implied warranties established in the Maine Uniform Commercial Code, Title 11, sections 2-314 and 2-315.

For more information about the development of Maine's warranty for solar-energy equipment, contact the Maine PUC.

**Source:** http://www.dsireusa.org/

### *Public Benefits Program*

**Incentive Type:** Public Benefits Fund
**Policy Level:** State

**Province/Territory/State:** Maine

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Hydro, Geothermal Electric, Municipal Solid Waste, Cogeneration, Fuel Cells
**Applicable Sectors:** Government
**Summary:**
Maine's public benefits program was enacted as part of the state's 1997 electric restructuring law. In general, the law provides funding for energy-efficiency programs and low-income assistance programs based on 1999 levels. Despite no mandated funding for renewable energy, the law directed the Maine Public Utilities Commission (PUC) to develop a voluntary program allowing consumers to contribute to a renewable-energy program. The PUC has ruled that utilities must offer customers the option of supporting renewables by checking off a contribution of $1, $5, $10 (or other amount) each month on their electric bill. Every six months, each utility must notify customers about the existence, purpose, means to contribute to the fund, and summaries of projects that have been funded.

Funds collected by this program may be used for renewable-energy research and development projects at the University of Maine System, the Maine Maritime Academy or the Maine Technical College System. As of November 2005, this fund contained over $100,000. The first solicitation for projects was issued in 2003. (See the DSIRE summary of Maine's Renewable Resources Matching Fund Program for details.)

The State Planning Office must provide annual reports to the PUC on or before May 1 of each year describing the status of the renewable-energy grant program, the number of grants provided, the amount of each grant, the institution that received the grant, and the nature of the projects receiving funding.

Originally funded by a surcharge of 1.35 mills per kilowatt-hour (kWh), totaling about $8.8 million per year, the energy-efficiency program is now supported by a surcharge of 1.5 mills per kWh, amounting to approximately $10 million per year. This program provides financial support to residential customers, small commercial customers and small industrial customers.

Funding for the low-income program has been set at $5.8 million annually. Funding is collected from utilities based on the number of residential customers in utilities' service territory. The program is administered by distribution utilities and will provide rate assistance (but not weatherization, which may be covered by other energy efficiency programs).

The Maine Technology Institute (MTI) manages the fund on behalf of the State Planning Office.

**Source:** http://www.dsireusa.org/

### *Maine - Green Power Purchasing*

**Incentive Type:** Green Power Purchasing/Aggregation
**Policy Level:** State
**Province/Territory/State:** Maine

**Eligible Renewable / Other Technologies:** Biomass
**Applicable Sectors:** State_Sector
**Summary:** In 2003, Maine Governor John Baldacci established a goal for the state government to buy at least 50% of its electricity from "reasonably priced" renewable-power sources, paid for by energy conservation improvements in all state buildings. The goal is contained in the governor's "Vision" for meeting Maine's environmental needs. Although there is no target date for this goal, as of November 2005, approximately 30% of the state government's electricity was generated by renewable-energy resources—mostly hydropower and biomass. This proportion

declined from 40% renewable-energy use in October 2004, due to the expiration of contracts and a higher premium for green power.

Once in place, changing these accounts to Maine-generated renewable electricity will reduce air pollutants in the state by 4.6 million pounds of carbon dioxide, 5,500 pounds of nitrogen oxide and 18,000 pounds of sulfur dioxide, according to officials. For more information on energy use in Maine, see <http://www.maineenergyinfo.com>www.maineenergyinfo.com >.

**Source:** http://www.dsireusa.org/

### *Maine - Customer Net Energy Billing*

**Incentive Type:** Net Metering Rules
**Policy Level:** State
**Province/Territory/State:** Maine

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Hydro, Geothermal Electric, Municipal Solid Waste, Cogeneration, Fuel Cells
**Applicable Sectors:** Industrial, Commercial, Residential
**Summary:** Net metering has been available in Maine since 1987 for owners of qualified cogeneration and small power-production facilities with a maximum capacity of 100 kW. When Maine's legislature enacted restructuring legislation that provided for retail competition beginning March 1, 2000, the Maine Public Utilities Commission (PUC) amended the state's net-metering rules to make them consistent with changes to structure of the electric industry. The rules were modified to address issues related to existing contracts that extend beyond March 1, 2000.

However, in addressing net-metering arrangements made after the onset of retail access, the PUC decided that new rules would be more appropriate than the regulations already in place for cogeneration and small power-production facilities. Thus, the PUC issued new net-metering rules that apply to the resources and technologies defined in the state's restructuring legislation: fuel cells, tidal power, solar, wind, geothermal, hydroelectric, biomass, and generators fueled by municipal solid waste in conjunction with recycling.

Net excess generation (NEG) is credited to the following month for up to 12 months; after the end of an annualized period all excess generation is granted to the utility with no compensation for the customer. A utility may, at its own expense, install additional meters to record purchases and sales separately. There is no limit on the aggregate amount of energy generated by net-metered customers. However, a utility must notify the PUC if the cumulative capacity of net-metered facilities reaches 0.5% of the utility's peak demand. When this happens, the PUC will determine if Maine's net-metering rules should be modified.

**Source:** http://www.dsireusa.org/

### *Fuel Mix and Emissions Disclosure*

**Incentive Type:** Generation Disclosure
**Policy Level:** State
**Province/Territory/State:** Maine

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Landfill Gas, Hydro, Geothermal Electric, Municipal Solid Waste, Cogeneration, Fuel Cells
**Applicable Sectors:** Utility
**Summary:**
Maine's 1997 restructuring legislation called for the state's Public Utility Commission (PUC) to establish disclosure rules for retail electric billing and required the commission to consider the use of standard billing information. By orders issued in February 1999 and June 1999, the PUC

adopted rules governing the disclosure by competitive electricity providers of price, contract, resource mix and emissions information to customers in a uniform format.

In June 2003 the PUC adopted an order (Docket No. 2002-580) amending the disclosure rules to incorporate the use of NEPOOL Generation Information System to comply with the disclosure requirement. This amendment also eliminated the initial requirement to disclose price information. In June 2005, the PUC amended its rules to remove the requirement for competitive electricity providers (CEPs) to distribute annual customer information disclosure forms to medium and large customers. This amendment came in response to legislation that eliminated the statutory requirement for CEPs to distribute customer information disclosures to medium and large customers at least once annually.

Maine's environmental disclosure rules require competitive electricity providers to distribute uniform disclosure labels to customers prior to the initiation of service, and then on a quarterly basis for residential and small commercial customers. The disclosure label must include specific information about fuel mix and emissions. The availability of this disclosure label must be stated in all written marketing materials, including on providers' web sites. On or before July 1 of each year, each CEP must submit an annual report to the PUC that contains information supporting the accuracy of disclosure labels provided over the prior calendar year.

**Source:** http://www.dsireusa.org/

### *Solar Easements*

**Incentive Type:** Solar Access Law/Guideline
**Policy Level:** State
**Province/Territory/State:** Maine

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Solar Thermal Electric, Photovoltaics
**Applicable Sectors:** Industrial, Commercial, Residential, Fed_Govt, Nonprofit, Local, Schools, State_Sector
**Summary:** Maine allows for the creation of easements to ensure access to direct sunlight. Instruments creating a solar easement may include, but are not limited to a description of the space affected by the easement; any terms or conditions under which the solar easement is granted or will be terminated; and a map showing the affected properties and the area protected by the easement.

**Source:** http://www.dsireusa.org/

### *Renewables Portfolio Standard*

**Incentive Type:** Renewables Portfolio Standard
**Policy Level:** State
**Province/Territory/State:** Maine

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Landfill Gas, Hydro, Municipal Solid Waste, Cogeneration, Fuel Cells
**Applicable Sectors:** Utility
**Summary:** In September 1999, Maine's Public Utilities Commission (PUC) adopted rules for the state's Renewable Resource Portfolio Requirement, pursuant to the state's 1997 electric utility restructuring law. The rules require electric providers to supply at least 30% of their total retail electric sales in Maine with electricity generated by eligible renewable resources.

The required electricity must be generated either by a "qualifying facility," as defined by the federal Public Utility Regulatory Policies Act of 1978 (PURPA),* or by a facility with a maximum capacity of 100 megawatts (MW) that uses fuel cells, tidal power, solar arrays and installations,

wind power installations, geothermal installations, hydroelectric generators, biomass generators, or generators fueled by municipal solid waste in conjunction with recycling.

In June 2003 the PUC adopted an order (Docket No. 2002-494) amending the RPS rule to incorporate the use of NEPOOL Generation Information System certificates (renewable-energy credits, or RECs) to satisfy the portfolio requirement.

On or before July 1 of each year, each competitive electricity provider must submit an annual report that contains information documenting compliance with the portfolio requirement over the previous compliance period. At a minimum, the annual report must include the following information for the compliance period:
– total retail kilowatt-hour (kWh) sales in Maine;
– total retail kWh sales in Maine served from eligible resources;
– reports from the GIS Administrator for service in the ISO-NE control area; and
– a description of the eligible resources used to satisfy the portfolio requirement in the Maritimes control area, including the fuel type and the amount of kWh sales in Maine from each eligible resource.

Electric providers that fail to comply with the portfolio requirement are subject to certain penalties, including license revocation, an optional payment into a renewable-resource research and development fund, or other monetary penalties determined by the PUC. Note that Maine allows electric providers to meet the RPS through averages over a period of two or more years. (A provider that does not satisfy the RPS during an annual period, but meets at least 20% of the portfolio requirement, may make up the gap during the next annual period so that the 30% requirement is met over a two-year average.)

Maine's portfolio requirement is the highest in the country, but the required percentage is in fact lower than the existing percentage of renewable energy used. While this may be a threat to existing renewable-energy sources, it has been proposed that the New England region develop a collective portfolio standard with tradable credits. Under such a scenario, Maine could sell the credits it earns from its excess renewable-energy generation to support the continued use of that renewable generation.

* This definition includes combined-heat-and-power (cogeneration) systems with a maximum capacity of 80 MW.

**Source:** http://www.dsireusa.org/

### *Life Cycle Costs in State Building Projects*

**Incentive Type:** State Construction Policy
**Policy Level:** State
**Province/Territory/State:** Maryland

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Photovoltaics, Wind, En Eff
**Applicable Sectors:** Construction, State_Sector
**Summary:**
The state of Maryland passed a law in 1990 requiring the Department of General Services to evaluate the use of active and passive solar energy systems and wind energy systems in its standards for determining building life-cycle costs.

**Source:** http://www.dsireusa.org/

### *Wood Heating Fuel Exemption*

**Incentive Type:** Sales Tax Exemption

**Policy Level:** State
**Province/Territory/State:** Maryland

**Eligible Renewable / Other Technologies:** Biomass
**Applicable Sectors:** Residential
**Summary:**
This statute exempts from the state sales tax all wood or "refuse-derived" fuel used for heating purposes. This exemption applies to residential use only.

**Source:** http://www.dsireusa.org/

### *State of Maryland - Clean Energy Procurement*

**Incentive Type:** Green Power Purchasing/Aggregation
**Policy Level:** State
**Province/Territory/State:** Maryland

**Eligible Renewable / Other Technologies:** Wind, Biomass, Landfill Gas, Municipal Solid Waste
**Applicable Sectors:** State_Sector
**Summary:**
Maryland's governor issued an executive order on March 13, 2001 calling for at least 6% of the electricity consumed by state-owned facilities to be generated from "green" energy sources, such as wind, solar, landfill gas, and other biomass resources. The order specifies that no more than 50% of the power procured to meet the requirement come from municipal solid waste facilities. There are no penalties for agencies that do not comply. As of December 2005, 3.7% of the total annual electricity consumption was from green power, primarily biogas generated by Consolidated Energy Solutions. Maryland's green power commitment is 50,000 MWh/annum.

The order also calls for a reduction in energy use in state buildings of 10% by 2005 and 15% by 2010, and requires all new energy-using products to carry the "Energy Star" label or "be in the top 25% of energy-efficiency when labeled products are unavailable." The Executive Order also makes it easier for the State to purchase alternative-fuel and low-emission vehicles for its fleet.

Furthermore, the Governor's Order establishes a 16-member Green Buildings Council to develop a High Efficiency Green Buildings Program which will guide the design, construction, operations and maintenance of all new state-built facilities, as well as the renovations of existing state owned and leased buildings.

This comprehensive green initiative is designed to help Maryland meet the goals of the Chesapeake 2000 Agreement, the landmark regional pact that requires aggressive new efforts by States in the mid-Atlantic to redirect land use and conservation policies to significantly reduce the release of noxious pollutants into the Bay.

In January 2002, the state sealed a deal to purchase 1.6 billion kWh of conventional and green electricity from Pepco Energy Services for more than 16 state agencies, including government department buildings, universities, and the Camden Yards Sports Complex. To learn more, please visit the Pepco Energy Services web site.

**Source:** http://www.dsireusa.org/

### *Personal Income Tax Credit for Green Buildings*

**Incentive Type:** Personal Tax Credit
**Policy Level:** State
**Province/Territory/State:** Maryland

**Eligible Renewable / Other Technologies:** Photovoltaics, Wind, En Eff, Fuel Cells

**Applicable Sectors:** Industrial, Commercial, MultiFamilyRes
**Summary:**
Passed by the Maryland legislature in 2001, this income tax credit applies to non-residential and residential multifamily buildings of at least 20,000 square feet that are constructed or rehabilitated to meet criteria set forth by the U.S. Green Building Council or other similar criteria.

Newly constructed buildings must be located on a qualified brownfields site, or in a priority funding area, and not in a wetlands area. Building rehabilitation projects are eligible if they do not increase the size of the building by 25%, or if they are located in a priority funding area.

Credits apply to three types of alternative energy sources: photovoltaics, wind turbines and fuel cells. Tax credits for alternate energy sources can only be claimed if they serve a green whole building, a green base building, or green tenant space.

The tax credit amounts are as follows:
– 20% of the incremental cost for building-integrated photovoltaics;
– 25% of the incremental cost for nonbuilding-integrated photovoltaics;
– 30% of the costs, including installation, for a fuel cell;
– 25% of the costs, including installation, for a wind turbine;
– 6% of the allowable costs for the construction of or rehabilitation to a green base building or green tenant space;
– 8% of the allowable costs for the construction or rehabilitation of a green whole building.
– Allowable costs cannot exceed $120 per square foot in the case of a whole building or base building and $60 per square foot in the case of green tenant space.

Credits will be allowed for amounts spent on or after July 1, 2001 and will be available for tax years beginning after December 31, 2002. Applicants must apply to the Maryland Energy Administration (MEA) to receive an initial credit certificate. This certificate will indicate the earliest taxable year that the credit may be claimed and an expiration date. Any unused credit may be carried forward and applied for succeeding taxable years for up to 10 years. There are some restrictions on eligibility, and there is an annual cap on the total number of credits allowed. These provisions are scheduled to expire on December 31, 2011.

**Source:** http://www.dsireusa.org/

### *Corporate Income Tax Credit for Green Buildings*

**Incentive Type:** Corporate Tax Credit
**Policy Level:** State
**Province/Territory/State:** Maryland

**Eligible Renewable / Other Technologies:** Photovoltaics, Wind, En Eff, Fuel Cells
**Applicable Sectors:** Industrial, Commercial, MultiFamilyRes
**Summary:** Passed by the Maryland legislature in 2001, this income tax credit applies to nonresidential and residential multifamily buildings of at least 20,000 square feet that are constructed or rehabilitated to meet criteria set forth by the U.S. Green Building Council or other similar criteria.

Newly constructed buildings must be located on a qualified brownfields site, or in a priority funding area, and not in a wetlands area. Building rehabilitation projects are eligible if they do not increase the size of the building by 25%, or if they are located in a priority funding area.

Credits apply to three types of alternative energy sources: photovoltaics, wind turbines and fuel cells. Tax credits for alternate energy sources can only be claimed if they serve a green whole building, a green base building, or green tenant space.

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– 25% of the costs, including installation, for a wind turbine;
– 6% of the allowable costs for the construction of or rehabilitation to a green base building or green tenant space;
– 8% of the allowable costs for the construction or rehabilitation of a green whole building.
– Allowable costs cannot exceed $120 per square foot in the case of a whole building or base building and $60 per square foot in the case of green tenant space.
Credits will be allowed for amounts spent on or after July 1, 2001 and will be available for tax years beginning after December 31, 2002. Applicants must apply to the Maryland Energy Administration (MEA) to receive an initial credit certificate. This certificate will indicate the earliest taxable year that the credit may be claimed and an expiration date. Any unused credit may be carried forward and applied for succeeding taxable years for up to 10 years. There are some restrictions on eligibility, and there is an annual cap on the total number of credits allowed. These provisions are scheduled to expire on December 31, 2011.

**Source:** http://www.dsireusa.org/

### *Solar Energy Grant Program*

**Incentive Type:** State Rebate Program
**Policy Level:** State
**Province/Territory/State:** Maryland

**Eligible Renewable / Other Technologies:** Active Water Heat, Solar Thermal Process Heat, Photovoltaics
**Applicable Sectors:** Commercial, Residential, Nonprofit, Local
**Summary:** Maryland's solar energy grant program, administered by the Maryland Energy Administration (MEA), provides financial incentives to homeowners, businesses, local governments and non-profit organizations that install solar water-heating systems or solar-electric (PV) systems. This program, which took effect in January 2005, replaced the state's expired "Clean Energy Incentives" tax credit for solar-energy equipment. The first round of program funding supported 44 projects.

The MEA began accepting applications for a second round of program funding on August 22, 2005 and will issue grants until all funds—$75,000 for the second round—are exhausted.

The Solar Energy Grant Program provides incentives as follows:
– The lesser of $3,000 or 20% of the cost for solar-electric (photovoltaic) equipment on residential property;
– The lesser of $5,000 or 20% of the cost for solar-electric (photovoltaic) equipment on non-residential property; and
– The lesser of $2,000 or 20% of the cost for solar water-heating equipment.
Requirements for the minimum size of a system eligible for funding follow the same guidelines as the U.S. Department of Energy's Million Solar Roofs Initiative. They are as follows:
– Solar water-heating systems for residential, school or public buildings: 20 square feet of collector area (or 1 kW equivalent)
– Commercial solar water-heating systems: 40 square feet of collector area (or 2 kW equivalent)– Residential photovoltaic system: 500 watts (0.5 kW); on and off-grid systems are eligible
– School, government and church solar-electric systems: 1 kW
– Commercial photovoltaic systems: 2 kW.
Solar water-heating collectors must meet the Solar Rating and Certification Corporation's (SRCC) OG-100 Certification.

PV system hardware must be in compliance with all applicable performance and safety standards, including: Underwriters Laboratories (UL) 1741, "Standard for Static Inverters and Charge Controllers for Use in Photovoltaic Systems" and UL 1703, "Standard for Safety: Flat-Plate Photovoltaic Modules and Panels." The system must be installed in compliance with applicable requirements of local electric codes and the National Electric Code (NEC). Utility interconnected (grid-tied) systems must be installed in compliance with IEEE Standard 929-2000, "Recommended Practice for Utility Interface of Photovoltaic Systems."

For an application and more information on the program, including a Q&A section, see the program web site.

**Source:** http://www.dsireusa.org/

### *Renewable Energy Portfolio Standard and Credit Trading*

**Incentive Type:** Renewables Portfolio Standard
**Policy Level:** State
**Province/Territory/State:** Maryland

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Landfill Gas, Hydro, Geothermal Electric, Municipal Solid Waste
**Applicable Sectors:** Utility, (Electricity Suppliers)
**Summary:** Note: While emergency regulations are currently in effect, identical to those written in HB 869 (2004), final regulations are still being developed and are expected to be released later this fall. Check back for updates, or visit the Maryland PSC web site for more information as it is made available.

Maryland's Renewable Energy Portfolio Standard and Credit Trading Act, enacted May 26, 2004, requires utilities to use renewable-energy resources to generate a minimum portion of their retail sales within a specific timeframe. Under terms of Maryland's renewables portfolio standard (RPS), eligible renewable-energy resources are divided into two tiers.

Tier 1 resources include solar, wind, qualifying biomass (excluding sawdust), methane from the anaerobic decomposition of organic materials in a landfill or wastewater treatment plant, geothermal, ocean (including energy from waves, tides, currents and thermal), fuel cells powered by methane or biomass, and small hydroelectric plants (less than 30 megawatt capacity and generated at a dam in existence as of January 1, 2004). Tier 2 resources include hydroelectric and waste-to-energy facilities (in existence as of January 1, 2004) and poultry-litter incineration.

In 2006, the state's electricity suppliers must provide 1% of retail electricity sales in the state from Tier 1 renewables and 2.5% from Tier 2 renewables. The Tier 1 standard increases by 1% every two years through 2018, while the 2.5% standard from Tier 2 remains constant during this time. In 2019 and later, the Tier 1 standard increases to 7.5% and the Tier 2 requirement sunsets, dropping to 0%.

The legislation directs the Maryland Public Service Commission to establish a renewable-energy credit (REC) system that allows electric suppliers to buy and sell credits as necessary to comply with the RPS.

The following provisions also apply:
– Tier 1 resources are eligible for compliance regardless of when the facility was placed in service;
– Suppliers receive 200% credit for energy derived from solar resources;
– Through 2005, a supplier receives 120% credit toward meeting the standard for wind energy for new facilities (in service 1/1/04 or later), and beginning in 2006 through 2008, a 110% credit is in effect;

– Through 2008, suppliers receive 110% credit toward meeting the standard for energy derived from methane for new facilities (in service 1/1/04 or later); and
– Renewable-energy credits generated by customer-sited renewable energy systems are eligible for RPS compliance.
A supplier who fails to meet renewable portfolio standard requirements must pay into the Maryland Renewable Energy Fund at a rate of 2.0¢/kWh for Tier 1 shortfalls and 1.5¢/kWh for Tier 2 shortfalls. For industrial process load, compliance fees will be assessed at rates between 0.8¢/kWh and 0.2¢/kWh for Tier 1 shortfalls. There will be no compliance fees assessed on industrial process load for Tier 2 shortfalls. The Renewable Energy Fund, also established by this legislation, will be administered by Maryland Energy Administration and will be used to make loans and grants to support the creation of new Tier 1 renewable-energy sources in the state.

Electricity suppliers may recover compliance fees from ratepayers if:
– Payment would cost less than purchasing the required Tier 1 energy;
– There are insufficient Tier 1 sources available; or
– A wholesale electricity supplier defaults or fails to deliver renewable-energy credits under a supply contract that had been approved by the Maryland Public Service Commission. Cost-recovery surcharges must be disclosed to consumers and cannot include the costs for a power purchase contract.

**Source:** http://www.dsireusa.org/

### *Interconnection Standards*

**Incentive Type:** Interconnection
**Policy Level:** State
**Province/Territory/State:** Maryland

**Eligible Renewable / Other Technologies:** Photovoltaics, Wind, Biomass
**Applicable Sectors:** Commercial, Residential, Fed_Govt, Local, Schools, State_Sector
**Summary:** In 1997, Maryland enacted legislation allowing net metering for residents and schools with qualified solar-energy systems up to 80 kilowatts (kW). In May 2004, the rules were expanded to include wind turbines as an eligible technology and to extend net metering to commercial facilities. These revisions took effect October 1, 2004. The statewide limit to net metering capacity is 34.722 MW, equivalent to 0.2% of the state's adjusted peak-load forecast for 1998. In April 2005, the rules were again expanded, by including biomass as an eligible resource, and by increasing the maximum system capacity from 80 kW to 200 kW. Furthermore, under the April 2005 revisions, generators may petition the Maryland Public Service Commission (PSC) to allow interconnection and net metering for systems with a maximum capacity of 500 kW. The PSC has the authority to approve interconnection and net metering for systems up to 500 kW if the commission finds that the project meets public safety and reliability requirements, and that the project is in the public interest. The most recent revisions take effect October 1, 2005.

The statute requires utilities to install any necessary additional meters and to offer interconnection at no additional charge or increased electricity rate. In addition, customers with solar or wind systems that meet all applicable safety and performance standards established by the National Electrical Code, the Institute of Electrical and Electronics Engineers, and Underwriters Laboratories, as well as other requirements established by the Maryland Public Service Commission, may not be required by a utility to install additional controls, perform or pay for additional tests, or purchase additional liability insurance.

**Source:** http://www.dsireusa.org/

### *Maryland - Net Metering*

**Incentive Type:** Net Metering Rules
**Policy Level:** State

**Province/Territory/State:** Maryland

**Eligible Renewable / Other Technologies:** Photovoltaics, Wind, Biomass
**Applicable Sectors:** Commercial, Residential, Fed_Govt, Local, Schools, State_Sector
**Summary:** In 1997, Maryland enacted legislation allowing net metering for residential customers and schools with qualified solar-energy systems up to 80 kilowatts (kW) in capacity. In May 2004, the rules were expanded by including wind as an eligible technology, and by extending eligibility to commercial facilities. These revisions took effect October 1, 2004. In April 2005, the rules were again expanded—by including biomass as an eligible resource, and by increasing the maximum system capacity from 80 kW to 200 kW. Furthermore, under the April 2005 revisions, generators may petition the Maryland Public Service Commission (PSC) to allow net metering for systems with a capacity of up to 500 kW. The PSC has the authority to approve net metering for systems up to 500 kW if the commission finds that the project meets public safety and reliability requirements, and that the project is in the public interest. The most recent revisions took effect October 1, 2005.

The statewide limit on net-metering capacity is 34.722 MW, equal to 0.2% of the state's adjusted peak-load forecast for 1998. Utilities must install a single, bi-directional meter at a customer's facility (if necessary), and must offer net metering at no additional charge (including standby charges) or increased electricity rate. Customers with a renewable-energy system that meets all applicable safety and performance standards established by the National Electrical Code, the Institute of Electrical and Electronics Engineers, and Underwriters Laboratories—and any other PSC requirements—may not be required by utilities to install additional controls, to perform or pay for additional tests, or to purchase additional liability insurance.

There is currently no statewide standard for the treatment of net excess generation. The Maryland State Energy Administration is working with the PSC to develop a standard tariff outlining the details of the state's net-metering program and the standard contract for utilities and customers.

**Source:** http://www.dsireusa.org/

### *Special Property Assessment*

**Incentive Type:** Property Tax Exemption
**Policy Level:** State
**Province/Territory/State:** Maryland

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat
**Applicable Sectors:** Industrial, Commercial, Residential
**Summary:** Title 8 of Maryland’s property tax code allows for a state-wide special assessment provision for solar heating and cooling systems. Under this provision, such systems are to be assessed at not more than the value of a conventional system for property tax purposes if no conventional system exists in the building.

If a solar energy heating and cooling system is installed in addition to a conventional system in a building, the combined system may be assessed at not more than the value of the conventional system—essentially a full exemption for the solar energy equipment.

**Source:** http://www.dsireusa.org/

### *Solar Access*

**Incentive Type:** Solar Access Law/Guideline
**Policy Level:** State
**Province/Territory/State:** Maryland

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Photovoltaics
**Applicable Sectors:** Industrial, Commercial, Residential, Fed_Govt, Nonprofit, Local, Construction, State_Sector
**Summary:** Maryland's construction code prohibits covenants restricting installation of solar collection panels. A restrictive covenant regarding land use, which became effective after July 1, 1980, may not impose or act to impose unreasonable limitations on the installation of solar collection panels on the roof or exterior walls of improvements. This statute does not apply to a restrictive covenant on historic property that is listed by the Maryland Inventory of Historic Properties or by the Maryland Register of Historic Properties.

**Source:** http://www.dsireusa.org/

### *State Agency Loan Program*

**Incentive Type:** State Loan Program
**Policy Level:** State
**Province/Territory/State:** Maryland

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Solar Thermal Electric, Photovoltaics, Wind
**Applicable Sectors:** State_Sector
**Summary:**
The State Agency Loan Program (SALP) was established in 1991 using funds from the Energy Overcharge Restitution Fund. Through this revolving loan program, the Maryland Energy Administration provides loans to state agencies for cost-effective energy efficiency improvements in state facilities.

Approximately $1 million in new loans are awarded each fiscal year. State agencies pay zero interest with a one percent administration fee. Their repayments are made from the agency's fuel and utility budget, based on the avoided energy costs of the project.

In fiscal year 2005, capitalized with national oil overcharge funds and currently self-sustaining, SALP loaned State agencies $1,500,000 for energy improvements which will save an estimated $267,114 annually. Since its inception, SALP has funded over $9 million to upgrade lighting, controls, boilers, chillers and other energy equipment.

SALP provides a financing mechanism useful to agencies in meeting the requirements of Executive Order 01.01.2001.02 "Sustaining Maryland's Future with Clean Power, Green Buildings and Energy Efficiency."

**Source:** http://www.dsireusa.org/

### *Fuel Mix and Emissions Disclosure*

**Incentive Type:** Generation Disclosure
**Policy Level:** State
**Province/Territory/State:** Maryland

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Landfill Gas, Hydro, Municipal Solid Waste
**Applicable Sectors:** Utility
**Summary:**
As part of its 1999 electric utility restructuring legislation, Maryland included provisions for the disclosure of fuel mixes and emissions by all retail suppliers of electricity in the state. Beginning July 1, 2000, this information must be provided in a standard format to customers every six months, disclosing the fuel mix and emissions data. Fuel mix data should be based on annually

updated historical data. Emissions information must be provided by electric suppliers on a pound per megawatt-hour basis, of pollutants identified by the Commission, or disclosure of a regional fuel mix average. In addition, each energy supplier must submit an annual report to the Maryland Public Service Commission disclosing the annual totals for fuel mix and emissions and whether it had violated any of the terms of agreement for the last year.

**Source:** http://www.dsireusa.org/

### *Community Energy Loan Program*

**Incentive Type:** State Loan Program
**Policy Level:** State
**Province/Territory/State:** Maryland

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Solar Thermal Electric, Photovoltaics, En Eff
**Applicable Sectors:** Nonprofit, Local, Schools, Hospitals
**Summary:**
The Community Energy Loan Program (CELP), originally funded in 1989 with $3.2 million in seed money, provides financing for local governments and nonprofit organizations in the State to identify and implement energy conservation improvements. CELP allows borrowers to use the cost savings generated by the improvements as the primary source of revenue for repaying the loans.

Loans under the Program can be made to eligible nonprofits, including hospitals and private schools, or local governments, including public school systems and community colleges. (Eligible applicants may not have a mission that is primarily religious or fraternal.) The program is open continuously throughout the fiscal year to accept applications, and CELP staff is available to work with applicants in completing the application forms and explaining program requirements. Currently, CELP funds approximately $1.5 million in new projects each fiscal year.

Projects considered for funding can include those that: save energy; are performed in a building owned or leased by the applicant; are installed in a building that has existing heating and/or cooling systems; and have a simple payback of seven years or less. All costs necessary for implementing an energy conservation project can be considered for funding, including the technical assessment, reasonable fees for special services, plans and specifications, and the actual costs of construction.

Up to forty percent (40%) of each year's allocation, or approximately $600,000, is available per loan. The interest rate is negotiated by individual loan and is guaranteed to be below market rate. The current average interest rate is approximately 3%.

Repayments and interest earned by the fund will allow the program to continue making loans for the foreseeable future. As of September 2005, 49 loans have been made, providing over $12.1 million for energy efficiency improvements and generating an annual savings of $2.4 million.

Applications for the Community Energy Loan Program are available online at <http://www.energy.state.md.us/programs/government/communityenergyloan_app.htm>.

**Source:** http://www.dsireusa.org/

### *Local Option - Corporate Property Tax Credit*

**Incentive Type:** Property Tax Exemption
**Policy Level:** State

**Province/Territory/State:** Maryland

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics, Solar, En Eff, Geothermal Heat Pumps
**Applicable Sectors:** Industrial, Commercial
**Summary:**
Title 9 of Maryland's property tax code creates an optional property tax credit for corporations. This statute allows counties to provide a credit against the corporate property tax for buildings equipped with a solar, geothermal or qualifying energy conservation device used to heat or cool a structure. Under this provision, counties determine the amount of the credit and are given the freedom to define solar, geothermal, and energy conservation devices. Counties also determine the length of time that the credit may be available up to a maximum of three years. (It should be noted that the statute includes the city of Baltimore in this provision because Baltimore, the city, has its own jurisdiction as a county.) Maryland's local option tax incentive is unique because it is applied in the form of a credit—not an exemption or exclusion as in the case of all other property tax programs.

Title 8 of Maryland's tax code includes a state-wide special assessment provision for solar heating and cooling systems. Under that provision, such systems are to be assessed at not more than the value of a conventional system for property tax purposes.

**Source:** http://www.dsireusa.org/

### *Residential Solar and Efficiency Tax Credit - Corporate*

**Incentive Type:** Corporate Tax Credit
**Policy Level:** State
**Province/Territory/State:** Massachusetts

**Eligible Renewable / Other Technologies:** Active Water Heat, En Eff
**Applicable Sectors:** Commercial
**Summary:** Massachusetts offers owners of residential property a 30% tax credit for certain energy efficient items purchased on or after November 1, 2005, and before April 1, 2006. The credit, which may be taken against the state's personal income tax or the state's corporate income tax, may not exceed $600 for a single-family dwelling or $1,000 for a multi-unit dwelling. Joint owners of a residential property must share any credit available in the same proportion as their ownership interest.

Eligible items include (but are not limited to) home insulation; new window installations; advanced programmable thermostats; fuel-efficient furnaces, boilers, oil, gas, propane or electric heating systems; solar domestic hot water systems; materials for insulation or sealing of a duct, attic, basement, rim joint or wall; and pipe insulation for heating systems.

The credit may be taken against state's personal income tax in taxable year 2005 or 2006, regardless of when the purchase or purchases were made. The amount of the credit may not exceed the total tax owed for the relevant taxable year. If the amount of the credit exceeds the total tax due for the taxable year in which the credit is taken, the extra amount may be carried over and applied to the next taxable year.

The credit may be taken against the state's corporate income tax in the taxable year 2005 or 2006, in which any qualifying purchase was made. The amount of the credit may not exceed the total tax owed for the relevant taxable year. If the amount of the credit exceeds the total tax due for the fiscal year in which the credit is taken, the extra amount may be carried over and applied to the next taxable year.

**Source:** http://www.dsireusa.org/

### *Interconnection Standards*

**Incentive Type:** Interconnection
**Policy Level:** State
**Province/Territory/State:** Massachusetts

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Other DG, Biomass, Landfill Gas, Hydro, Geothermal Electric, Municipal Solid Waste, Cogeneration, Fuel Cells
**Applicable Sectors:** Industrial, Commercial, Residential, Fed_Govt, Nonprofit, Local, Schools, State_Sector
**Summary:** Massachusetts's Interim Uniform Interconnection Standards apply to all distributed generation operating in the state, including renewables. These rules were ordered by the Massachusetts Department of Telecommunications and Energy (DTE), the state's primary electric regulatory body, and developed by the Massachusetts Distributed Generation Collaborative, which was established by the DTE. In February 2004, the DTE issued the Interim Uniform Interconnection Standards based on the Collaborative's recommendations. The DTE required all regulated utilities to file tariffs in compliance with these rules and requested that the Collaborative evaluate the performance of these rules over an additional two-year period. The Collaborative submitted its first annual report to the DTE in May 2005, and has developed an interconnection guide to help customers navigate the interconnection process.

In October 2002, the DTE ordered the creation of the Collaborative—a combination of the state's utilities and DG stakeholders—to develop interconnection standards. The Collaborative's work encompasses all sizes of DG on both radial and secondary network systems. (The issue of interconnection to network systems is particularly important in Massachusetts because network systems are used in dense urban areas such as Boston.) The Collaborative's final report to the DTE, issued in March 2003, included detailed process narrative, timeframes, a fee structure, an alternative dispute resolution process, interconnection requirements, a mechanism for tracking interconnections experience over time, and an application form. Massachusetts's rules include a screening process much like what is in place in California and Ohio.

For small renewable systems and larger DG systems, technical requirements are based on the national safety standards IEEE 1547, IEEE 929 and UL 1741. A manual external disconnect switch may be required at the discretion of the utility. The rules also specify that utilities will collect and track information on the interconnection process; this information will be used in revising and updating the standards.

The standard interconnection tariff developed by the Collaborative served as the basis for each utility's tariff. The tariff generally follows the structure set forth in consensus interconnection documents filed by stakeholders in the federal docket pertaining to FERC's Advance Notice of Proposed Rulemaking (ANOPR) on standard generator interconnection, issued in 2002.

The standard tariff carves out for special simplified treatment small IEEE-compliant, inverter-based interconnections less than 10 kW. For these systems, there are no fees for the interconnection approval process, and applications must be processed within 15 days. However, if the proposed interconnection is on a distribution network circuit, the utility may charge a $100 fee to review the network protector's interaction with the system.

Other interconnections can either qualify for "expedited" interconnection or will have to undergo "standard" interconnection review. Under the expedited interconnection procedures, both the timeframes and fees to complete the interconnection are limited. Fees are set at $3 per kW of generator capacity, starting at $300 and with a maximum of $2,500.

Collaborative members adopted the idea of certification of the generator as a prerequisite to expedited interconnection approval. The Collaborative noted that both California and New York have listed generators (and interconnection equipment) certified for interconnected use. The rules therefore allow equipment compliant with IEEE 1547 and UL 1741 to be certified without the need for type testing. A registry of approved equipment will be maintained by the Massachusetts Division of Energy Resources.

The Collaborative is continuing to evaluate the performance of these standards. In particular, the group is addressing the issues of network interconnection, distribution planning benefits, and relationships between the state's standards and other regulations. Collaborative meetings have been held throughout 2004 and 2005, and will continue through 2006. The Massachusetts Technology Collaborative, sponsor of the DG Collaborative, hosts and regularly updates information on its web site regarding DG Collaborative meetings, proceedings and related resources.

**Source:** http://www.dsireusa.org/

### *Massachusetts - Net Metering*

**Incentive Type:** Net Metering Rules
**Policy Level:** State
**Province/Territory/State:** Massachusetts

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Hydro, Geothermal Electric, Municipal Solid Waste, Cogeneration, Fuel Cells
**Applicable Sectors:** Industrial, Commercial, Residential
**Summary:** The Massachusetts net metering program was originally ordered by the Department of Public Utilities through 220 Code of Massachusetts Regulation, Section 8.04(2)(C), in 1982. In 1997, the Department of Telecommunications and Energy amended the net metering program through 220 Code of Massachusetts Regulation, Section 11.04(7)(C). Originally, qualifying facilities with a generating capacity of 30 kW or less were eligible for net metering and excess generation was to be purchased at the utility's avoided cost. The 1997 amendments increase the allowable capacity to 60 kW or less and stipulate that any net energy generated by the qualifying facility during the course of a month be credited at the average monthly market rate to the next month's bill.

Distribution Companies are prohibited from imposing special fees on net metering customers, such as backup charges and demand charges, or additional controls, or liability insurance, as long as the generation facility meets the interconnection standards and all relevant safety and power quality standards.

**Source:** http://www.dsireusa.org/

### *Alternative Energy and Energy Conservation Patent Exemption (Corporate)*

**Incentive Type:** Corporate Deduction
**Policy Level:** State
**Province/Territory/State:** Massachusetts

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics, Wind, En Eff, Biomass, Hydro, Renewable Transportation Fuels, Geothermal Electric, Geothermal Heat Pumps, Municipal Solid Waste, Fuel C
**Applicable Sectors:** Commercial
**Summary:**
Massachusetts offers corporate excise tax deductions for any income received from the sale of or royalty income from a patent that is deemed beneficial for energy conservation or alternative

energy development. Whether the patent is eligible is determined by the Commissioner of Energy Resources. This deduction is unique among incentives in that it targets patents and not simply real property.

**Source:** http://www.dsireusa.org/

### *Small Renewables Initiative Rebate*

**Incentive Type:** State Rebate Program
**Policy Level:** State
**Province/Territory/State:** Massachusetts

**Eligible Renewable / Other Technologies:** Photovoltaics, Wind
**Applicable Sectors:** Industrial, Commercial, Residential, Local, Schools, Institutional, MultiFamilyRes
**Summary:** Note: As of September 29, 2005, Block 1 of the Small Renewable Initiative (SRI) was fully allocated. Block 2 (second $1,000,000) was approved on October 28, 2005.

Through its Small Renewables Initiative, the Massachusetts Technology Collaborative (MTC) offers rebates of up to $50,000 for design & construction of customer-sited renewable energy projects. MTC is the administrator of the Massachusetts Renewable Energy Trust, the state's clean energy fund. Eligible technologies include micro-hydroelectric, solar photovoltaic (PV), and wind electric systems. The goal of the Small Renewables Initiative is to support the installation of 400 to 500 systems statewide.

The projects must be located at residential, commercial, industrial, or institutional facilities that are connected to one of the investor-owned electric distribution utilities in Massachusetts—Fitchburg Gas and Electric Light (Unitil), Massachusetts Electric (National Grid), Nantucket Electric (National Grid), NSTAR Electric, or Western Massachusetts Electric.

These rebate awards may be used for installations on existing buildings (retrofits) or in conjunction with new construction/major renovation/addition projects. The applicant may be a public or a private entity but must be the facility owner or occupant, and must be the electric utility customer of record. Greater than 90% of the renewable energy produced must be consumed on site over the course of a typical year. Applicants must be pre-approved prior to installation.

The incentive level for each project will be determined on an incentive-per-watt of renewable energy capacity basis. The Funding Block 2 base incentive amount for each technology is as follows:

– Solar PV: $2.75 per watt (DC)
– Wind: $2.75 per watt (DC)
– Micro-hydroelectric: $4 per watt (AC)

The incentive-per-watt can be increased by $0.10/W to $2.50/W by adding features to a particular project. Features and technology applications that qualify for higher rebate levels include:

– MA-manufactured components
– Public Buildings
– Economic Target Area
– Low-income / Affordable Housing
– Back-up for Critical Loads
– Building-Integrated PV

Also, for new construction projects that include high performance design features that meet LEED; Collaborative for High Performance Schools (CHPS); Energy Star; or equivalent standards, an additional incentive-per-watt is available.

Rebates for residential PV installations are limited to an amount based upon a maximum system capacity of 3.5 kW per household, and non-residential projects are limited to a system capacity of 10 kW. Applicants may install residential systems larger than 3.5 kW or non-residential systems larger than 10 kW, but MTC will not co-fund anything above these limits.

The PV incentive will decline by $0.25/kW in each subsequent block of funding. Funding levels for wind and micro-hydro may be adjusted as well.

Applicants will be required to install revenue quality meters on the systems to record the electrical production. The production must be reported monthly to the MTC Production Tracking System (PTS) for a minimum of one year after installation.

A unique feature among renewable energy rebate programs is this initiative's requirement that applicants document the steps taken within the previous four years to improve energy efficiency and to manage electricity consumption through participation in utility-sponsored energy efficiency programs, installation of energy efficient equipment, and/or other energy efficiency investments. Alternatively, the applicant may attest that these energy efficiency requirements will be fulfilled within one year of installation of the renewable energy measures.

Ten percent (10%) of the rebate will be withheld at the time of installation. The 10% retained will be released as a production rebate after completion of a minimum of 12 months of production reporting to the PTS and, if applicable, completion of the energy efficiency requirements.

**Source:** http://www.dsireusa.org/

### *Renewable Energy State Income Tax Credit*

**Incentive Type:** Personal Tax Credit
**Policy Level:** State
**Province/Territory/State:** Massachusetts

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Photovoltaics, Wind
**Applicable Sectors:** Residential
**Summary:**
This statute, which was enacted in 1979, provides a 15% credit against the state income tax for the cost of a renewable energy system (including installation) installed on an individual's primary residence. The maximum limit to the credit is $1,000 and can be carried over in the case that the credit is greater than one's income tax liability in one year. Eligible technologies include solar thermal, solar water and space heat, photovoltaics, wind and hydro systems.

Massachusetts Tax Form Schedule EC can be downloaded from the web site listed above.

**Source:** http://www.dsireusa.org/

### *Renewable Energy Equipment Sales Tax Exemption*

**Incentive Type:** Sales Tax Exemption
**Policy Level:** State
**Province/Territory/State:** Massachusetts

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Photovoltaics, Wind, Geothermal Heat Pumps

**Applicable Sectors:** Residential
**Summary:**
This statute exempts from the state sales tax solar, wind, and heat pump systems and all related equipment. This exemption is limited to systems which will be used in an individual's principal residence and is not available to commercial users.

Massachusetts Tax Form ST-12 can be downloaded form the web site listed above. The purchaser completes the form and presents it to the vendor from which the products are to be purchased.

**Source:** http://www.dsireusa.org/

### *Renewable Portfolio Standard*

**Incentive Type:** Renewables Portfolio Standard
**Policy Level:** State
**Province/Territory/State:** Massachusetts

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Landfill Gas
**Applicable Sectors:** Utility
**Summary:** As part of its 1997 electric utility restructuring legislation, Massachusetts created the outlines for a renewable portfolio standard (RPS). In April 2002, the Massachusetts Division of Energy Resources (DOER) released its final regulations for the RPS which require all retail electricity providers in the state to utilize new renewable energy sources for at least 1% of their power supply in 2003, increasing to 4% by 2009 (see schedule below).

Eligible new renewables include solar; wind; ocean thermal, wave, and tidal; fuel cells using renewable fuels; landfill gas; and low emission, advanced technology biomass.* To qualify as a new renewable resource, systems must have been installed after December 31, 1997. Systems that meet all qualifications but were installed before December 31, 1997, may qualify as a new renewable generation unit under the "Vintage Waiver" provision. The portion of electrical energy output of qualifying vintage units is that amount greater than the average historical generation rate from 1995-1997.

Compliance Dates for New Renewables:
– 1.0% by 2003
– 1.5% by 2004
– 2.0% by 2005
– 2.5% by 2006
– 3.0% by 2007
– 3.5% by 2008
– 4.0% by 2009
– an additional 1.0% each year afterward until DOER ends additional requirements

Electricity suppliers can alternatively meet compliance by submitting Alternative Compliance Payment (ACP) to the Massachusetts Technology Park Corporation, which administers the state's Renewable Energy Trust. The ACP is announced yearly on the DOER web site and rises according to inflation. The adjusted rate for 2005 ACPs has been determined to be $53.19 per MWh. The ACP was $51.41/MWh in 2004.

Annual compliance reports are available on the DOER web site.

* In October 2005, the DOER clarified that energy generated by "retooled" pre-1998 biomass plants is ineligible for RPS compliance. However, the DOER noted that retooled plants may

qualify for RPS compliance under the "Vintage Waiver" provision, by which only the energy output in excess of the plant's historical generation rate qualifies as "new renewable generation."

**Source:** http://www.dsireusa.org/

### *Fuel Source and Emissions Disclosure*

**Incentive Type:** Generation Disclosure
**Policy Level:** State
**Province/Territory/State:** Massachusetts

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Landfill Gas, Hydro, Geothermal Electric, Municipal Solid Waste, Cogeneration, Fuel Cells
**Applicable Sectors:** Utility
**Summary:** As part of its 1997 electric utility restructuring legislation, Massachusetts mandates the disclosure of fuel mixes and emissions to end-use customers. In February 1998, the Massachusetts Department of Telecommunications and Energy (DTE) issued final rules (220 CMR 11.06) requiring electric retailers to provide customers with a standard disclosure label containing information on price, fuel mix, emissions, and labor characteristics of generating sources prior to service, with the first billing statement, and on a quarterly basis, beginning September 1, 1998. Suppliers must also issue notices in all advertisements stating that disclosure labels are available upon request. Annual reports are due to the DTE containing "statements of verification by the Independent System Operator (ISO) or an independent auditor."

Supply mix information must be based on market settlement data or equivalent data provided by the ISO available for the most recent one-year period. At least the following fuel sources must be separately identified on the label: biomass; coal; hydro-large; hydro-small; imports; municipal trash; natural gas; nuclear; oil; other renewable resources (including fuel cells utilizing renewable fuel sources, landfill gas, and ocean thermal); solar; and wind. Data on carbon dioxide, nitrogen oxides, and sulfur dioxide emissions must be presented in a format comparing them to the regional average. Electricity providers are also required to report the percentage of power generated from sources that have union contracts with their employees and the percentage generated from sources that use replacement labor during labor disputes.

On February 18, 2004, the DTE issued an order, D.T.E. 03-62-A, directing licensed competitive suppliers in Massachusetts to use the New England Generation Information System (NE-GIS) for the purposes of complying with the Information Disclosure Requirements. The NE-GIS was developed in order to provide suppliers throughout New England with an efficient means of demonstrating compliance with a variety of state policies and regulations, such as information disclosure requirements and renewable portfolio standards. Several other New England states are considering this approach as well. A Working Group was convened to develop recommendations for issues not resolved in the Order.

Visit the web site shown above for samples of disclosure labels.

**Source:** http://www.dsireusa.org/

### *Matching Grants for Communities*

**Incentive Type:** State Grant Program
**Policy Level:** State
**Province/Territory/State:** Massachusetts

**Eligible Renewable / Other Technologies:** Photovoltaics, PV Equipment, Educational Materials
**Applicable Sectors:** Government

**Summary:** The Clean Energy Choice program, launched in October 2004, enables Massachusetts consumers to pay an additional premium each month to support green power. When consumers choose to support clean-energy projects that qualify under the state's Renewable Portfolio Standard, the Massachusetts Technology Collaborative (MTC) will match those premiums with up to $2.5 million annually in matching grants. For every dollar of premium a consumer pays, MTC will provide up to $1.00 to the consumer's community for clean-energy projects and up to $1.00 for projects benefiting low-income citizens.

Massachusetts Electric and Nantucket Electric customers may participate through the companies' GreenUp program. Consumers not served by Massachusetts Electric or Nantucket Electric can make payments directly to a renewable-energy supplier. Premiums paid for certain Clean Energy Choice program offerings qualify for a federal tax deduction.

Grants may be used for the following renewable-energy projects:
– Educational materials and activities ($100 or more)
– Building analyses and improvements ($5,000 to $15,000)
– Portable solar panels with batteries (approximately $1,500)
– Solar lighting ($100 or more)
– Data acquisition equipment for a photovoltaic system ($2,500 to $10,000)
– Photovoltaic systems ($12,000 or more)
– Leverage towards funding from another Renewable Energy Trust program

Every three months, MTC will let each municipal government know the amount of matching funding for which it is eligible. The local community can either decide to use the funding immediately or save it until more money has accumulated in the community’s account with MTC. Communities may pool their funds with their neighbors for joint projects.

On June 30, 2005, MTC will award additional clean-energy grant dollars to every town or city where at least 3% of households have signed up for Clean Energy Choice. A $50-per-household one-time bonus grant will be awarded to every Massachusetts city or town where at least 3% of all households meet either of the following requirements:
– The household has been enrolled in Clean Energy Choice since April 1, 2005, or earlier; or
– The household has purchased $50 in New England Wind renewable-energy certificates by June 30, 2005.

The MTC administers the Renewable Energy Trust Fund, which is the state's public benefits fund. The Renewable Energy Trust Fund supports this grant program.

**Source:** http://www.dsireusa.org/

### *Solar Access Laws*

**Incentive Type:** Solar Access Law/Guideline
**Policy Level:** State
**Province/Territory/State:** Massachusetts

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics
**Applicable Sectors:** Industrial, Commercial, Residential, Fed_Govt, Nonprofit, Local, Schools, State_Sector
**Summary:** Solar access provision in the General Laws of Massachusetts allows for the creation of voluntary solar easements to protect solar exposure and authorizes zoning rules that prohibit unreasonable infringements on solar access. Similar to solar easement provisions in many other states, the Massachusetts solar easement allows for the voluntary creation of solar access contracts, but does not make solar access an automatic right. In addition, the statutes allow for communities to authorize zoning boards to issue permits creating solar rights. And finally,

Massachusetts prohibits "any provision in an instrument relative to the ownership or use of real property which purports to forbid or unreasonably restrict the installation or use of a solar energy system... or the building of structures that facilitate the collection of solar energy."

**Source:** http://www.dsireusa.org/

### *Local Property Tax Exemption*

**Incentive Type:** Property Tax Exemption
**Policy Level:** State
**Province/Territory/State:** Massachusetts

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Solar Thermal Electric, Photovoltaics, Wind, Hydro
**Applicable Sectors:** Industrial, Commercial, Residential
**Summary:** Solar and wind powered devices utilized as a primary or auxiliary power system for the purpose of heating or otherwise supplying the energy needs of taxable property qualify for property tax exemptions for a period of 20 years from the date of installation.

Hydropower facilities are exempt from local property tax for a period of 20 years from the date of completion of the facility if construction commenced after January 1, 1979. To qualify for this exemption, the owner of the plant must agree to pay the host community at least 5% of the plant's gross income for the preceding calendar year in lieu of taxes. Eligible hydropower facilities include all real property relating to hydroelectric power generation (land and buildings) and tangible property (turbines and other equipment).

**Source:** http://www.dsireusa.org/

### *Solar and Wind Power Systems Excise Tax Exemption*

**Incentive Type:** Corporate Exemption
**Policy Level:** State
**Province/Territory/State:** Massachusetts

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics, Wind
**Applicable Sectors:** Industrial, Commercial
**Summary:** This statute exempts solar and wind energy systems that qualify for the Solar and Wind Power Excise Tax Deduction from the tangible property measure of the corporate excise tax. The exemption is in effect for the length of the system’s depreciation period.

The Massachusetts corporate excise is calculated by adding two different measures of tax: a net income measure, and either a property measure or a net worth measure, depending on whether the corporation is a tangible or an intangible property corporation. The income measure is calculated at a rate of 9.5 % of the corporation's taxable net income apportioned to the Commonwealth. The property/net worth measure is imposed at a rate of $2.60 per $1,000 of either a corporation's taxable Massachusetts tangible property or its taxable net worth.

**Source:** http://www.dsireusa.org/

### *Solar and Wind Energy System Excise Tax Deduction*

**Incentive Type:** Corporate Deduction
**Policy Level:** State
**Province/Territory/State:** Massachusetts

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics, Wind
**Applicable Sectors:** Industrial, Commercial
**Summary:** Businesses may deduct from net income, for state excise tax purposes, costs incurred from the installation of any "solar or wind powered climatic control unit and any solar or wind powered water heating unit or any other type unit or system powered thereby." The installation must be located in Massachusetts and used exclusively in the trade or business of the corporation. If any system or unit qualifies for this deduction, it will not be taxed under the tangible property measure of the corporate excise tax. The exemption is in effect for the length of the equipment's depreciation period.

The Massachusetts corporate excise is calculated by adding two different measures of tax: a net income measure, and either a property measure or a net worth measure, depending on whether the corporation is a tangible or an intangible property corporation. The income measure is calculated at a rate of 9.5 % of the corporation's taxable net income apportioned to the Commonwealth. The property/net worth measure is imposed at a rate of $2.60 per $1,000 of either a corporation's taxable Massachusetts tangible property or its taxable net worth.

**Source:** http://www.dsireusa.org/

### *Residential Solar and Efficiency Tax Credit - Personal*

**Incentive Type:** Personal Tax Credit
**Policy Level:** State
**Province/Territory/State:** Massachusetts

**Eligible Renewable / Other Technologies:** Active Water Heat, En Eff
**Applicable Sectors:** Residential, MultiFamilyRes
**Summary:** Massachusetts offers owners of residential property a 30% tax credit for certain energy efficient items purchased on or after November 1, 2005, and before April 1, 2006. The credit, which may be taken against the state's personal income tax or the state's corporate income tax, may not exceed $600 for a single-family dwelling or $1,000 for a multi-unit dwelling. Joint owners of a residential property must share any credit available in the same proportion as their ownership interest.

Eligible items include (but are not limited to) home insulation; new window installations; advanced programmable thermostats; fuel-efficient furnaces, boilers, oil, gas, propane or electric heating systems; solar domestic hot water systems; materials for insulation or sealing of a duct, attic, basement, rim joint or wall; and pipe insulation for heating systems.

The credit may be taken against state's personal income tax in taxable year 2005 or 2006, regardless of when the purchase or purchases were made. The amount of the credit may not exceed the total tax owed for the relevant taxable year. If the amount of the credit exceeds the total tax due for the taxable year in which the credit is taken, the extra amount may be carried over and applied to the next taxable year.

The credit may be taken against the state's corporate income tax in the taxable year 2005 or 2006, in which any qualifying purchase was made. The amount of the credit may not exceed the total tax owed for the relevant taxable year. If the amount of the credit exceeds the total tax due for the fiscal year in which the credit is taken, the extra amount may be carried over and applied to the next taxable year.

**Source:** http://www.dsireusa.org/

### *Alternative Energy and Energy Conservation Patent Exemption (Personal)*

**Incentive Type:** Personal Deduction

**Policy Level:** State
**Province/Territory/State:** Massachusetts

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics, Wind, En Eff, Biomass, Hydro, Renewable Transportation Fuels, Geothermal Electric, Geothermal Heat Pumps, Municipal Solid Waste, Fuel C
**Applicable Sectors:**
**Summary:** Massachusetts offers personal income tax deductions for any income received from the sale of or royalty income from a patent that is deemed beneficial for energy conservation or alternative energy development Whether the patent is eligible is determined by the Commissioner of Energy Resources. This deduction is unique among incentives in that it targets patents and not simply real property.

**Source:** http://www.dsireusa.org/

### *Renewable Energy Trust Fund*

**Incentive Type:** Public Benefits Fund
**Policy Level:** State
**Province/Territory/State:** Massachusetts

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Landfill Gas, Hydro, Municipal Solid Waste, Fuel Cells, Storage/conversion techs connected to renewables
**Applicable Sectors:** Government
**Summary:** As part of its November 1997 electric utility restructuring legislation, Massachusetts created public benefit funds for renewables, energy-efficiency programs and low-income assistance programs. The Renewable Energy Trust Fund is supported through a system benefits charge with total funding of roughly $150 million over a five-year period, with approximately $25 million per year for an undefined period beyond 2002. The charge levels were established as follows: three-quarters of one mill ($0.00075) per kWh in 1998; one mill ($0.001) per kWh in 1999; one and one-quarter mill ($0.00125) per kWh in 2000; one mill ($0.001) per kWh in 2001; three-quarters of one mill ($0.00075) per kilowatt-hour in 2002; and one-half of one mill ($0.0005) per kWh in each calendar year thereafter.

The Massachusetts Technology Collaborative (MTC), a quasi-public research and development entity, is administering the fund with oversight and planning assistance from the state's Division of Energy Resources (DOER) and an advisory board.

Qualifying renewables include: solar-electric (photovoltaic) and solar-thermal electric energy; wind energy; ocean thermal, wave or tidal energy; fuel cells; landfill gas; waste-to-energy which is a component of conventional municipal solid-waste plant technology in commercial use; naturally flowing water and hydroelectric; low-emission, advanced biomass power conversion technologies, such as gasification using such biomass fuels as wood, agricultural or food wastes, energy crops, biogas, biodiesel or organic refuse-derived fuel; and storage and conversion technologies connected to qualifying generation projects. Funding for waste-to-energy projects or facilities is limited to the Municipal Waste-to-Energy Grant Program. Funds may also be used for appropriate joint energy-efficiency projects and renewable-energy projects, as well as for investment by distribution companies in renewables and distributed-generation opportunities. Coal, oil and natural gas—except when used in fuel cells—and nuclear power are not considered renewable-energy supplies.

The Fund established six areas of programmatic focus with the following goals:

– Green Power - Add 750-1,000 MW of clean energy to the New England grid by 2009; remove barriers to the development of renewables projects; and facilitate the development of wind in the northeastern United States. The Green Power Program addresses the addition of power from renewable-energy sources such as wind, biomass, landfill gas and photovoltaic technology to New England's power distribution grid. One of the initiatives within the Green Power Program is the Solar-to-Market Program, which supports the development of the state's solar-energy cluster through innovative applications of solar generation technologies and related work to identify and address market barriers to increased use of these technologies in Massachusetts.
– Green Policy Development - Facilitate significant policy change which will advance the renewable-energy agenda, particularly in Massachusetts, but also at the federal level. A series of policy debates have been held or are ongoing within the state's Department of Telecommunications and Energy (DTE), the DOER and in renewable-energy public-policy venues concerning the Renewable Portfolio Standard (RPS), distributed generation as a possible solution to grid congestion, default service, climate change and other key issues.
– Renewable Energy Industry Support - Develop a comprehensive industry-support program to ensure that renewable-energy companies thrive and create new green jobs in Massachusetts.
– Education & Public Awareness - Educate the next generation through school curricula and museum resources; capitalize on the state's universities; deliver the message to industry and opinion leaders, and create a renewable-energy vision for Massachusetts citizens.
– Community Outreach & Siting - Work with communities and regions within the state to create the tools and resources needed to understand the renewable-energy environment. MTC engages in broad-based outreach and siting projects which provide forums, workshops, site visits and action plans to meet the state's needs. Currently, there are two regional efforts working to create such assistance in the Berkshires and on Cape Cod.
– Green Buildings and Schools - Develop new guidelines and standards to facilitate market transformation through demonstrations resulting in $2 billion of investment in new and renovated high-performance buildings.

To view a list of all funding opportunities, see <http://www.masstech.org/renewableenergy/solicitations/index.htm>. To access the Fund's 2004 annual report, see <http://www.mtpc.org/AgencyOverview/final_2_05_combo.pdf>.

Massachusetts' 1997 restructuring law also mandates five-year funding totaling roughly $500 million for energy-efficiency investments. The law created an energy-efficiency surcharge of 3.3 mills/kWh in 1998, declining to 2.5 mills/kWh by 2002 and 0.25 mill in subsequent years. The DOER is administering these energy-efficiency funds through the utilities. Of the energy-efficiency funds, 20% of the amount spent in any year is for low-income weatherization and education programs. A low-income weatherization and fuel assistance network will implement these programs. In addition, the restructuring law requires utilities to continue low-income financial assistance at current levels with the funds collected via a separate systems benefit charge.

In late 2004, the MTC launched a program to double the benefit of contributions to green-power programs operating in Massachusetts. Under this program, when citizens choose to pay a premium to support qualifying clean-energy facilities, the MTC will match customers' contributions dollar-for-dollar with up to $2.5 million annually in funds.

Total spending for efficiency and renewable programs is increased from pre-restructuring levels of about $84 million to about $200 million. Massachusetts has also established a renewable portfolio standard (RPS) through restructuring, and was the first state to have enacted both a portfolio standard and renewables fund.

**Source:** http://www.dsireusa.org/

### *Large Onsite Renewables Initiative Grants*

**Incentive Type:** State Grant Program

**Policy Level:** State
**Province/Territory/State:** Massachusetts

**Eligible Renewable / Other Technologies:** Photovoltaics, Wind, Biomass, Landfill Gas, Hydro, Fuel Cells
**Applicable Sectors:** Industrial, Commercial, Fed_Govt, Local, Schools, Institutional, State_Sector, MultiFamilyRes
**Summary:** The Massachusetts Technology Collaborative's (MTC) Large Onsite Renewables Initiative (LORI) provides Feasibility Study and Design & Construction Grants on a competitive basis to expand the production and use of distributed renewable energy technologies in Massachusetts. MTC is the administrator of the Renewable Energy Trust Fund, the state's public benefits fund for renewable energy.

Through LORI, $8.9 million in funding is available over the next three years to support renewable energy projects with greater than 10 kilowatts of nameplate capacity located at commercial, industrial, institutional, and public facilities that will consume more than 50% of the renewable energy generated by the project on-site. The applicant and project site must be a customer of a Massachusetts investor-owned electric distribution utility. The grant awards may be used to facilitate the installation of renewable energy projects on existing buildings (retrofits) or in conjunction with new construction/major renovation projects, including green buildings. Funding "Round 1" has $3.5 million available. Applications for "Round 1" are due January 12, 2006, but MTC plans to release rounds of LORI funding about twice a year.

Commercially available renewable energy technologies eligible for funding under this initiative include: wind energy, fuel cells (any fuel source), hydroelectric, photovoltaic, landfill gas, and low emission, advanced biomass power conversion technologies such as gasification using biomass fuels (e.g., wood, agricultural or food wastes, energy crops, biogas, biodiesel or organic refuse-derived fuel). All equipment (except for hydroelectric equipment) funded in part or in whole by MTC must be new. Refurbished hydroelectric equipment with warranties and service support options comparable to new equipment may be accepted subject to MTC approval.

LORI applicants may request funding in two activity areas: Feasibility Study Grants, and Design & Construction Grants:

Design & Construction Grants are calculated based on an incentive-per-watt of renewable energy capacity. A detailed matrix of incentive amounts based on various scenarios (e.g., supports critical load, part of a certified green building, building-integrated PV, etc.) for each technology is provided in the solicitation available from the program web site above. For example, the base incentive for photovoltaics is $2.75/W-DC. An additional $0.50/W is awarded if Massachusetts-manufactured components are used, and an additional $1.50/W is awarded for applications on public buildings. Other value-added scenarios are also possible.

Design grants are capped at the lesser of $75,000 or 75% of actual cost, and construction grants are capped at the lesser of $500,000 or 75% of actual costs. An MTC-funded Feasibility Study is not a prerequisite to apply for a Design & Construction Grant. However, MTC expects that feasibility work has been completed and submitted with the Design & Construction application.

Feasibility Grants are capped at $40,000 with cost-share of 20% or $5000, whichever is less. Note that this offering does **not** support the investigation of green building features, high performance design, or energy efficiency measures.

With limited exceptions, grant recipients must either: 1) have an energy audit performed on their site, or 2) demonstrate that an energy audit has been performed within the past four years by a certified energy manager or professional engineer. The recipients also may be required to document measures taken in response to the audit recommendations, and, if applicable, explain why certain recommendations were not undertaken.

LORI is a follow up to the Commercial, Industrial, & Institutional Initiative which provided $6 million in funding to projects similar to those eligible for this program.

**Source:** http://www.dsireusa.org/

### *Renewable Energy Credit (REC) Payment Options*

**Incentive Type:** Production Incentive
**Policy Level:** State
**Province/Territory/State:** Massachusetts

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Landfill Gas, Hydro
**Applicable Sectors:** Commercial, Nonprofit, Local, State_Sector
**Summary:** Through Round Two of the Massachusetts Green Power Partnership (MGPP), the Massachusetts Technology Collaborative (MTC) is offering to purchase renewable-energy certificates (RECs) and to provide other REC market price-risk hedging contracts to developers of eligible renewable-energy projects and to companies that purchase RECs from eligible facilities. This system of awards is designed to provide market price-risk protection for RECs generated by eligible projects, and therefore to encourage these generators and/or purchasers to enter into long-term contracts for commodity energy and RECs that, with MTC support, would result in a the financing of a project.

Under an RFP issued January 12, 2005, the MTC is offering the following types of REC contracts for terms of up to 10 years:

– REC purchase contracts, under which the MTC will purchase RECs from generators
– Put-option contracts, under which a generator or purchaser may require that the MTC purchase RECs from an eligible facility
– Price-collar contracts, under which a generator or purchaser receives a put option in return for an MTC call option

MTC intends to limit its collective commitments under selected Round Two projects to $15 million in present value, which, when invested with maturities close to the time MTC payments would be due, would cover up to $25 million in MTC purchase obligations for RECs. The MTC will re-sell RECs purchased through MGPP awards, thereby allowing MTC to further additional public purposes. Payment arrangements will vary by project.

MTC is most interested in proposals that:
– require no other financial support from MTC;
– are most likely to be successfully developed, permitted, financed and constructed by December 31, 2007 at the latest; and
– allow for the maximum leveraging of available MTC funds with commercial commitments from private parties to facilitate financing of new renewable energy supplies.

Corporations, general or limited partnerships, limited liability companies, non-profit organizations and governmental entities are eligible. There is a $250 application fee per project. Proposals are due March 18, 2005. The MTC anticipates that it will complete its evaluations and announce the proposals it has selected for contract negotiations before the end of June 2005. The MTC expects to complete contract negotiations with most proposers by the end of September 2005.

The MTC administers the Massachusetts Renewable Energy Trust Fund (RET), which was created by the Electric Utility Restructuring Act of 1997. The MTC's legislative mandate for the RET is to increase the supply of and demand for clean energy while expanding economic activity in the state's renewable-energy industry.

In May 2003, MTC issued an RFP in the first round of the MGPP. At the conclusion of Round One, the MTC awarded REC purchase and option contracts to developers of six different renewable energy projects (100 MW of capacity), with maximum MTC commitments of approximately $21 million in Present Value Exposure and $33 million in Nominal Exposure. As of January 2005, contracts had been executed with five of the six awardees.

For more detailed information on Round Two funding, visit the program web site and download the RFP.

**Source:** http://www.dsireusa.org/

### *Sustainable Energy Economic Development (SEED) Initiative*

**Incentive Type:** State Loan Program
**Policy Level:** State
**Province/Territory/State:** Massachusetts

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Landfill Gas, Hydro, Renewable Transportation Fuels, Municipal Solid Waste, Fuel Cells
**Applicable Sectors:** Industrial, Commercial
**Summary:** The Sustainable Energy Economic Development (SEED) Initiative, developed by the Massachusetts Technology Collaborative (MTC), provides funding to businesses seeking capital for developing new products, testing and improvement, and commercialization activities for eligible renewable-energy technologies. Under the third SEED solicitation, issued in November 2005, convertible loans ranging from $50,000 to $500,000 were offered on a competitive basis. A total of $2 million in funding was available to support Massachusetts-based companies that provide products or services related to energy derived from biomass, fuel cells, photovoltaics (PV), waves, tides, hydropower or wind.

The deadline for the November 2005 solicitation was January 13, 2006. Check the program web site or contact the MTC for information about future funding opportunities.

The SEED Initiative was developed by the Massachusetts Technology Collaborative (MTC), the administrator of the state's Renewable Energy Trust Fund (RET).

**Source:** http://www.dsireusa.org/

### *Community Energy Project Grants*

**Incentive Type:** State Grant Program
**Policy Level:** State
**Province/Territory/State:** Michigan

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Solar Thermal Electric, Photovoltaics, En Eff, Biomass, Renewable Transportation Fuels, Renewable Fuel Vehicles
**Applicable Sectors:** Nonprofit, Local, Schools, State_Sector
**Summary:** On an annual basis—usually in June—the Michigan Energy Office solicits proposals for community demonstration projects or education programs to help consumers better understand energy efficiency and renewable-energy options. Community Energy Project Grants are available to public and non-profit agencies.

The deadline for 2006 proposals was September 1, 2005. The 2006 round of grants will support solar-energy demonstrations; bioenergy, biofuels and bioproducts education; green-commuting projects, green-building projects; statewide energy conferences; and statewide energy events.

(PV systems must have a capacity of at least 1 kilowatt.) These grants cover a one-year period, from January 1, 2006, through December 31, 2006. The maximum individual award is $6,000; approximately 20 grants will be made. Cost share is not required.

Contact John Sarver at the Michigan Energy Office for a copy of the current request for proposals (RFP).

**Source:** http://www.dsireusa.org/

### *Interconnection Standards*

**Incentive Type:** Interconnection
**Policy Level:** State
**Province/Territory/State:** Michigan

**Eligible Renewable / Other Technologies:** Photovoltaics, Wind, Other DG, Biomass, Landfill Gas, Hydro, Municipal Solid Waste, Cogeneration, Fuel Cells
**Applicable Sectors:** Industrial, Commercial, Residential, Fed_Govt, Nonprofit, Local, Schools, State_Sector
**Summary:** Michigan's interconnection rules were issued in September 2003 in an order from the Michigan Public Service Commission (PSC) in Case U-13745, which addresses the interconnection of independent power projects. Regulated utilities were required by the PSC order to file interconnection procedures that are in compliance with the Commission's own interconnection standards. The PSC's rules, included in Exhibit A of the September 2003 PSC order, cover definitions, utility interconnection procedures, technical criteria, project applications, filing fees, interconnection deadlines, additional services provided by electric utilities, pre-certified equipment and waivers.

Specifically, the order includes the following provisions:

– Utility interconnection standards must specify technical, engineering and operational requirements that are suitable for the utility's distribution system. Filings must include requirements for the following capacity classifications: less than 30 kW; 30 kW or more, but less than 150 kW; 150 kW or more, but less than 750 kW; 750 kW or more, but less than 2 MW; 2 MW or more.
– Utilities must devise an application process and set a "reasonable deadline" to make an initial response to the application.
– Project developers must pay the relevant utility a filing fee of $0.50 per kW of project capacity, with a minimum fee of $100 and a maximum fee of $500. Utilities may not charge additional fees.
– Utilities must allow the interconnection of eligible projects within a specified amount of time following the approval of an application. Time limits range from two weeks to 18 weeks, depending on capacity.
– Utilities must state the conditions in which an engineering study, or physical construction or modification of the utility's distribution system is required to facilitate or complete an interconnection.
– Charges for engineering studies are possible, depending on system type and capacity.
– Utilities must include an up-to-date list of pre-certified types, makes and models of manufactured generating equipment.

Xcel, AEP and a coalition of other utilities operating in Michigan filed interconnection rules with the PSC in March 2004. The PSC approved each of these filings in August 2004.

**Source:** http://www.dsireusa.org/

### *Energy Efficiency Grants*

**Incentive Type:** State Grant Program

**Policy Level:** State
**Province/Territory/State:** Michigan

**Eligible Renewable / Other Technologies:** Active Water Heat, Photovoltaics, Wind, Solar, En Eff, Fuel Cells
**Applicable Sectors:** Commercial, Nonprofit, Local, Schools, State_Sector
**Summary:** The Michigan Public Service Commission (PSC) energy-efficiency grant program, funded by the state's Low-Income and Energy Efficiency Fund, supports the implementation of energy-efficiency projects and renewable-energy projects in the state. Businesses, non-profit organizations, government agencies and/or schools are eligible to apply.

Grants are awarded in three categories: (1) energy efficiency for low-income clients, (2) energy financial assistance to low-income clients, and (3) energy efficiency for all customer classes. The PSC has emphasized that this program does not provide any direct funding to homeowners or renters. Interested applicants should review currently available requests for proposals to ensure they qualify before contacting the PSC for additional information.

As a result of the most recent round of proposals, the PSC announced in June 2005 $6 million in awards to 11 organizations. Renewable-energy projects supported include solar, wind, anaerobic digesters, fuel cells and biofuel applications.

Contact the PSC for more information on potential future grant funding for energy efficiency and renewable energy projects.

**Source:** http://www.dsireusa.org/

### *Michigan - Net Metering*

**Incentive Type:** Net Metering Rules
**Policy Level:** State
**Province/Territory/State:** Michigan

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Landfill Gas, Hydro, Geothermal Electric, Municipal Solid Waste
**Applicable Sectors:** Industrial, Commercial, Residential, Fed_Govt, Nonprofit, Local, Schools, Tribal_Govt, Institutional, State_Sector, Agricultural
**Summary:** In March 2005, the Michigan Public Service Commission (PSC) approved a consensus agreement that implements a voluntary statewide net-metering program for a minimum of five years. The program covers all electric-generating technologies as provided in 2000 Public Act 141, which defines "renewable energy source" as "energy generated by solar, wind, geothermal, biomass, including waste-to-energy and landfill gas, or hydroelectric."* Customers may participate for at least 10 years after entering the program.

The maximum size of electric generators eligible for net metering is less than 30 kW, unless a utility voluntarily sets its limit at less than 150 kW (to match size categories established by the state's interconnection rules). Eligible systems are limited in size, not to exceed the customer's self-service needs. Non-dispatchable generation (e.g. solar and wind) must be sized not to exceed the customer's annual energy needs, measured in kilowatt-hours. Dispatchable systems shall be sized not to exceed the customer's capacity needs, measured in kilowatts. The application fees, procedures and requirements present in the state's interconnection rules also apply to net-metered systems. There is an overall program limit of 0.1% of each utility's peak load. Both single-meter and two-meter arrangements are allowed.

Under the agreement, net-metering participants will be credited for net excess generation (NEG) at the utility's retail price of generation. Any credits will be carried over to the next month, limited to a 12-month billing cycle; any credit remaining at the end of each 12-month billing cycle is

retained by the utility. The value of any generation credits retained by the utility will be used to offset program costs.

Significantly, in its March 2005 order the PSC deleted a provision from a previous version of the consensus agreement that would have granted ownership of renewable-energy credits (RECs) to the utilities. As a result, the issue of REC ownership is no longer addressed.

Each utility is required to report by June 30 of each year all data needed to monitor and evaluate its net-metering program for the previous 12 months. The data will be incorporated into the annual report to the PSC by the Michigan Renewable Energy Program (MREP) Collaborative working group. After the fourth year of the program, the MREP Collaborative will submit a report to the MPSC evaluating the program and making recommendations for the future of net metering in Michigan.

The following utilities have signed the consensus agreement: Alpena Power Company, Indiana Michigan Power Company, Edison Sault Electric Company, Upper Peninsula Power Company, Wisconsin Public Service Corporation, Wisconsin Electric Power Company, Northern States Power Company, Consumers Energy Company, The Detroit Edison Company, the Michigan Electric Cooperative Association, and the Michigan Electric and Gas Association.

* In October 2005, the PSC approved a request by Detroit Edison to allow net metering to customers with fuel cells and Stirling engines "that have the potential of becoming hydrogen-enabling technologies, regardless of the fuel they use to generate electricity.“

**Source:** http://www.dsireusa.org/

### *Alternative-Energy Personal Property Tax Exemption*

**Incentive Type:** Industry Recruitment
**Policy Level:** State
**Province/Territory/State:** Michigan

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Solar Thermal Process Heat, Photovoltaics, Wind, Renewable Transportation Fuels, Renewable Fuel Vehicles, Cogeneration, Fuel Cells, Miniturbines, Stirling Engines
**Applicable Sectors:** Industrial, Commercial, Fed_Govt
**Summary:** "Alternative energy personal property" certified by the NextEnergy Authority and located in the NextEnergy Zone is exempt from the collection of personal property taxes. This exemption includes (1) "alternative energy systems," (2) "alternative energy vehicles," (3) the personal property of an "alternative energy technology business" and (4) the personal property of a business not engaged in alternative-energy technology that is used solely for the purpose of researching, developing or manufacturing alternative-energy technologies. The law applies not only to companies engaged in the manufacturing or research and development of alternative energy technologies, but also to end users. Homeowners are NOT eligible for this exemption. Property must be new to Michigan. The exemption does not include real property, such as land and buildings.

Within 60 days after a company or end user receives notification of certification of "alternative energy personal property," the local school district or local tax-collecting unit may adopt a resolution disallowing exemption of the property from certain taxes.

The Michigan Strategic Fund designated the NextEnergy Zone a Renaissance Zone in 2002. Businesses located within this zone may be eligible for other tax benefits. Contact the NextEnergy Center for more information.

NextEnergy is a comprehensive economic-development plan to position Michigan as a world leader in the research, development, commercialization and manufacture of alternative-energy technologies. NextEnergy was created to address the risks of continued dependence on foreign energy resources, to mitigate increasing environmental concerns, and to prepare for the possibility of technologies that may replace the internal combustion engine.

The NextEnergy Zone, located in Detroit at Wayne State University Research and Technology Park, is the home the NextEnergy Center. The 40,000-square-foot center will be the catalyst of the NextEnergy initiative. It will include laboratory facilities, business incubator space, collaborative meeting space and other facilities that will support Michigan's alternative-energy industry.

**Source:** http://www.dsireusa.org/

### *Fuel Mix and Emissions Disclosure*

**Incentive Type:** Generation Disclosure
**Policy Level:** State
**Province/Territory/State:** Michigan

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Hydro, Geothermal Electric, Municipal Solid Waste, Fuel Cells
**Applicable Sectors:** Utility
**Summary:** Michigan's Customer Choice and Electric Reliability Act of 2000 requires electricity suppliers to disclose to customers information related to fuel mix and emissions. Electric suppliers must use a regional average fuel mix and emissions data when the fuel mix cannot otherwise be determined, along with the regional electric generation fuel mix, emissions and nuclear waste characteristics. All electric suppliers must disclose to customers information pertaining to the environmental characteristics of electricity production.

This information must be provided twice annually, based on a rolling average. Specifically, utilities must disclose: (1) the average fuel mix, including categories for oil, gas, coal, solar, hydroelectric, wind, biofuels, nuclear, solid waste incineration, biomass and other fuel sources; (2) the average emissions (pounds per megawatt-hour) of sulfur dioxide, carbon dioxide and nitrogen oxides; (3) the average of high-level nuclear waste generated (pounds per megawatt-hour); and the regional average fuel mix and emissions.

Finally, each energy supplier must submit this fuel mix and emission data to the Michigan Public Service Commission (PSC) for inclusion on its web site.

**Source:** http://www.dsireusa.org/

### *Refundable Payroll Credit*

**Incentive Type:** Industry Recruitment
**Policy Level:** State
**Province/Territory/State:** Michigan

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Solar Thermal Process Heat, Photovoltaics, Wind, Renewable Transportation Fuels, Renewable Fuel Vehicles, Cogeneration, Fuel Cells, Miniturbines, Sterling Engines
**Applicable Sectors:** Industrial, Commercial
**Summary:** Businesses certified by the NextEnergy Authority that locate in the NextEnergy Zone to develop "alternative-energy technologies," as defined by the Michigan Next Energy Authority Act, may claim a credit for the their qualified payroll amount. If the credit exceeds the tax liability of the business for the tax year, the portion of the credit exceeding the tax liability will be refunded. This credit is effective through 2022.

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The Michigan Strategic Fund designated the NextAuthority Zone a Renaissance Zone in 2002. Businesses located within this zone may be eligible for other tax benefits. Contact the NextEnergy Center for more information.

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**Source:** http://www.dsireusa.org/

### *Large-Scale Photovoltaic Demonstration Project Grants*

**Incentive Type:** State Grant Program
**Policy Level:** State
**Province/Territory/State:** Michigan

**Eligible Renewable / Other Technologies:** Photovoltaics
**Applicable Sectors:** Nonprofit, Local, Schools, State_Sector
**Summary:** Michigan's Large-Scale Photovoltaic Demonstration Project privdes funding for public and non-profit organizations to install and demonstrate new photovoltaic (PV) systems with a minimum capacity of 10 kilowatts. A total of $150,000 is available in 2006.* The maximum award per project in 2006 is $50,000; an award may not exceed 90% of the cost of PV equipment, materials and supplies. Grant recipients must pay for labor, installation and some equipment costs.

The deadline for 2006 proposals is March 17. Contact John Trieloff of the Michigan Energy Office about the possibility of continued program funding in 2007.

* A total of $180,000 was awarded annually in 2003, 2004 and 2005.

**Source:** http://www.dsireusa.org/

### *Solar Contractor Licensing*

**Incentive Type:** Contractor Licensing
**Policy Level:** State
**Province/Territory/State:** Michigan

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat
**Applicable Sectors:** Installers_Contractors
**Summary:** Michigan offers a solar-thermal contractor license to individuals who have at least three years of experience installing solar equipment under the direction of a licensed contractor. Contact the Michigan Department of Labor and Economic Growth to apply.

**Source:** http://www.dsireusa.org/

### *Biomass Energy Program Grants*

**Incentive Type:** State Grant Program
**Policy Level:** State
**Province/Territory/State:** Michigan

**Eligible Renewable / Other Technologies:** Biomass, Renewable Transportation Fuels, Municipal Solid Waste
**Applicable Sectors:** Nonprofit, Local, Schools, State_Sector
**Summary:** The Michigan Biomass Energy Program (MBEP) provides funding for state bioenergy and biofuels projects on a regular basis. Funding categories typically include biofuels and bioenergy education, biofuels infrastructure, and biomass technology development and demonstrations. Grant awards typically range from $5,000 to $50,000.

Most recently, in November 2005, the MBEP issued a request for proposals (RFP) to support biomass projects, with a maximum award of $24,950 per project. Proposals were due December 15, 2005. Contact MBEP Coordinator Dulcey Simpkins for more information or to receive future funding notices.

**Source:** http://www.dsireusa.org/

### *Alternative-Energy Personal Property Tax Exemption*

**Incentive Type:** Property Tax Exemption
**Policy Level:** State
**Province/Territory/State:** Michigan

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Solar Thermal Process Heat, Photovoltaics, Wind, Renewable Transportation Fuels, Renewable Fuel Vehicles, Cogeneration, Fuel Cells, Miniturbines, Stirling Engines
**Applicable Sectors:** Industrial, Commercial, Fed_Govt
**Summary:** "Alternative energy personal property" certified by the NextEnergy Authority and located in the NextEnergy Zone is exempt from the collection of personal property taxes. This exemption includes (1) "alternative energy systems," (2) "alternative energy vehicles," (3) the personal property of an "alternative energy technology business" and (4) the personal property of a business not engaged in alternative-energy technology that is used solely for the purpose of researching, developing or manufacturing alternative-energy technologies. The law applies not only to companies engaged in the manufacturing or research and development of alternative energy technologies, but also to end users. Homeowners are **NOT** eligible for this exemption. Property must be new to Michigan. The exemption does not include real property, such as land and buildings.

Within 60 days after a company or end user receives notification of certification of "alternative energy personal property," the local school district or local tax-collecting unit may adopt a resolution disallowing exemption of the property from certain taxes.

The Michigan Strategic Fund designated the NextEnergy Zone a Renaissance Zone in 2002. Businesses located within this zone may be eligible for other tax benefits. Contact the NextEnergy Center for more information.

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The NextEnergy Zone, located in Detroit at Wayne State University Research and Technology Park, is the home the NextEnergy Center. The 40,000-square-foot center will be the catalyst of the NextEnergy initiative. It will include laboratory facilities, business incubator space, collaborative meeting space and other facilities that will support Michigan's alternative-energy industry.

**Source:** http://www.dsireusa.org/

### *Nonrefundable Business Activity Credit*

**Incentive Type:** Industry Recruitment
**Policy Level:** State
**Province/Territory/State:** Michigan

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Solar Thermal Process Heat, Photovoltaics, Wind, Renewable Transportation Fuels, Renewable Fuel Vehicles, Cogeneration, Fuel Cells, Miniturbines, Stirling Engines
**Applicable Sectors:** Industrial, Agricultural
**Summary:** Businesses certified by the NextEnergy Authority that locate in the NextEnergy Zone may claim a nonrefundable credit for the tax year equal to the lesser of (1) the amount by which a business's "Tax Liability Attributable to Qualified Business Activity" for the tax year exceeds the business's "Baseline Tax Liability Attributable to Qualified Business Activity," or (2) 10% of the amount by which the business's "Adjusted Qualified Business Activity" performed in Michigan, outside of a "Renaissance Zone," for a tax year exceeds such activity for the 2001 year. Under either formula, a business may not claim the credit for any tax year in which its "Tax Liability Attributable to Qualified Business Activity" did not exceed the "Baseline Tax Liability Attributable to Qualified Business Activity" in 2001.

The Michigan Strategic Fund designated the NextEnergy Zone a Renaissance Zone in 2002. Businesses located within this zone may be eligible for other tax benefits. Contact the NextEnergy Center for more information.

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**Source:** http://www.dsireusa.org/

### *Solar Sales Tax Exemption*

**Incentive Type:** Sales Tax Exemption
**Policy Level:** State
**Province/Territory/State:** Minnesota

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Photovoltaics
**Applicable Sectors:** Commercial, Residential, Government
**Summary:** In Minnesota, solar-energy systems purchased on or after August 1, 2005, are exempt from the state's sales tax. This exemption applies to solar-electric (PV) systems, solar

water-heating systems and solar space-heating systems. All components of these systems are exempt, including panels, wiring, pipes, pumps and racks. This incentive has no expiration date.

**Source:** http://www.dsireusa.org/

### *Agricultural Improvement Loan Program*

**Incentive Type:** State Loan Program
**Policy Level:** State
**Province/Territory/State:** Minnesota

**Eligible Renewable / Other Technologies:** Wind, Biomass
**Applicable Sectors:** Agricultural
**Summary:** This low-interest loan program, administered by the Minnesota Department of Agriculture through the Minnesota Rural Finance Authority (RFA), provides loans to farmers for improvements or additions to permanent agricultural facilities. In 1995, wind-energy systems with a maximum capacity of 1 megawatt (MW) became eligible for the program.

Like Minnesota's Stock Loan Program, this is a "participation loan," where loans are made by individual financial institutions working with the RFA. The RFA has a Master Participation Agreement with over 400 financial institutions throughout the state; this agreement governs the responsibilities of the various parties in such participation loans. RFA participation is limited to 45% of the principal amount of the loan or $200,000, whichever is less.

The borrower must be a Minnesota resident, a Minnesota domestic family-farm corporation or a family-farm partnership. The borrower (or one of the borrowers) must be the principal operator of the farm. The borrower may not have a total net worth exceeding $361,000 (as of 2005, indexed for inflation).

**Source:** http://www.dsireusa.org/

### *New Building Construction Requirements*

**Incentive Type:** State Construction Policy
**Policy Level:** State
**Province/Territory/State:** Minnesota

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat
**Applicable Sectors:** Construction, State_Sector
**Summary:** The Minnesota Department of Administration, which oversees all of the state's new government building projects, is required to use designs that incorporate active and passive solar energy and other alternative energy sources, where feasible, in new buildings and buildings undergoing renovations of 50% or more. Minnesota law also requires energy-efficiency standards in selected state buildings.

An interdisciplinary team of local and national experts has developed sustainable-building guidelines for the Minnesota Department of Administration and the Minnesota Department of Commerce that will be applied to all new state buildings. Version 1.1 of The State of Minnesota Sustainable Building Guidelines was tested during 2004-2005, and subsequent revisions will be published on at least an annual basis. For more information on these guidelines, contact Bruce Nelson of the Minnesota Department of Commerce at (651) 297-2313.

**Source:** http://www.dsireusa.org/

### *Xcel Energy Wind and Biomass Generation Mandate*

**Incentive Type:** Renewables Set Aside
**Policy Level:** State
**Province/Territory/State:** Minnesota

**Eligible Renewable / Other Technologies:** Wind, Biomass
**Applicable Sectors:** Utility
**Summary:**
Minnesota enacted legislation in 1994 requiring Xcel Energy to build or contract for 425 MW of wind power by December 31, 2003. In 2001, the Minnesota Public Utilities Commission ordered Xcel to build or contract for an additional 400 MW of wind by December 31, 2006. In May 2003, Minnesota enacted new legislation (HF 9 of 2003) requiring Xcel to build or contract an additional 300 MW of wind by December 31, 2010, raising the total amount of mandated wind power to 1,125 MW. At least 100 MW of the most recent increase must come from small wind resources (2 MW or less).

In addition, Xcel was required to build or contract for 125 MW of electricity generated from biomass resources by December 31, 2002. This portion of the mandate is being fulfilled by district energy in St. Paul (completed), a poultry-waste project in Benson (under construction) and a third biomass project in Virginia/Hibbing (planning).

**Source:** http://www.dsireusa.org/

### *Non-Mandated Renewable Energy Objective*

**Incentive Type:** Renewables Portfolio Standard
**Policy Level:** State
**Province/Territory/State:** Minnesota

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Hydro, Municipal Solid Waste, Hydrogen
**Applicable Sectors:** Utility
**Summary:** Enacted in 2001, and amended in 2003 and 2005, this Minnesota law requires electric utilities other than Xcel Energy* to make a good faith effort to generate or procure a percentage of the electricity that they generate from eligible renewable-energy technologies: solar, wind, hydroelectric (less than 60 megawatts), hydrogen and biomass—including municipal solid waste—that was not mandated by state law or Minnesota Public Utilities Commission (PUC) order. After January 1, 2010, hydrogen must be generated from eligible renewable resources to be eligible.

Beginning in 2005, at least 1% of the electric energy provided to retail customers should be generated by eligible renewable-energy resources. This amount will increase by 1% each year until 2015, at which time 10% of electricity should be generated by eligible renewables. At least 0.5% of the electricity generated by these Minnesota utilities should be come from biomass technologies by 2005, and 1% from biomass by 2010.

The 2003 revisions directed the PUC to provide a weighted scale of how energy produced by various technologies will count toward a utility's objective and authorizes the agency to establish a credit-trading program to facilitate compliance. Utilities are required every two years to file formal plans detailing how they will meet the 10% renewables objective through their integrated resource plans, including plans for transmission. The Minnesota PUC has ruled that electricity generated under green-power programs does not count toward the objective. However, existing renewables could count toward the objective, depending on the PUC's weighted scale.

Under the 2005 revisions, compliance with the renewable-energy objective was included as a provision in the "Certificate of Need" process for receiving approval for new transmission or generation in Minnesota.

* The REO became a mandate for Xcel Energy in 2005. Under a separate law, Xcel Energy is also required to build or contract for 125 MW of biomass electricity, and must build or contract for 1,125 MW of wind energy by 2011.

**Source:** http://www.dsireusa.org/

### *Value-Added Stock Loan Participation Program*

**Incentive Type:** State Loan Program
**Policy Level:** State
**Province/Territory/State:** Minnesota

**Eligible Renewable / Other Technologies:** Wind, Biomass
**Applicable Sectors:** Agricultural
**Summary:** This low-interest loan program, created in 1994, is designed to help farmers buy into wind energy and anaerobic-digestion cooperatives. Under current rules, the maximum size of an individual project supported by a wind-energy cooperative is 1 megawatt (MW). Like Minnesota's Agricultural Improvement Loan Program, this is a "participation loan" program, where loans are made by individual financial institutions working with the Rural Finance Authority (RFA). The RFA purchases up to 45% of the loan. The interest rate on the RFA portion is 4.0%, while the rate on the remaining portion is negotiated between the borrower and the lender. This program is funded through a revolving account.

To qualify, an applicant may not have a total net worth exceeding $361,000 (as of 2005, indexed for inflation), including the assets and liabilities of the applicant's spouse and dependents.

**Source:** http://www.dsireusa.org/

### *State of Minnesota Solar-Electric (PV) Rebate Program*

**Incentive Type:** State Rebate Program
**Policy Level:** State
**Province/Territory/State:** Minnesota

**Eligible Renewable / Other Technologies:** Photovoltaics
**Applicable Sectors:** Commercial, Residential, Nonprofit, Local, Schools, Tribal_Govt, All other grid-connected electric customers in MN
**Summary:** The Minnesota Department of Commerce administers a solar-electric (PV) rebate program, funded by Xcel Energy, to buy down the up-front costs of grid-connected solar-electric (PV) systems by $2,000 per kW, with a maximum award of $20,000 per system. However, larger systems are eligible on a case-by-case basis. This program was available only to electric customers of Xcel Energy until January 1, 2004. Since January 2004, all grid-connected electric customers in Minnesota have been eligible. Rebates will be issued until funds expire or December 31, 2007 (unless the program is extended).

Participants must submit an application form to reserve a rebate before performing any installation work. After receiving confirmation from the Minnesota Department of Commerce, participants have nine months to install proposed systems and obtain approval by electric-utility officials (required) and local code officials (if necessary). See the program web site to view installation requirements and to access the program application form. In September 2004, the Minnesota Department of Commerce issued a two-page publication, “Electricity from the Sun - A Minnesota Solar Energy Primer,“ for consumers interested in the state's solar rebate program.

From July 2002 through June 2005, 75 applicants had been allocated $397,438 in rebate funding, according to the Department of Commerce. These awards have resulted in 199 kW of new grid-connected solar electricity in Minnesota, more than doubling the state's total solar-electric capacity prior to the implementation of the rebate program. (Installed solar capacity in Minnesota prior to the rebate program was 154 kW).

**Source:** http://www.dsireusa.org/

### *Wind and Solar-Electric (PV) Systems Exemption*

**Incentive Type:** Property Tax Exemption
**Policy Level:** State
**Province/Territory/State:** Minnesota

**Eligible Renewable / Other Technologies:** Photovoltaics, Wind
**Applicable Sectors:** Commercial, Residential
**Summary:** Minnesota excludes from (real estate) property taxation the value added by solar-electric (PV) systems. However, the land on which a PV or wind system is located is taxable. In addition, all real and personal property of wind-energy systems is exempt from the state's property tax.

In lieu of a property tax on large wind-energy systems, a production tax was implemented in 2002. Wind systems greater than 12 MW are taxed at a rate of 0.12 cents/kWh; systems between 2 MW and 12 MW are taxed at a rate of 0.036 cents/kWh; and systems between 250 kW and 2 MW are taxed at a rate of 0.012 cents/kWh. Wind systems under 250 kW are exempt from the production tax. However, a provision in a separate statute (Minn. Stat. § 272.028) allows a mutually agreeable alternative to be negotiated between the local government authority and the wind facility owner for the purpose of maintaining "public infrastructure and services." For example, a lower tax might be negotiated by a local government in order to attract wind development.

**Source:** http://www.dsireusa.org/

### *Xcel Energy Renewable Development Fund*

**Incentive Type:** Public Benefits Fund
**Policy Level:** State
**Province/Territory/State:** Minnesota

**Eligible Renewable / Other Technologies:** Photovoltaics, Wind, Biomass, Hydro, Cogeneration
**Applicable Sectors:** Government
**Summary:** The Renewable Development Fund (RDF) was created in 1999 in accordance with the 1994 Radioactive Waste Management Facility Authorization law (Minnesota Statute 216B.2423). Xcel Energy was required to donate $500,000 annually for each dry cask containing spent nuclear fuel to the fund, amounting to about $9 million annually. In May 2003, Minnesota enacted legislation to extend nuclear-waste storage at Xcel Energy's Prairie Island plant, and to increase the amount Xcel must pay toward the development of renewable energy resources. As a result, Xcel now must pay $16 million into the RDF annually for as long as the Prairie Island plant is in operation. The 2003 legislation mandates that up to $6 million annually must be allocated to fund renewable energy production incentives. Of this annual amount, $4.5 million will fund production incentives for wind energy, and approximately $1.5 million will fund production incentives for eligible on-farm biogas-recovery facilities.

The RDF is administered by the Renewable Development Board, which consists of two representatives from Xcel Energy, two representatives from Minnesota’s environmental community and one representative from the Native American community. Funds in the account may only be used for the development of renewable-energy resources. Preference must be given

to development of renewable-energy projects located in Minnesota. Renewable energy technologies eligible for funding typically include wind, biomass, solar, hydro and fuel cells. Funding is generally split between new development projects that result in the production of renewable energy, and research and development.

In 2001 the Xcel Energy RDF program selected a total of 19 research projects, during two phases, to receive nearly $16 million in funding. Funding was awarded for various projects in three categories: commercial technology, experimental technology, and research and development.

In 2005 the Minnesota Public Utilities Commission approved the second round of projects funded from the Xcel Energy RDF program—29 projects totalling nearly $37 million. Funding was split between research and development of new renewable energy sources and energy production. Projects included wind, biomass, solar, hydro, biofuels, and an innovative energy project involving coal gasification.

A third round of funding is anticipated in 2006 or 2007.

**Source:** http://www.dsireusa.org/

### *Mandatory Utility Green Power Option*

**Incentive Type:** Mandatory Utility Green Power Option
**Policy Level:** State
**Province/Territory/State:** Minnesota

**Eligible Renewable / Other Technologies:** Photovoltaics, Wind, Biomass, Landfill Gas, Hydro, Geothermal Electric
**Applicable Sectors:** Utility
**Summary:** Electric utilities in Minnesota must offer customers the option to purchase green power, defined as power generated from renewable resources or "high-efficiency, low-emission distributed generation, such as fuel cells or microturbines fueled by a renewable fuel." The legislation that created this policy, SB 772 of 2001, also set a non-binding goal for utilities to obtain at least 10% of the energy supplied to retail customers from renewable sources by 2015.

Rates charged for green power must be based on the difference between the cost of the renewable energy and the same amount of non-renewable energy. The Minnesota Public Utilities Commission (PUC) must approve rates developed by investor-owned utilities (IOUs). The Minnesota Department of Commerce is responsible for certifying generating sources, and tracking and verifying all green-power programs.

**Source:** http://www.dsireusa.org/

### *Solar Equipment Certification*

**Incentive Type:** Equipment Certification
**Policy Level:** State
**Province/Territory/State:** Minnesota

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat
**Applicable Sectors:** Commercial, Residential, Construction, Installers_Contractors
**Summary:** Minnesota law requires that all active solar space-heating and water-heating systems installed on residential and commercial buildings meet Solar Rating and Certification Corporation (SRCC) standards. Specifically, the rule references SRCC's "Operating Guidelines" pertaining to collector certification and system certification: OG-100 and OG-300, respectively. Local building officials may issue permits for the installation of solar water-heating systems and solar space-heating systems after these systems have been certified by the SRCC.

**Source:** http://www.dsireusa.org/

### *Wind Sales Tax Exemption*

**Incentive Type:** Sales Tax Exemption
**Policy Level:** State
**Province/Territory/State:** Minnesota

**Eligible Renewable / Other Technologies:** Wind
**Applicable Sectors:** Commercial, Residential, Government
**Summary:** Wind-energy conversion systems used as electric-power sources are exempt from Minnesota's sales tax. Materials used to manufacture, install, construct, repair or replace wind-energy systems also are exempt from the state sales tax. A "wind energy conversion system" (WECS) is defined as any device, such as a wind charger, wind mill or wind turbine, that converts wind energy to a form of usable energy.

**Source:** http://www.dsireusa.org/

### *Minnesota - Net Metering*

**Incentive Type:** Net Metering Rules
**Policy Level:** State
**Province/Territory/State:** Minnesota

**Eligible Renewable / Other Technologies:** Photovoltaics, Wind, Biomass, Hydro, Municipal Solid Waste, Cogeneration
**Applicable Sectors:** Industrial, Commercial, Residential
**Summary:** Minnesota's net-metering law was established in 1983 and applies to all investor-owned utilities, municipalities and rural cooperatives. Qualifying facilities of 40 kW or less are eligible. There is no limit on statewide capacity.

Utilities must purchase net excess generation (NEG) at the average retail rate. The average retail rate is the total annual class revenue from sales of electricity minus the annual revenue resulting from fixed charges, divided by the annual class kWh sales. The purchase of NEG at retail rates distinguishes Minnesota's net-metering law from similar programs in most other states. Only Wisconsin also provides for the purchase of NEG at retail rates.

**Source:** http://www.dsireusa.org/

### *Solar and Wind Easements*

**Incentive Type:** Solar and Wind Access Law
**Policy Level:** State
**Province/Territory/State:** Minnesota

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics, Wind
**Applicable Sectors:** Industrial, Commercial, Residential, Fed_Govt, Nonprofit, Local, Schools, State_Sector
**Summary:** Minnesota law provides for the creation of solar and wind easements for solar and wind-energy systems. As in many other states, these easements are voluntary contracts. However, Minnesota is one of four states that specifically provides for wind easements. For tax purposes, an easement imposed on a property may decrease the property value, but an easement which benefits a property may not add value to that property.

Minnesota law also allows local zoning boards to restrict development for the purpose of protecting access to sunlight. In addition, subdivisions may create variances in zoning rules in situations where undue hardships—such as lack of access to sunlight for solar-energy devices—impinge on a particular property.

**Source:** http://www.dsireusa.org/

### *Interconnection Standards*

**Incentive Type:** Interconnection
**Policy Level:** State
**Province/Territory/State:** Minnesota

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Other DG, Biomass, Landfill Gas, Hydro, Geothermal Electric, Municipal Solid Waste, Cogeneration, Fuel Cells
**Applicable Sectors:** Industrial, Commercial, Residential, Fed_Govt, Nonprofit, Local, Schools, State_Sector
**Summary:**
Minnesota's net metering laws were established in 1983 and apply to all investor-owned utilities, municipalities and rural cooperatives. Qualifying facilities of 40 kW or less are eligible; there is no limit to statewide capacity allowed under net metering. However, uniform interconnection regulations were not implemented when net metering was established.

As directed by Minnesota Statute § 216B.1611, the Minnesota Public Utilities Commission (PUC) has issued an order establishing generic standards for utility tariffs for interconnection and operation of distributed generation facilities. As of 1/01/06, every MN electric utility has filed conforming tariffs with the PUC (though not all have been approved). The interconnection-standards law applies to all state utilities, municipals and co-ops. These utilities must report annually on the number of systems interconnected. The PUC has developed streamlined uniform interconnection applications and a process that addresses safety, economics and reliability issues.

In devising the state's interconnection standards, the PUC gathered input from all stakeholders through a technical working group, a rates working group and a public comment process. The PUC adopted the positions of the working groups with a few minor exceptions.

**Source:** http://www.dsireusa.org/

### *Renewable Energy Production Incentive*

**Incentive Type:** Production Incentive
**Policy Level:** State
**Province/Territory/State:** Minnesota

**Eligible Renewable / Other Technologies:** Biomass, Hydro
**Applicable Sectors:** Commercial, Residential, Nonprofit, Tribal Councils
**Summary:** Minnesota offers a payment of 1.5¢/kWh for electricity generated by hydro facilities and on-farm anaerobic manure methane digesters. This incentive is available to hydro facilities located at the site of a dam, if the dam was in existence as of March 31, 1994, and begins generating electricity after July 1, 1994, or generates electricity after substantial refurbishing of a facility that begins after July 1, 2001. Qualifying projects receive payments for 10 years.

Minnesota also issues a payment of 1.5¢/kWh for electricity generated by new wind-energy projects less than 2 MW in capacity for up to 200 MW of program capacity. In November 2003, the Minnesota Department of Commerce (DOC) announced that planned capacity for new wind energy systems had reached the goal of 200 MW, and the DOC established a waiting list for

additional projects. As of May 2005, 155 MW were operating and receiving incentive payments. Based on April 2005 legislation, the remaining 45 MW in the program queue and 46 MW on the waiting list all became eligible for an incentive payment of 1¢/kWh incentive payment. The program was closed to new applicants on January 1, 2005.

This program, supported in part by Minnesota's Renewable Development Fund, is unique because it offers payments for actual energy output. The advantage of a production incentive program is that production payments and credits place a premium on project output as opposed to rated capacity, which may or may not be fully utilized once installed. This is one of the few state-level, performance-based renewable-energy incentives offered in the United States. Minnesota's production credit roughly mirrors a federal corporate production tax credit allowing a 1.9¢/kWh tax credit for electricity produced from wind, solar, geothermal and closed-loop biomass.

**Source:** http://www.dsireusa.org/

### *Fuel Mix and Emissions Disclosure*

**Incentive Type:** Generation Disclosure
**Policy Level:** State
**Province/Territory/State:** Minnesota

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Hydro
**Applicable Sectors:** Utility
**Summary:** In September 2002, the Minnesota Public Utilities Commission issued an order requiring the state's regulated utilities to disclose information on fuel mix and emissions to customers twice annually. Utilities must list a phone number and web address on bills so that consumers can access disclosure information. Utilities also must provide a standard brochure as a bill insert twice annually. The brochure includes a pie chart depicting the mix of fuel sources, a bar chart of air pollutant emissions, a chart of costs associated with different generating sources, and a discussion of energy efficiency measures.

Prior to releasing information to the public, energy suppliers must submit the information to the Minnesota PUC for review. Environmental disclosure information for individual utilities may be accessed at the program Web site above.

**Source:** http://www.dsireusa.org/

### *Energy Investment Loan Program*

**Incentive Type:** State Loan Program
**Policy Level:** State
**Province/Territory/State:** Minnesota

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Solar Thermal Process Heat, Wind, En Eff, Biomass, Geothermal Heat Pumps
**Applicable Sectors:** Local, Schools, Hospitals
**Summary:** Minnesota's Energy Investment Loan Program will buy down up to 50% of the loan principal to 0% interest for any specific renewable energy, energy efficiency or energy conservation "capital improvement" measure with a simple payback of 10 years or less in an existing building. Minnesota cities, counties, townships, hospitals and K-12 schools are eligible for this program.

Each specific project must pass a 10-year simple payback threshold based on total costs and energy savings, energy payments and/or incentives from other sources. (Project averaging of multiple measures with more and less than a 10-year simple payback is not allowed). There are

no specific improvements designated for energy efficiency, as long as a measureable amount of energy is conserved as a result of the project.

A loan application must include a technical analysis for each proposed energy-saving capital improvement. While projects involving energy efficiency and energy-conservation measures, especially lighting retrofits, are most commonly supported, renewable-energy projects are eligible and have been funded (including one 225-kW wind turbine and approximately nine wood-fired boilers).

Renewable-energy projects most likely to receive support through this program include:
– Wind energy in excellent wind resource areas;
– Ground-source heat pumps for buildings heated by electricity, and/or natural gas users with large year-round heating and cooling loads;
– Solar-thermal air preheating systems;
– Solar hot-water systems offsetting electric space, hot water or pool heating; and/or
– Projects receiving grants or incentives from other sources that reduce the simple payback to less than 10 years.

The program is designed as an $8 million revolving loan fund with no set expiration date. If the $8 million fund is fully utilized, additional projects must wait for loan commitments to expire before additional funds are made available. Program funding was available as of February 2005.

**Source:** http://www.dsireusa.org/

### *Energy Investment Loan Program*

**Incentive Type:** State Loan Program
**Policy Level:** State
**Province/Territory/State:** Mississippi

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics, En Eff, Biomass, Landfill Gas, Hydro, Renewable Transportation Fuels, Geothermal Electric, Municipal Solid Waste, Cogeneration
**Applicable Sectors:** Industrial, Commercial
**Summary:** Mississippi offers low-interest loans for renewable energy and energy efficiency projects. Eligible renewable energy technologies include solar thermal, solar space heat, solar process heat, photovoltaics (PV), alternative fuels, geothermal, biomass, landfill gas and hydropower. All projects must demonstrate that they will reduce a facility's energy costs. The interest rate is 3% below the prime rate, with a maximum loan term of seven years. Loans range from $15,000 to $300,000. This program is supported by a revolving loan fund of $7 million, established through federal oil overcharge funds.

Applications are provided to interested parties by request. Contact Demetra Foster at the Mississippi Development Authority for more information.

**Source:** http://www.dsireusa.org/

### *Wood Energy Production Credit*

**Incentive Type:** Corporate Tax Credit
**Policy Level:** State
**Province/Territory/State:** Missouri

**Eligible Renewable / Other Technologies:** Biomass
**Applicable Sectors:** Industrial, Commercial
**Summary:**

The Wood Energy Tax Credit, effective January 1, 1997, allows individuals or businesses processing Missouri forestry industry residues into fuels an income tax credit of $5.00 per ton of processed material. Any amount of credit exceeding the tax due by a company in the year of production may be carried over to a subsequent taxable year, not to exceed four years. A credit earned under this program may also be transferred to third parties for use within this five-year period. To be considered an eligible fuel, forestry industry residues must have undergone some thermal, chemical or mechanical process(es) sufficient to alter the residues into a fuel product.

See <http://dnr.missouri.gov/oac/forms/780-1305.pdf> to access Missouri's Wood Energy Tax Credit Application Form.

**Source:** http://www.dsireusa.org/

### *Solar Easements*

**Incentive Type:** Solar Access Law/Guideline
**Policy Level:** State
**Province/Territory/State:** Missouri

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics
**Applicable Sectors:** Industrial, Commercial, Residential, Fed_Govt, Nonprofit, Local, Schools, State_Sector
**Summary:** In Missouri, the right to utilize solar energy is a property right, but eminent domain may not be used to obtain such property rights. Easements obtained for the purpose of construction, reconstruction, remodeling or acquisition of a solar energy system should be created in writing and are subject to the same conveyancing and instrument recording requirements as other easements. Solar easements are considered a negative easement and cannot be acquired by prescription; they must be negotiated expressly.

**Source:** http://www.dsireusa.org/

### *Interconnection Standards*

**Incentive Type:** Interconnection
**Policy Level:** State
**Province/Territory/State:** Missouri

**Eligible Renewable / Other Technologies:** Photovoltaics, Wind, Biomass, Fuel Cells
**Applicable Sectors:** Industrial, Commercial, Residential, Fed_Govt, Nonprofit, Local, Schools, State_Sector
**Summary:** Missouri House Bill 1402, passed in 2002, provides for the interconnection of wind, biomass, fuel cell and photovoltaic systems up to 100 kW. Although the bill refers to this arrangement as "net metering," this is not actually the case. Rather, it is net billing: Any generation that that is fed back to the grid is credited on the next bill at the avoided cost rate, not the retail rate as in true net metering. Net excess generation at the end of the month is also credited at the avoided cost rate on the following month’s bill. A utility does not have to enroll qualifying customer-generators beyond 10 MW or 0.1% of the utility's peak load for the previous year.

Regarding technical standards, the law requires customer-generators to comply with the provisions of the National Electric Safety Code, the National Electrical Code, IEEE, UL, and requirements that may be established by the retail electric supplier. Other technical requirements are included in the standard interconnection application, which is being developed by the Missouri Public Service Commission, in conjunction with the state Department of Natural Resources and the state's utilities. The Missouri Public Service Commission issued final interconnection rules in 2003; utility tariffs were approved August 28.

The application is a two-step process. Applicants first submit system information and plans for initial utility approval. Then, once the system is installed and inspected, applicants return signed terms and conditions along with a signature from the electrical code inspector. Utilities must respond to customer connection requests (step one) within 90 days and complete the connection within an additional 15 days or a mutually agreeable later date. Provisions of the application include the following (note that the standard application is still a draft):

– A manual, utility-accessible and lockable disconnect switch is required.
– Applicants are responsible for all utility costs associated with the interconnection process including equipment and administrative costs. Administrative costs may include field investigation, engineering, legal, information, and negotiation discussions.
– Applicants must verify at least $100,000 of liability coverage.
– Applicants must indemnify the utility for all damages arising from the customer's system, except if damages are caused solely by the gross negligence or willful misconduct of the utility. (Such wording favors the utility.)

Curiously, although the 2002 law provides for the purchase of net excess generation at wholesale or avoided cost rates, it allows the retail electric supplier (or wholesale supplier if arranged) to claim any power purchased from a customer-generator toward meeting any minimum renewable-energy generation requirements. Furthermore, the supplier or generator is also legally entitled to air emissions reduction credits from clean power generated by the customer-generator.

**Source:** http://www.dsireusa.org/

### *Energy Loan Program*

**Incentive Type:** State Loan Program
**Policy Level:** State
**Province/Territory/State:** Missouri

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Photovoltaics, Wind, En Eff, Biomass
**Applicable Sectors:** Local, Schools, Institutional
**Summary:**
This loan program, administered by the Energy Center of the Missouri Department of Natural Resources, is available for energy efficiency and renewable energy projects for public and governmental buildings and structures. Loan amounts are based on projected energy savings. Financing is available at a fixed interest rate below the market rate, and repayment schedules are determined on an individual project basis. Since the program's inception in 1989, loans totaling over $60 million have been made to the applicable sectors.

**Source:** http://www.dsireusa.org/

### *Missouri Schools Going Solar*

**Incentive Type:** State Grant Program
**Policy Level:** State
**Province/Territory/State:** Missouri

**Eligible Renewable / Other Technologies:** Photovoltaics
**Applicable Sectors:** Schools
**Summary:** Missouri Schools Going Solar (MSGS) provides turn-key design and installation of photovoltaic arrays to Missouri K-12 schools that are electric customers of AmerenUE or Kansas City Power and Light (KCP&L). The standard MSGS package includes the hardware and technical assistance to install an interconnected 1-kW pole-mounted array on school grounds. The estimated cost of the hardware with installation is $13,500 and will be procured by the

Missouri Department of Natural Resources' Energy Center. Awarded schools may choose to "upgrade" the system but will be responsible for any costs above a standard MSGS package. The MSGS program also includes an energy-education program that provides information on system operation and maintenance and interdisciplinary curricular materials and teacher training.

Eligible schools must provide a $2,500 cash match. MSGS recommends that this match be met through community fundraising to raise awareness of the project, but this is not a requirement. Applicants must have an interest in energy efficiency, renewable energy and the initiative to create a partnership with the Missouri Department of Natural Resources' Energy Center, their utility, and a local community.

Missouri Schools Going Solar anticipates awarding PV arrays to a maximum of 18 schools over three years. MSGS anticipates awarding three schools in the KCP&L territory and six additional schools in the AmerenUE territory during award cycle 3. Deadlines for postmarked applications and award dates are as follows:

Cycle 1: Friday, April 16, 2004 (postmark deadline); Friday, May 14, 2004 (award)
Cycle 2: Friday, October 29, 2004 (postmark deadline); Tuesday, November 30, 2004 (award)
Cycle 3: Monday, October 31, 2005 (postmark deadline); Wednesday, November 30, 2005 (award)

In July 2005, Parkway Northeast Middle School became the first Missouri school to receive a PV system. The system is rated at 1,050 Watts and uses Shell 175 modules, a Sunny Boy 1800 inverter, and the Heliotronics Feynman Data Acquisition System. MSGS has awarded grants to install PV systems to nine Missouri schools and anticipates awarding PV systems to nine more schools this year.

**Source:** http://www.dsireusa.org/

### *Montana - Net Metering*

**Incentive Type:** Net Metering Rules
**Policy Level:** State
**Province/Territory/State:** Montana

**Eligible Renewable / Other Technologies:** Photovoltaics, Wind, Hydro
**Applicable Sectors:** Industrial, Commercial, Residential
**Summary:** Montana's net metering law (SB 409), enacted July 1, 1999, allows net metering for customers of investor-owned utilities with solar, wind, and hydropower systems of 50 kilowatts or less that are intended primarily to offset part or all of the customer's requirements for electricity. All customer classes are eligible and no limit on enrollment or statewide installed capacity is specified.

Net excess generation is credited to the customer's next monthly bill. At the beginning of each calendar year, any remaining unused kilowatt-hour credit accumulated during the previous year must be granted to the utility. Currently Montana-Dakota Utility (MDU) and NorthWestern Energy (NWE) are the only utilities offering net metering. The customer can choose to start the net metering period at the beginning of January, April, July, or October to match seasonal farming cycles.

Visit NorthWestern Energy's web site to find out more about their net metering agreement. Visit Montana-Dakota's web site for more information about their programs and services.

Utilities cannot place any additional standards or requirements on customer-generators beyond those requirements established by the National Electric Code, national electrical safety code, Institute of Electrical and Electronic Engineers and Underwriters Laboratories.

Montana's electric cooperative utilities developed a draft net metering agreement in 2001 which has been instituted by most of the cooperatives. Contact your local cooperative to find out if they have a net metering option.

**Source:** http://www.dsireusa.org/

### *Alternative Energy Revolving Loan Program*

**Incentive Type:** State Loan Program
**Policy Level:** State
**Province/Territory/State:** Montana

**Eligible Renewable / Other Technologies:** Active Water Heat, Photovoltaics, Wind, Biomass, Landfill Gas, Geothermal Electric, Geothermal Heat Pumps
**Applicable Sectors:** Commercial, Residential, Nonprofit, Local, Schools
**Summary:** The Alternative Energy Revolving Loan Program (AERLP) provides loans to individuals, small businesses, local government agencies, units of the university system, and nonprofit organizations to install alternative energy systems that generate energy for their own use. The program is funded by air quality penalties collected by the Department of Environmental Quality. The program is administered by the Department of Environmental Quality, which is responsible for developing the rules.

Alternative energy systems are defined in MCA 15-32-102 as "the generation system or equipment used to convert energy sources into usable sources." The code goes on to list "fuel cells that do not require hydrocarbon fuel, geothermal systems, low emission wood or biomass, wind, photovoltaic and small hydropower plants (under 1 megawatt) and other recognized nonfossil forms of energy generation." DEQ will provide technical review and approval of systems proposed for the loan program.

In 2005, SB 50 amended the loan program, increasing maximum loan amount to $40,000 (subject to available funds) and extending the repayment period to ten years. Additionally, SB 50 added local government agencies, units of the university system, and nonprofit organizations to the list of eligible sectors. Interest rates are set annually and are fixed for the term of the loan. The rate for 2004 was 5.0 percent.

DEQ will accept and process loan applications throughout the year. Approved projects will be ranked according to the criteria published in the Administration Rules of Montana (ARM) Title 17, Chapter 85, which includes items such as system reliability, return on investment and avoided fossil fuel consumption. Once a loan is approved, the applicant will be informed as to whether funds are currently available, and if not, when new funds are anticipated.

**Source:** http://www.dsireusa.org/

### *Fuel Mix and Emissions Disclosure*

**Incentive Type:** Generation Disclosure
**Policy Level:** State
**Province/Territory/State:** Montana

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Hydro, Geothermal Electric
**Applicable Sectors:** Utility
**Summary:**
Montana’s 1997 restructuring law included requirements for the provision of information to consumers about electricity supply services. The Montana Public Service Commission proposed

rules on November 8, 1999 calling for the disclosure of fuel mix and environmental impact information. These regulations have yet to be implemented.

The proposed environmental disclosure regulations would require retail electricity suppliers to disclose information on fuel mix and emissions in a standard format at least twice a year along with product offers and advertisements. Under the proposed rules, electricity providers that do not make claims about specific purchases may disclose fuel mix data for net system power for the previous calendar year. Suppliers that make a "claim of specific purchases" or make a "claim-based sale" must provide data on the projected fuel mix for the coming year or compare fuel mix data with net system power for the previous calendar year. Renewable resources can be disclosed as a single resource category. Retail suppliers are also required to disclose carbon dioxide, sulfur dioxide, and nitrogen oxides emissions as well as the amount of spent nuclear fuel generated compared to the regional average, as represented by net system power. Hydro resources must be presented as a percentage of non-low-impact hydro used. The promulgation of final rules may be delayed because the original timetable for retail access has been modified.

**Source:** http://www.dsireusa.org/

### *Renewable Energy Systems Exemption*

**Incentive Type:** Property Tax Exemption
**Policy Level:** State
**Province/Territory/State:** Montana

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics, Wind, Biomass, Landfill Gas, Geothermal Electric, Geothermal Heat Pumps, Municipal Solid Waste
**Applicable Sectors:** Commercial, Residential, MultiFamilyRes
**Summary:** Montana's property tax exemption for recognized nonfossil forms of energy generation or low emission wood or biomass combustion devices may be claimed for 10 years after installation of the property. The exemption is allowed for single-family residential dwellings up to $20,000 in value and for multifamily residential dwellings or a nonresidential structure up to $100,000 in value. This property is class 4 property and otherwise would be taxed on 3.46 percent of assessed value.

Recognized forms of energy generation include solar, photovoltaics, passive solar, wind, solid waste, decomposition of organic wastes, geothermal, fuel cells that do not require hydrocarbon fuel, small hydropower plants, and wood-burning systems.

Use Montana Department of Revenue form AB-14 to claim this exemption.

**Source:** http://www.dsireusa.org/

### *Renewables Portfolio Standard*

**Incentive Type:** Renewables Portfolio Standard
**Policy Level:** State
**Province/Territory/State:** Montana

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Landfill Gas, Hydro, Geothermal Electric
**Applicable Sectors:** IOU
**Summary:** Montana’s renewables portfolio standard (RPS), enacted in April 2005 through the Montana Renewable Power Production and Rural Economic Development Act, requires public utilities to procure a percentage of their retail electricity sales from renewable sources according to the following schedule:
– 5% in 2008 through 2009;

– 10% in 2010 through 2014; and
– 15% in 2015 and thereafter.
Eligible renewable resources include wind, solar, geothermal, existing hydroelectric projects (nameplate rating of 10 megawatts or less), landfill or farm-based methane gas, wastewater-treatment gas, low-emission, nontoxic biomass, and fuel cells where hydrogen is produced with renewable fuels. Facilities must be either (1) located within Montana; or (2) must be a new facility (beginning operation after 1/1/2005) in another state delivering electricity into Montana.

Utilities can meet the standard by entering into long-term purchase contracts for electricity bundled with renewable energy credits (RECs), by purchasing the renewable energy credits separately, or a combination of both. The law does contain cost caps that limit the additional cost utilities are obligated to pay for renewable energy and allows cost recovery from ratepayers for contracts pre-approved by the Public Service Commission (PSC). RECs sold through voluntary utility green power programs may not be used for compliance. The PSC is to develop rules to implement the RPS by June 1, 2006.

The RPS includes specific procurement requirements to stimulate rural economic development. For example, the utilities must buy some of their renewable energy (electricity + credits) from community renewable energy projects with nameplate capacities of 5 megawatts or less. These are projects in which local owners have a controlling interest and which are interconnected on the utility's side of the meter. In 2015, such projects must provide a total of at least 75 megawatts of renewable energy capacity. In addition, public utilities must enter into contracts that include a preference for Montana workers.

A utility that is unable to comply with the RPS during an annual period (there is a 3-month grace period) must pay an administrative penalty of $10/MWh of renewable energy credits that the utility failed to procure. Penalty payments may not be recovered in electricity rates. Funds derived from penalties go into the universal low-income energy assistance fund. Alternatively, a utility may petition the PSC for a short-term waiver from full compliance.

While cooperative and municipal utilities are exempt from these requirements, those with 5,000 or more customers must implement a renewable energy standard that recognizes the "intent of the legislature to encourage new renewable energy production and rural economic development, while taking into consideration the effect of the standard on rates, reliability, and financial resources."

**Source:** http://www.dsireusa.org/

### *Residential Alternative Energy System Tax Credit*

**Incentive Type:** Personal Tax Credit
**Policy Level:** State
**Province/Territory/State:** Montana

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics, Wind, Biomass, Geothermal Electric, Geothermal Heat Pumps, Municipal Solid Waste, Low-Emission Wood Stoves
**Applicable Sectors:** Residential
**Summary:**
Residential taxpayers who install an energy system using a recognized non-fossil form of energy on their home after 12/31/01 are eligible for a tax credit equal to the amount of the cost of the system and installation of the system, not to exceed $500. The tax credit may be carried over for the next four taxable years.

Recognized non-fossil forms of energy generation means:

1. A system that captures energy or converts energy sources into usable sources, including electricity, by using:
– solar energy, including passive solar systems;
– wind;
– solid waste;
– the decomposition of organic wastes;
– geothermal;
– fuel cells that do not require hydrocarbon fuel; or
– an alternative energy system;
2. A system that produces electric power from biomass or solid wood wastes; or
3. A small system that uses water power by means of an impoundment that is not over 20 acres in surface area.

Use Montana Department of Revenue form ENRG-B to claim this tax credit.

**Source:** http://www.dsireusa.org/

### *Solar and Wind Easements*

**Incentive Type:** Solar and Wind Access Law
**Policy Level:** State
**Province/Territory/State:** Montana

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics, Wind
**Applicable Sectors:** Industrial, Commercial, Residential, Fed_Govt, Nonprofit, Local, Schools, State_Sector
**Summary:** Montana's solar and wind easement provisions allow property owners to create solar and wind easements for the purpose of protecting and maintaining proper access to sunlight and wind. The easements should be negotiated with neighboring property owners. Montana's solar easement law was enacted in 1979 and the wind easement law was enacted in 1983.

**Source:** http://www.dsireusa.org/

### *Alternative Energy Investment Corporate Tax Credit*

**Incentive Type:** Corporate Tax Credit
**Policy Level:** State
**Province/Territory/State:** Montana

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Landfill Gas, Geothermal Electric
**Applicable Sectors:** Industrial, Commercial
**Summary:** Commercial and net metering alternative energy investments of $5,000 or more are eligible for a tax credit of up to 35 percent against individual or corporate tax on income generated by the investment. The credit may only be taken against net income produced by the eligible equipment or by associated new business activity, that is, it must be a commercial operation. Associated facilities, manufacturing plants producing the alternative energy equipment and industries using the energy generated may use the tax credit. The tax credit must be taken the year the equipment is placed in service; however, any portion of the tax credit that exceeds the amount of tax to be paid may be carried over and applied against state tax liability for the following seven years. A project on a reservation may carry the credit over for 15 years, if it has an employment agreement with the tribal government. Taxpayers may not take this credit in conjunction with any other state energy or state investment tax benefits, or with the property tax exemption for nonfossil energy property 15-6-201(4). This credit is available to taxpayers

purchasing an existing facility as well as to those building a new facility. The corporate tax rate is 6.75 percent.

Use Montana Department of Revenue form AEPC to claim this tax credit.

**Source:** http://www.dsireusa.org/

### *Residential Geothermal Systems Credit*

**Incentive Type:** Personal Tax Credit
**Policy Level:** State
**Province/Territory/State:** Montana

**Eligible Renewable / Other Technologies:** Geothermal Heat Pumps
**Applicable Sectors:** Residential
**Summary:** A resident taxpayer of Montana who installs a geothermal or geothermal heat-pump system in their principal dwelling can claim a tax credit based on the installation costs of the system, not to exceed $1,500. Credit not used in the year in which the system is installed may be carried forward for the 7 succeeding tax years.

Use Montana Department of Revenue form ENRG-B to claim this tax credit.

**Source:** http://www.dsireusa.org/

### *Mandatory Green Power Program*

**Incentive Type:** Mandatory Utility Green Power Option
**Policy Level:** State
**Province/Territory/State:** Montana

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Geothermal Electric
**Applicable Sectors:** NorthWestern Energy
**Summary:**
With the passage of HB 509 on May 5, 2003, a default supplier of electricity (currently only NorthWestern Energy) must offer its customers the option of purchasing a product composed of or supporting power from certified environmentally preferred resources that include, but are not limited to, wind, solar, geothermal, and biomass.

NorthWestern Energy unveiled its E+ Green program in June 2003. Under the program, customers may pay $2 extra on their utility bill for each 100 kWh block they choose to purchase each month. The E+ Green program fees go to purchase certified "tags," also known as tradable renewable energy credits, from the Bonneville Environmental Foundation.

Previously passed HB 474 (2001), which required regulated electric utilities in Montana to offer their customers an opportunity to purchase "a separately marketed product composed of power from renewable resources," was repealed in November of 2002 by IR 117.

**Source:** http://www.dsireusa.org/

### *Generation Facility Corporate Tax Exemption*

**Incentive Type:** Property Tax Exemption
**Policy Level:** State
**Province/Territory/State:** Montana

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Landfill Gas, Geothermal Electric
**Applicable Sectors:** Industrial, Commercial
**Summary:** New generating facilities built in Montana with a nameplate capacity of less than one MW and using an alternative renewable energy source are exempt from property taxes for five years after start of operation. If owned by a utility, this property is class 13 property and otherwise would be taxed on 6 percent of assessed value. If owned by an electric cooperative, this property is class 5 and otherwise would be taxed at three percent of assessed value. If owned by any other business, the personal property would be class 8 with a tax rate of three percent of assessed value. The assessed value of personal property is adjusted yearly based on a trend factor that reflects the relevant rate of inflation and on the Department of Revenue's depreciation schedule. State property tax exemption forms are available at the Department of Revenue's county office.

"Alternative renewable energy source" means a form of energy or matter, such as solar energy, wind energy, geothermal energy, conversion of biomass, fuel cells that do not require hydrocarbon fuel, small hydroelectric generators producing less than one megawatt, or methane from solid waste, that is capable of being converted into forms of energy useful to mankind, including electricity, and the technology necessary to make this conversion, when the source is not exhaustible in terms of this planet and when the source or the technology are not in general commercial use.

**Source:** http://www.dsireusa.org/

### *Corporate Property Tax Reduction for New/Expanded Generating Facilities*

**Incentive Type:** Property Tax Assessment
**Policy Level:** State
**Province/Territory/State:** Montana

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Landfill Gas, Geothermal Electric
**Applicable Sectors:** Industrial, Commercial
**Summary:** Montana generating plants producing one megawatt or more by means of an alternative renewable energy source are eligible for the new or expanded industry property tax reduction on the local mill levy during the first nine years of operation, subject to approval by the local government. If so approved, the facility is taxed at 50% of its taxable value in the first five years after the construction permit is issued. Each year thereafter, the percentage is increased by equal percentages until the full taxable value is attained in the tenth year.

The tax reduction applies only to taxes levied for the local high schools and elementary schools and for the local government offering the reduction. If owned by a utility, an exempt wholesale generator or certain other electrical energy producers, this property is class 13 property and otherwise would be taxed on six percent of assessed value. If owned by an electric cooperative, this property is class 5 and otherwise would be taxed at three percent of assessed value. If owned by any other business, the real property is class 4 and otherwise would be taxed at 3.46 percent of assessed value and the personal property would be class 8 with a tax rate of three percent of assessed value. The assessed value of real property is adjusted every five years to reflect market trends. The assessed value of personal property is adjusted yearly based on a trend factor that reflects the relevant rate of inflation and on the Department of Revenue's depreciation schedule.

**Source:** http://www.dsireusa.org/

### *Universal System Benefits Program*

**Incentive Type:** Public Benefits Fund
**Policy Level:** State
**Province/Territory/State:** Montana

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics, Wind, Geothermal Electric
**Applicable Sectors:** Government
**Summary:**
As part of its 1997 restructuring legislation, Montana established its Universal System Benefits Program (USBP). Beginning January 1, 1999, all electric utilities began annually contributing 2.4% of their 1995 revenues to the USBP. This is an amount equivalent to $14.9 million annually, collected at a rate of 1.1 mills/kWh. The funds support energy efficiency, renewable energy resources, low-income energy assistance, and renewable energy R&D. The distribution of the funds among these programs for NorthWestern Energy, formerly Montana Power Company, the first utility to submit a plan for implementation, was established through an order issued by the Montana Public Service Commission (PSC) on February 2, 1999:
– Large Customer Rebate ($2.5 million or 29%);
– Market Transformation ($1.132 million or 13%);
– Local Conservation ($1.804 million or 21%);
– Low-Income Assistance ($1.786 million or 21%);
– Renewable-Energy Resources ($1.113 million or 13%); and
– Research and Development ($225,000 or 3%).

Already, NorthWestern Energy programs have lead to the installation of PV on residences, schools, and commercial facilities through the National Center for Appropriate Technology (NCAT). NorthWestern Energy funding is also going toward buy-downs for central wind generation facilities. Flathead Electric Cooperative and Montana-Dakota Utilities Co. also contribute to the USBP.

Montana's USBP is effective until December 31, 2005, per SB 77, which was enacted April 11, 2003, and by HB 509, enacted May 5, 2003. Utilities may spend all or a portion of the funds on internal programs, or they may opt to contract or fund these programs externally. Industries with loads exceeding 1,000 kW also fall under the law and may choose to "self-direct" the funds that would normally go to the USBP to internal energy programs.

**Source:** http://www.dsireusa.org/

### *Interconnection Standards*

**Incentive Type:** Interconnection
**Policy Level:** State
**Province/Territory/State:** Montana

**Eligible Renewable / Other Technologies:** Photovoltaics, Wind, Hydro
**Applicable Sectors:** Industrial, Commercial, Residential, Local, Schools, State_Sector
**Summary:** Montana's net metering legislation, enacted in 1999, requires interconnected facilities to comply with all national safety, equipment and power-quality standards as set by the National Electrical Code (NEC), Institute of Electrical and Electronic Engineers (IEEE), National Electrical Safety Code (NESC) and Underwriters Laboratories (UL). This applies to customers generating up to 50 kW with hydro-electric, wind or solar-energy systems. The law does not specify how many customers may interconnect to each utility.

NorthWestern Energy (Montana Power) has published a standard interconnection agreement for net-metered facilities; the agreement includes language on the technical requirements for

interconnecting. Technical language mirrors the state law requirements with respect to national standards but also requires a manual, lockable, external disconnect switch. NorthWestern does not require system owners to purchase additional liability insurance, but encourages system owners to confirm with their insurance provider the limits of coverage applicable to interconnected systems.

Net metering is also available through Montana-Dakota Utilities (MDU). For information, contact Gary L. Paulsen of MDU at (701) 222-7649.

**Source:** http://www.dsireusa.org/

### *Solar and Wind Easements*

**Incentive Type:** Solar and Wind Access Law
**Policy Level:** State
**Province/Territory/State:** Nebraska

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics, Wind
**Applicable Sectors:** Industrial, Commercial, Residential, Fed_Govt, Nonprofit, Local, Schools, State_Sector
**Summary:** Nebraska's solar easement provisions allow property owners to create binding solar easements for the purpose of protecting and maintaining proper access to sunlight. The solar access laws were revised in March 1997 (Bill 140) to include wind.

**Source:** http://www.dsireusa.org/

### *Dollar and Energy Savings Loans*

**Incentive Type:** State Loan Program
**Policy Level:** State
**Province/Territory/State:** Nebraska

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Solar Thermal Electric, Photovoltaics, Wind, En Eff, Biomass, Landfill Gas, Hydro, Renewable Transportation Fuels, Renewable Fuel Vehicles, Geothermal Electric, Municipal Solid Waste
**Applicable Sectors:** Commercial, Residential, Nonprofit, Local, MultiFamilyRes, Agricultural
**Summary:** This program makes available low interest loans for residential and commercial energy efficiency improvements. The Nebraska Energy Office administers this program, which was created in 1990 using oil overcharge funds. As of June 2005, 21,984 individual loans had been made totaling over $168 million.

This incentive applies mainly to energy efficiency improvements. However, renewable energy projects are eligible under one of two criteria. A project may be eligible if it is included in a list of "pre-qualified improvements." This list includes a variety of energy efficiency measures as well as the purchase of alternative fuel vehicles. Projects not listed as pre-qualified improvements may be eligible with the submission of an energy audit that verifies that the project will create net energy savings.

Much of this program’s success is due to the leveraging of state funds through collaboration with individual banks, savings institutions, and credit unions. Those seeking a loan under this program first approach their own financial institution, which approves the project on financial terms before contacting the State Energy Office for its approval. The State Energy Office then buys half of the loan at 0% interest so that the total interest on the loan "from the borrower’s perspective" will be half the market rate obtained through their private lending institution. Of the over $168 million lent out so far, over $82 million has been State Energy Office money.

Though they are eligible, loans for renewable energy projects have not previously been widely sought and only a handful of renewable energy projects have been funded to date. It is felt that the program has potential benefits for renewables in Nebraska as well as other states where this structure could be replicated.

**Source:** http://www.dsireusa.org/

### *SolarGenerations PV Rebate Program*

**Incentive Type:** State Rebate Program
**Policy Level:** State
**Province/Territory/State:** Nevada

**Eligible Renewable / Other Technologies:** Photovoltaics
**Applicable Sectors:** Commercial, Residential, Local, Schools, State_Sector, Other Public Buildings
**Summary:** Note: The application period for Program Year Three is now open.

Nevada Power and Sierra Pacific Power administer the SolarGenerations rebate program for photovoltaic (PV) systems on behalf of the Nevada Task Force on Energy Conservation and Renewable Energy. The SolarGenerations Program was established in 2003 as a result of AB 431 ("the Solar Energy Systems Demonstration Program") and began in August 2004. Rebates are available for grid-connected PV installations on residences, small businesses, public buildings, and schools. Participants must be current customers of the utilities.

Incentive amounts and capacity limits over the three-year period are indicated below.

For Program Year One (installations beginning August 2004 and completed by June 30, 2005), an incentive of $5/W:
Schools——————————————100 kW of capacity
Public Buildings——————————200 kW of capacity
Residences/Businesses———-200 kW of capacity

For Program Year Two (installations beginning July 1, 2005 and completed by June 30, 2006), an incentive of $4/W:
Schools————————————- 570 kW of capacity
Public Buildings———————- 570 kW of capacity
Residences/Businesses—- 760 kW of capacity

For Program Year Three (installations beginning July 1, 2006 and completed by June 30, 2007), an incentive of $3/W:
Schools———————————— 570 kW of capacity
Public Buildings——————————— 570 kW of capacity
Residences/Businesses—- 760 kW of capacity

The program will continue to provide funding for 570 kW on schools, 570 kW on public buildings, and 760 kW on private residences/buildings each year for program years beginning July 1st of 2007, 2008, and 2009. The incentive level for these years has not yet been determined.

Size restrictions of 5 kW of rated AC output per program year for residential systems or schools and 30 kW of rated AC output for commercial or public buildings apply. Rebates are paid on rated AC output. The equipment installed must be on the list of certified PV modules and inverters provided by the California Energy Commission’s Emerging Renewables Program, and a Nevada-licensed electrical contractor (C-2) must install the system. A list of contractors is available from the program Web site. Program participants must sign a Net Metering Agreement with the utility.

Nevada Power and Sierra Pacific Power will own the Renewable Energy Credits from the electricity produced by their customers' photovoltaic systems. The Renewable Energy Credits count towards the utilities' solar goals under Nevada's Renewable Portfolio Standards.

**Source:** http://www.dsireusa.org/

### *Energy Analysis for New State Construction*

**Incentive Type:** State Construction Policy
**Policy Level:** State
**Province/Territory/State:** Nevada

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Solar Thermal Electric, Photovoltaics, Wind, Geothermal Electric, Cogeneration
**Applicable Sectors:** State_Sector
**Summary:** Before it begins to construct or renovate any occupied public building which is larger than 20,000 square feet, a Nevada State Agency must complete an analysis of the cost to construct, operate, and maintain the building over its expected lifetime. The analysis should identify energy conservation measures with payback of 10 years or less and renewable energy measures that could be incorporated into construction or renovation (such as passive and active solar, wind, and geothermal). The agency must then consider the results of this analysis in determining the design of the building. Renewable energy should be incorporated into plans when in the best interest of the state.

The requirement of an energy analysis for State construction was added to the Nevada Revised Statutes in 1981, and expanded by Assembly Bill 03 in 2005.

**Source:** http://www.dsireusa.org/

### *Solar Access Laws*

**Incentive Type:** Solar Access Law/Guideline
**Policy Level:** State
**Province/Territory/State:** Nevada

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics
**Applicable Sectors:** Industrial, Commercial, Residential, Fed_Govt, Nonprofit, Local, Schools, State_Sector
**Summary:** In June 1995, Nevada passed a solar-access law that prohibits any restrictions on building solar-energy systems on property. Nevada also has solar-easement provisions that are similar to those in many other states. Parties can voluntarily enter into solar-easement contracts that are legally binding.

**Source:** http://www.dsireusa.org/

### *Interconnection Standards*

**Incentive Type:** Interconnection
**Policy Level:** State
**Province/Territory/State:** Nevada

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Geothermal Electric
**Applicable Sectors:** Industrial, Commercial, Residential, Fed_Govt, Nonprofit, Local, Schools, State_Sector

**Summary:** On December 17, 2003, the Nevada Public Utilities Commission (PUC) voted to adopt interconnection rules for customers of Nevada Power and Sierra Pacific Power with new on-site generation of 20 MW or smaller. The rules also implement Nevada's net metering standards that were passed in the 2003 legislative session. The PUC also determined that DG customers can be assessed for past fuel and purchased-power expenses under tariffs proposed by Nevada Power and Sierra Pacific Power.

Before the interconnection rules were adopted, Nevada Revised Statute 704.774, within the state's net metering law, had basic interconnection requirements for "renewable" systems with a capacity of up to 10 kW. These systems were required to meet standards as established by the Institute of Electrical and Electronic Engineers (IEEE), the National Electrical Code (NEC), and Underwriters Laboratories (UL). Customers who complied with these guidelines had no additional equipment or safety requirements. This included liability insurance and a manual external disconnect device.

**Source:** http://www.dsireusa.org/

### *Renewable Energy/Solar Sales Tax Exemption*

**Incentive Type:** Sales Tax Exemption
**Policy Level:** State
**Province/Territory/State:** Nevada

**Eligible Renewable / Other Technologies:** Active Water Heat, Solar Thermal Electric, Photovoltaics, Wind, En Eff, Biomass, Landfill Gas, Hydro, Geothermal Electric, Municipal Solid Waste, Fuel Cells, Solar Lighting System
**Applicable Sectors:** Commercial, Residential, Government
**Summary:** Nevada law exempts from local sales and use taxes the sale, storage and consumption of any products or systems designed or adapted to use renewable energy to generate electricity and all of its integral components. Included in the exemption are all sources of energy that occur naturally or are regenerated naturally, including biomass (agricultural crops, wastes and residues, wood, wood wastes, and residues, animal wastes, municipal waste and aquatic plants), fuel cells, geothermal energy, solar energy, hydropower and wind.

In 2003, SB 489 extended this exemption to solar-thermal energy systems and solar lighting systems and integral parts that reduce the consumption of electricity or any fossil fuel.

The state sales tax rate for all products exempt from local sales and use tax is 2% in all counties.

In 2005, AB3 further expanded the exemption to include all products or materials used in the construction of a building if the building is certified or will meet the equivalent of LEED Silver in accordance with the Leadership in Energy and Environmental Design (LEED) Green Building Rating System. As of August 2005, the regulations for this addition were under development. Consult the Nevada Department of Taxation for more details.

The sales tax exemption is currently set to expire December 31, 2005, but may be extended.

**Source:** http://www.dsireusa.org/

### *Fuel Mix and Emissions Disclosure*

**Incentive Type:** Generation Disclosure
**Policy Level:** State
**Province/Territory/State:** Nevada

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Other DG, Biomass, Hydro, Geothermal Electric, Municipal Solid Waste

**Applicable Sectors:** Utility
**Summary:**
Beginning October 1, 2001, each electric utility must disclose certain information to its customers, according to regulations established by the Nevada Public Service Commission. The disclosure must be in a standard format, provided in bill inserts twice a year, as well as on utility web sites. The disclosure must include the average mix of fuel sources used to create electricity, average emissions, customer service information, and information on low-income energy programs.

**Source:** http://www.dsireusa.org/

### *Solar Contractor Licensing*

**Incentive Type:** Contractor Licensing
**Policy Level:** State
**Province/Territory/State:** Nevada

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics
**Applicable Sectors:** Installers_Contractors
**Summary:** Nevada law requires that solar energy system installers be licensed by the Nevada State Contractors Board. Contractors may be licensed under License Classification C-37 (solar contracting), or perform solar work under License Classification C-1 (plumbing and heating) for solar thermal installations. Contractors currently installing and maintaining photovoltaic systems should be licensed under Classification C-2 (electrical contracting), but a new license as a photovoltaic installer will be required for projects beginning in 2007 (see below).

More information can be found on the program web site above, or by reading the Nevada Administrative Code, Chapter 624.

In June 2005, the passage of Assembly Bill 03 created a mandatory licensing program for contractors installing and maintaining photovoltaic systems beginning January 1, 2007. Under these rules, a PV installer (meaning a person directly engaged with the electrical connection and wiring of a photovoltaic system project in a capacity other than as an inspector, management planner, consultant, project designer, contractor or supervisor for the photovoltaic system project) must hold a license as a photovoltaic installer issued by the Nevada State Contractors Board Licensing Division.

To apply for a license, a PV installer will need to submit an application to the Division, pass an exam administered or approved by the Division, and pay a fee. If the person is a contractor, they must provide proof to the Division that they have been issued a license of the appropriate classification by the State Contractors' Board pursuant to chapter 624 of NAC.

Note that a person is not required to obtain a license from the Division to install or maintain a photovoltaic system on their own residence.

**Source:** http://www.dsireusa.org/

### *Nevada - Net Metering*

**Incentive Type:** Net Metering Rules
**Policy Level:** State
**Province/Territory/State:** Nevada

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Hydro, Geothermal Electric
**Applicable Sectors:** Industrial, Commercial, Residential

**Summary:** Nevada has allowed customers of investor-owned utilities to net meter renewable-energy systems since 1997. Revised in 2001, 2003 and 2005 (AB 236), the law allows net metering for eligible systems up to 150 kW. Utilities must offer net metering to customer-generators within their service area until the cumulative capacity of net-metered systems equals 1% of the utility's peak capacity. Eligible renewable-energy systems include solar, wind, geothermal, biomass and certain types of hydropower.

Metering provisions for systems up to 30 kW are favorable. Utilities must offer to make available to customers a single, bi-directional meter, or utilities may install one or more additional meters—with a customer's written consent—to monitor the flow of electricity in each direction. AB 236 (2005) includes new provisions for the treatment of net excess generation (NEG). For systems up to 30 kW, NEG will be carried over to the next billing period, in the form of kilowatt-hours, indefinitely. If a customer is billed for electricity via a time-of-use schedule, the excess electricity carried forward will be added to the same time-of-use period as the time-of-use period in which it was generated, unless the subsequent billing period lacks a corresponding time-of-use period. If there is no corresponding time-of-use period, then the NEG carried forward must be apportioned evenly among the available time-of-use periods. Excess generation fed to the grid is considered electricity generated or acquired by the utility to comply with Nevada's renewable portfolio standard (RPS).

For "net-metered" systems greater than 30 kW in capacity, the law provides that utilities may require customers to pay to install a meter capable of measuring generation output and customer load. In addition, utilities may charge customers with systems greater than 30 kW in capacity "any applicable fee or charge charged to other customers of the utility in the same rate class as the customer-generator, including, without limitation, customer, demand and facility charges."

Due to the mandatory two-meter arrangement, customer generation is treated differently for "net-metered" systems greater than 30 kW. For these systems, a utility must measure, in kilowatt-hours, the amount of electricity supplied to the customer during the billing period, and calculate its value using the tariff that would apply if the customer did not have an interconnected system. The utility will also measure, in kilowatt-hours, the amount of electricity fed to the utility by the customer during the billing period and calculate its value at a rate that is consistent with the rate used to calculate the value of electricity supplied by the utility. If the value of electricity supplied by the utility exceeds the value of the electricity generated by the customer, the customer will be billed for the net value of the electricity supplied by the utility. If the value of the electricity fed to the utility by the customer exceeds the value of the electricity supplied to the customer, the value of the excess electricity will be carried over to the next billing period indefinitely. At the utility's discretion, the credit may be reflected as a dollar amount or in kilowatt-hours. Special provisions apply to systems greater than 30 kW operating under a time-of-use schedule.

As is the case for net-metered systems up to 30 kW in capacity, excess generation fed to the grid by systems greater than 30 kW but no more than 150 kW is considered electricity generated or acquired by the utility to comply with Nevada's RPS.

While the utility acquires all rights associated with the excess generation for compliance with the RPS, customer-generators retain ownership of renewable-energy credits (RECs) associated with energy generated and consumed on-site. See <http://www.dsireusa.org/library/includes/incentive2.cfm?Incentive_Code=NV09F&state=NV&CurrentPageID=1> for more information on REC ownership and participation in Nevada's incentive programs.

**Source:** http://www.dsireusa.org/

### *Energy Portfolio Standard*

**Incentive Type:** Renewables Portfolio Standard

**Policy Level:** State
**Province/Territory/State:** Nevada

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics, Wind, Biomass, Landfill Gas, Hydro, Geothermal Electric, Municipal Solid Waste, Certain Energy Efficiency Measures
**Applicable Sectors:** IOU
**Summary:** As part of its 1997 restructuring legislation, the Nevada legislature established a renewable energy portfolio standard. Under the standard, the state's two investor-owned utilities, Nevada Power and Sierra Pacific Power, must derive a minimum percentage of the total electricity they sell from renewable energy resources. In 2001, the legislature revised the minimum amounts to increase by 2% every two years, up to a 15% requirement by 2013. In Assembly Bill 03 of the 2005 special session, the portfolio requirement was further revised to increase by 3% every two years, up to 20% of sales by 2015, with a significant change allowing utilities to meet the standard through renewable energy generation (or credits) “and” energy savings from efficiency measures. Not less than 5% of the portfolio energy standard must be generated, acquired, or saved from solar energy systems.

Under AB 03, efficiency measures eligible for portfolio energy credits include those installed after January 1, 2005, must be implemented at a retail customer’s location, and must be partially or fully subsidized by the electric utility to qualify. The measure must also reduce the customer’s energy demand (as opposed to shifting demand to off-peak hours). Solar energy systems that qualify for portfolio credits as renewable energy systems do not also qualify as energy efficiency measures, even if they reduce the consumption of other fuels. The contribution from energy efficiency measures to meet the portfolio standard is capped at one-quarter of the total standard in any particular year.

% Renewables—Date
6% ——————————— 2005 and 2006
9% ——————————— 2007 and 2008
12% ——————————— 2009 and 2010
15% ——————————— 2011 and 2012
18% ——————————-- 2013 and 2014
20% ——————————-- 2015 and thereafter

Beyond solar, qualifying renewable energy resources include biomass, geothermal energy, wind, and certain waterpower.

The Public Utilities Commission of Nevada (PUCN) has established a program to allow energy providers to buy and sell renewable energy credits (RECs), in order to meet Renewable Energy Portfolio requirements. One REC represents a kilowatt-hour of electricity generated from a renewable energy system, with the exception of photovoltaics, for which 2.4 RECs are credited per one actual kWh of energy produced. In addition, a multiplier of .15 can be added to the 2.4 multiplier for PV if the system is deemed by the PUCN to be distributed generation. RECs are valid for a period of five years. For more information on Nevada's REC program, and how this serves as a financial incentive for renewable energy system owners, review the REC summary on DSIRE.

To help facilitate the renewable projects called for in the renewable energy portfolio standard, the PUCN established the Temporary Renewable Energy Development (TRED) Program. The TRED program is meant to insure prompt payment to renewable energy providers in order to encourage completion of renewable energy projects. The TRED Program establishes: (1) a TRED Charge allowing investor-owned utilities to collect revenue from electricity customers to pay for renewable energy separate from other wholesale power purchased by the electric utilities; and (2) an independent TRED Trust to receive the proceeds from the TRED Charge and remit payment to

renewable energy projects that deliver renewable energy to purchasing electric utilities. For more information, see TRED dockets.

**Source:** http://www.dsireusa.org/

### *Renewable Energy Producers Property Tax Abatement*

**Incentive Type:** Property Tax Assessment
**Policy Level:** State
**Province/Territory/State:** Nevada

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Landfill Gas, Municipal Solid Waste
**Applicable Sectors:** Commercial, Utility, (Renewable Energy Power Producers)
**Summary:** This statute allows certain new or expanded businesses a 50% property tax abatement for real and personal property used to generate electricity from renewable energy. The exemption may be taken over a 10 year period for a facility with a generating capacity of at least 10 kW. Renewable energy includes biomass, solar, and wind. The definition of biomass includes agricultural crops and agricultural wastes and residues; wood and wood wastes and residues; animal wastes; municipal wastes; and aquatic plants.

Note that this exemption does not apply to residential property.

**Source:** http://www.dsireusa.org/

### *Renewable Energy Systems Property Tax Exemption*

**Incentive Type:** Property Tax Exemption
**Policy Level:** State
**Province/Territory/State:** Nevada

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Photovoltaics, Wind, Hydro, Geothermal Electric, Geothermal Heat Pumps, Municipal Solid Waste
**Applicable Sectors:** Industrial, Commercial, Residential
**Summary:** In Nevada, any value added by a qualified renewable energy system shall be subtracted from the assessed value of any residential, commercial or industrial building for property tax purposes. Qualified equipment includes solar, wind, geothermal, solid waste and hydroelectric systems. This exemption applies for all years following installation.

**Source:** http://www.dsireusa.org/

### *Renewable Energy Credits*

**Incentive Type:** Production Incentive
**Policy Level:** State
**Province/Territory/State:** Nevada

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics, Wind, Biomass, Landfill Gas, Hydro, Geothermal Electric, Municipal Solid Waste
**Applicable Sectors:** Industrial, Commercial, Residential, Nonprofit, Local, Schools, Utility, Tribal_Govt, Institutional, State_Sector, Agricultural
**Summary:** Nevada's Renewable Energy Portfolio Standard requires the state's two investor-owned utilities, Nevada Power and Sierra Pacific Power, to derive a minimum percentage of the electricity they sell from renewable energy resources. Included in the standard is a Renewable Energy Credit (REC) trading program.

Beginning January 1, 2003, Nevada's renewable energy producers can earn RECs, which can then be sold to utilities that are required to meet Nevada's portfolio standard. One REC represents the renewable attributes of one kilowatt-hour of electricity generated, with the exception of photovoltaics, for which 2.4 RECs are credited for each kilowatt-hour generated (where at least 50% of the electricity produced from PV is consumed on-site, as described in AB 296 of 2003), and the exception of customer-maintained distributed renewable energy systems for which 1.15 RECs are credited for each kilowatt-hour generated. The two exceptions may be combined, for a mulitplier of 2.55 RECs per kWh of electricity generated from customer-maintained PV systems deemed to be distributed energy.

In order to participate, owners of renewable energy systems need to contact the Public Utilities Commission of Nevada (PUCN) to register their system. A very simple application form is available on the PUCN web site. The value of a REC is market driven. RECs issued to a renewable energy system owner by the PUCN are valid for five years.

Owners of PV systems installed through the SolarGenerations (PV rebate) Program do not retain the RECs associated with their electricity generation, and thus are not eligible to trade certificates through this program.

Renewable energy is defined as biomass, geothermal energy, solar energy, wind, and waterpower. Solar energy includes any displacement of fossil energy use and could include (photovoltaics, solar water heating, etc.).

**Source:** http://www.dsireusa.org/

### *School Reconstruction Policy*

**Incentive Type:** State Construction Policy
**Policy Level:** State
**Province/Territory/State:** Nevada

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Photovoltaics
**Applicable Sectors:** Schools
**Summary:** Effective July 1, 2003, all school districts in Nevada that are reconstructing older schools are encouraged to use daylighting, multiple stories, solar and other renewable energy sources, and other innovative building designs and plans to provide an effective and ideal learning environment for pupils.

A pilot reconstruction project in the Clark County School District is currently underway and is scheduled for completion by August 1, 2008. The Clark County School District will be incorporating the use of the renewable and innovative technologies mentioned above whenever possible.

**Source:** http://www.dsireusa.org/

### *Property Tax Abatement for Green Buildings*

**Incentive Type:** Property Tax Assessment
**Policy Level:** State
**Province/Territory/State:** Nevada

**Eligible Renewable / Other Technologies:** Passive Solar, Active Water Heat, Photovoltaics, Wind, En Eff, Biomass, Landfill Gas, Geothermal Electric
**Applicable Sectors:** Industrial, Commercial

**Summary:** Assembly Bill 3, passed in June of 2005, includes provisions for partial abatement of property taxes for for property that has a building or structure that meets or exceeds LEED Silver or an equivalent green building rating system. The partial abatement must be for a duration of not more than 10 years and must not exceed 50% of the property taxes due.

As of July 2005, the rules of eligibility have not been determined. AB 3 directs the Commission on Economic Development to establish qualifications and methods to determine eligibility for the tax abatement. A Green Building Rating System, either based on the US Green Building Council's Leadership in Energy and Environmental Design (LEED) system or an equivalent, will be adopted by the Director of the Office of Energy for use as a guideline for this abatement as well as other State green building policies.

Guidelines adopted will include requirements for the use of resource-efficient materials, standards for indoor environmental quality, standards for efficient use of water and energy, and requirements for the design and preparation of building lots.

**Source:** http://www.dsireusa.org/

### *Local Option Property Tax Exemption for Renewable Energy*

**Incentive Type:** Property Tax Exemption
**Policy Level:** State
**Province/Territory/State:** New Hampshire

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Photovoltaics, Wind, Wood heating
**Applicable Sectors:** Residential
**Summary:** New Hampshire's local option property tax statute allows each city and town to offer an exemption on residential property taxes in the amount of the assessed value of a renewable energy system used on the property. Eligible technologies may include solar (photovoltaics, solar space heating, solar water heating, passive solar), wind, and wood-fired central heating systems. Cities and towns must adopt the exemption provision separately for each energy source. As of 2003, the most recent data available, 57 New Hampshire cities and towns offer the property tax incentive for one or more of these energy sources.

Visit the Web site above for a list of NH municipalities with property tax exemptions for renewables. Contact your local tax collector or assessor for further details.

**Source:** http://www.dsireusa.org/

### *Solar Easements*

**Incentive Type:** Solar Access Law/Guideline
**Policy Level:** State
**Province/Territory/State:** New Hampshire

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Solar Thermal Electric, Photovoltaics
**Applicable Sectors:** Industrial, Commercial, Residential, Fed_Govt, Nonprofit, Local, Schools, State_Sector
**Summary:** New Hampshire has "solar skyspace easement" provisions which allow property owners to voluntarily create solar easements for the purpose of protecting and maintaining proper access to sunlight.

**Source:** http://www.dsireusa.org/

### *Interconnection Standards*

**Incentive Type:** Interconnection
**Policy Level:** State
**Province/Territory/State:** New Hampshire

**Eligible Renewable / Other Technologies:** Photovoltaics, Wind, Hydro
**Applicable Sectors:** Industrial, Commercial, Residential
**Summary:** New Hampshire's 1998 net-metering law requires all utilities to provide, upon request, net metering to customers who generate electricity using wind, solar or hydroelectric power systems with a maximum capacity of 25 kilowatts (kW). The aggregate limit on net-metered systems is 0.05% of each utility's annual peak load. The New Hampshire Public Utilities Commission (PUC) established interconnection rules for net-metered systems in January 2001.

Applicants for net metering must submit a standard interconnection application, a sample of which is provided in the appendix I of the state's rules. Net-metered systems must comply with all applicable local, state and federal laws and regulations, and with national safety and equipment standards as set forth by the Institute of Electrical and Electronic Engineers (IEEE), the National Electrical Code and Underwriters Laboratories (UL). New Hampshire's rules also include safety and power-quality requirements for systems that do not use inverters.

Facilities less than 10 kW are not required to have an external manual disconnect device. However, the customer-generator assumes all risks and consequences associated with the absence of a switch, and a warning label must be posted near the service meter. For systems between 10 kW and 25 kW, and for metered systems utilizing instrument transformers, an external manual disconnect switch must be installed at the customer's expense. Before final approval and interconnection to the grid, a customer-generator must conduct a load-break test to confirm that the anti-islanding controls are functioning.

Utilities may not require customer-generators to perform additional tests, pay for additional interconnection-related charges, or purchase property insurance and/or comprehensive personal liability insurance. Customer-generators and utilities enter into a mutual-indemnity agreement unless both sides agree to another arrangement.

**Source:** http://www.dsireusa.org/

### *New Hampshire - Net Metering*

**Incentive Type:** Net Metering Rules
**Policy Level:** State
**Province/Territory/State:** New Hampshire

**Eligible Renewable / Other Technologies:** Photovoltaics, Wind, Hydro
**Applicable Sectors:** Industrial, Commercial, Residential
**Summary:** In June 1998, New Hampshire enacted legislation requiring all utilities selling power in the state to offer net metering to homeowners and small businesses that generate electricity using wind turbines, solar-electric systems (photovoltaic systems) or hydropower.

On January 12, 2001, the New Hampshire Public Utilities Commission approved net-metering and interconnection rules for homeowners and small businesses with grid-tied renewable-energy systems under 25 kilowatts (kW). The statewide limit on capacity enrolled in net metering is 0.05% of the annual peak demand of each utility. Customers generating more electricity than they use in a given billing period receive credit for the excess power generated.

**Source:** http://www.dsireusa.org/

### *New Jersey - Net Metering*

**Incentive Type:** Net Metering Rules
**Policy Level:** State
**Province/Territory/State:** New Jersey

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Landfill Gas, Hydro, Geothermal Electric
**Applicable Sectors:** Commercial, Residential
**Summary:** In September 2004, the New Jersey Board of Public Utilities (BPU) expanded the state's existing net-metering rules and interconnection standards for residential and small commercial customers. The rules, which initially applied only to photovoltaics and wind, now include all "Class I renewable energy" systems. "Class I renewable energy" means electricity generated by solar technologies, wind, fuel cells, geothermal technologies, wave or tidal action, and methane gas from landfills or a biomass facility (provided that the biomass is cultivated and harvested in a sustainable manner). In addition, the September 2004 rules increased the maximum capacity of these systems from 100 kW to 2 MW. New Jersey now has the best net-metering rules in the United States, according to many distributed-generation advocates.

Net metering is defined as a system of metering electricity in which the electric distribution company credits a customer-generator at the full retail rate for each kilowatt-hour produced by a Class I renewable-energy system installed on the customer-generator's side of the electric revenue meter, up to the total amount of electricity used by that customer during an annualized period. Furthermore, the electric distribution company must compensate the customer-generator at the end of the annualized period for any remaining credits, at a rate equal to the electric company's avoided cost of wholesale power.

In addition to expanding both system capacity and the scope of eligible technologies, the 2004 amendments standardize and simplify interconnection procedures for residential and small commercial customers. There are three levels of interconnection in New Jersey. Level 1 applies to inverter-based systems that have a rated capacity of 10 kilowatts (kW) or less. Level 2 applies to systems with a maximum rated capacity of 2 megawatts (MW) that meet IEEE 1547 and UL 1741 standards for compliance for operation with electric-distribution systems. Level 3 interconnection applies to systems with a maximum capacity of 2 MW that do not qualify for either the Level 1 or Level 2 interconnection review procedures. A single metering arrangement is preferred.

Customers eligible for net metering retain ownership the renewable-energy credits (RECs) associated with the electricity they generate. Customers with solar-electric (photovoltaic) systems may apply to the BPU to participate in New Jersey's Solar Renewable Energy Certificates (S-RECs) program, which tracks and verifies solar certificates, and allows the certificates to be sold to electric suppliers to meet suppliers' solar renewable portfolio standard requirements.

New Jersey's first net-metering law, enacted in February 1999, capped net-metering system capacity at 0.1% of a utility's peak demand or at an annual financial impact to the utility of $2,000,000. This cap was removed by the 2004 amendments.

**Source:** http://www.dsireusa.org/

### *Renewable Energy Economic Development Program (REED)*

**Incentive Type:** State Grant Program
**Policy Level:** State
**Province/Territory/State:** New Jersey

**Eligible Renewable / Other Technologies:** Photovoltaics, Wind, Biomass, Landfill Gas, Hydrogen

**Applicable Sectors:** Commercial, Nonprofit
**Summary:** "Note: This program is currently undergoing revisions, which will include a restructuring of the grant and a change in the program name. However, as of November 2005, applications were still being accepted for the 2004 solicitation."

The Office of Clean Energy (OCE) within the New Jersey Board of Public Utilities provides funding in the form of a recoverable grant for the development of renewable-energy businesses, renewable technologies and market infrastructure through the Renewable Energy Economic Development (REED) program. The program provides seed capital for new businesses or business ventures and with the aim of helping businesses transition into traditional capital markets. Total program funding is $5 million.

The REED program is open to applicants who seek funding for research, business development, commercialization, and technology demonstrations of innovative products or services that advance the delivery of renewable-energy systems to the marketplace. The REED program is not intended to provide financing for construction and installation of renewable-energy systems. Eligibility is limited to New Jersey-based, for-profit or not-for-profit renewable technology small businesses, independently operated, and with not more than 500 employees. Firms considering relocation to New Jersey, as well as individuals and non-profit organizations in the process of establishing New Jersey companies, may apply.

Applicants will be evaluated on a rolling basis and will be awarded funding within the program criteria until the annual program budget has not been committed. This is a recoverable grant award that a company will be required to repay as its business venture generates revenue. The minimum award amount is $50,000; the maximum is $500,000.

**Source:** http://www.dsireusa.org/

### *Renewables Portfolio Standard*

**Incentive Type:** Renewables Portfolio Standard
**Policy Level:** State
**Province/Territory/State:** New Jersey

**Eligible Renewable / Other Technologies:** Photovoltaics, Wind, Biomass, Landfill Gas, Hydro, Geothermal Electric, Municipal Solid Waste
**Applicable Sectors:** Utility
**Summary:** "Note: The New Jersey Board of Public Utilities is currently considering a proposal to increase the Renewable Portfolio Standards (RPS). The proposed amendments would increase the state's RPS percentage of Class 1 (solar, wind, sustainable biomass) to 20% by 2020 from the current requirement of 4% by 2008. The proposal would further require that 2% of this amount come from solar electric systems."

New Jersey's 2001 restructuring legislation requires each electric-power supplier that sells electricity to retail customers in the state to include in its electric energy portfolio a certain percentage of electricity generated using renewable-energy sources. Initially, all retail electric suppliers were required to provide 4% of their electricity from Class I renewable resources and an additional 2.5% of their electricity from Class I or Class II resources by 2012. However, in April 2003, the Governor's Renewable Energy Task Force recommended doubling the Class I requirements from 2% in 2008 to 4% in 2008 and increasing investment in solar-electric generation. In May 2004, the New Jersey Board of Public Utilities (BPU) approved a revised rule requiring 4% of retail generation from Class I renewables and an additional 2.5% from Class I or Class II resources by May 31, 2008. Requirements beyond 2008 will be adopted in a future BPU rulemaking.

Class I renewables include wind, solar-electric generation, fuel cells powered by renewable fuels, geothermal technologies, wave and tidal action, and/or methane gas from landfills or anaerobic digestion of food waste or sewage sludge at a biomass facility, and other biomass resources provided that the biomass is cultivated and harvested in a sustainable manner. Class II renewables include hydropower facilities 30 megawatts (MW) or less; electricity from resource-recovery facilities in New Jersey that are in compliance with all applicable environmental laws; and resource-recovery facilities outside New Jersey that meet certain conditions. Both Class I and Class II renewable energy must be generated within or delivered into the PJM region. However, electricity generated outside the PJM region qualifies if the facility commenced construction on or after January 1, 2003.

The BPU's amendments also call for a set aside of at least 0.16% of retail electricity for solar-electric generation (approximately 90 MW) by 2008 as part of the 4% Class I renewables requirement. New Jersey has developed over 5 MW of solar through the Clean Energy Program. Projects funded by the state's Clean Energy Program qualify for renewables portfolio standard (RPS) compliance.

The BPU anticipates that the Clean Energy Program—including New Jersey's RPS—will be readopted by January 2006. As part of this process, the BPU anticipates issuing new rules that will include substantive changes to the RPS.

Suppliers must meet their solar-electric requirement through the use of Solar Renewable Energy Certificates (S-RECs) or a Solar Alternative Compliance Payment (SACP). The S-REC program and an on-line trading system have been developed to track certificates generated by solar-electric systems and to facilitate the purchase, sale, retirement and transfer of S-RECs. All electric suppliers are required to use this program to demonstrate compliance with the solar set-aside portion of the New Jersey's RPS. An S-REC, or "solar tag," represents the attributes of 1 megawatt-hour (MWh), equal to 1,000 kilowatt-hours, of solar-electric generation. S-RECs are bundled and traded in minimum denominations of 1 MWh. The maximum price for an S-REC is forecast to be approximately $250 per MWh ($0.25 per kWh). The S-REC program is anticipated to compensate system owners an average rate of around $200 per MWh ($0.20 per kWh) generated.

The SACP has been set at $300 per MWh. The estimated rate impact of the program on all customers is $0.00002 per kWh.

**Source:** http://www.dsireusa.org/

### *NJ Board of Public Utilities - Solar Renewable Energy Certificates*

**Incentive Type:** Production Incentive
**Policy Level:** State
**Province/Territory/State:** New Jersey

**Eligible Renewable / Other Technologies:** Photovoltaics
**Applicable Sectors:** Industrial, Commercial, Residential, Fed_Govt, Nonprofit, Local, Schools, Tribal_Govt, Institutional, State_Sector, Agricultural
**Summary:** New Jersey’s renewables portfolio standard (RPS) requires electricity suppliers to use solar energy to generate a certain percentage of their power. Solar Renewable Energy Certificates (S-RECs) represent the renewable attributes of solar generation, bundled in minimum denominations of 1 megawatt-hour (MWh) of production. New Jersey’s S-REC program provides a means for solar certificates to be created and verified, and allows electric suppliers to buy these certificates in order to meet their solar RPS requirements. All electric suppliers must use the S-REC program to demonstrate compliance with the RPS. New Jersey’s on-line marketplace for trading S-RECs, launched June 25, 2004, is the first such operation in the world.

S-RECs will accrue from participating solar-electric facilities beginning March 1, 2004. Solar generators must register with the BPU in order to participate in this program. An engineering estimate will be used to calculate the monthly S-REC generation for systems under 10 kilowatts. The program web site allows owners of systems 10 kW and larger to upload monthly meter readings and/or production information. When a generator has S-RECs in an account, the generator can use the electronic bulletin board on the S-REC web site to announce a sale offering. Interested buyers can also use the web site to request an S-REC purchase. Buyers and sellers contact each other offline and execute a sale. After a sale has been executed, the seller uses the web site to transfer S-RECs to the buyer. Electricity suppliers will also use the web site to retire S-RECs that have been used to meet their RPS requirements. Generators also have the option of recording and retiring S-RECs as a personal statement regarding the need for more clean energy.

As noted above, S-RECs are bundled and traded in minimum denominations of 1 MWh (1,000 kWh). The maximum price for an S-REC is forecast to be approximately $250 per MWh ($0.25 per kWh). The S-REC program is anticipated to compensate system owners an average rate of around $200 per MWh ($0.20 per kWh) generated. The estimated rate impact of the program on all customers is $0.00002 per kWh.

Significantly, the BPU anticipates issuing new rules by January 2006 that will include substantive changes to the RPS. According to the BPU, it is likely that the amount of renewable energy required by New Jersey's RPS will be raised.

**Source:** http://www.dsireusa.org/

### *Interconnection Standards*

**Incentive Type:** Interconnection
**Policy Level:** State
**Province/Territory/State:** New Jersey

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Landfill Gas, Hydro, Geothermal Electric
**Applicable Sectors:** Commercial, Residential
**Summary:** Legislation enacted by New Jersey in February 1999 requires utilities to offer net metering to residential and small commercial customers with photovoltaic and wind-energy systems. The law potentially caps statewide net-metering system capacity at 0.1% of New Jersey's peak electricity demand, or at an annual statewide financial impact to electric power suppliers and basic generation service providers of $2 million, whichever is less. To implement net metering, the New Jersey Board of Public Utilities (BPU) adopted interim standards in 2001. In September 2004, the BPU adopted final rules that substantially increased the types and size of systems eligible for interconnection. The final rules clarify and simplify interconnection for most residential and small commercial facilities.

The following provisions are included in the BPU's final rules:
– Systems up to 2 megawatts (MW) in capacity are eligible for net metering.
– There are three different levels of review procedures for applications, depending on size and certification. Level 1 applies to inverter-based systems with a capacity rating of 10 kilowatts (kW) or less. Level 2 applies to systems with a maximum capacity of 2 MW that are certified by a nationally-recognized testing and certification laboratory as meeting IEEE 1547 and UL 1741 compliance standards. Level 3 applies to systems with a maximum capacity of 2 MW that do not qualify for either the Level 1 or Level 2 interconnection review procedures.
– Fees vary by level. There is no fee for Level 1 interconnection. Level 2 interconnection may include a fee of $50 plus $1 per kW of capacity (not to exceed $100). Level 3 may include a fee of $100 plus $2 per kW of capacity, as well as charges for actual time spent on any impact and/or facilities studies required by the standard.

– Utilities may not require Level 1 and Level 2 customer-generators to install additional controls or external disconnect switches not included in the equipment package, to perform or pay for additional tests, or to purchase additional liability insurance.
– An external disconnect switch is no longer required.
– Interconnection to networks is permitted.

Interconnection applications, guidelines and contacts for the state's distribution utilities—Conectiv, Rockland Electric, PSE&G, and Jersey Central Power and Light—are available at <a href=http://www.njcep.com/html/4_app_eforms2-interconnect.html>www.njcep.com/html/4_app_eforms2-interconnect.html</a>.

**Source:** http://www.dsireusa.org/

### *New Jersey - Green Power Purchasing*

**Incentive Type:** Green Power Purchasing/Aggregation
**Policy Level:** State
**Province/Territory/State:** New Jersey

**Eligible Renewable / Other Technologies:** Wind, Solar, Biomass, Hydro
**Applicable Sectors:** State_Sector
**Summary:** An aggregation of New Jersey state agencies is using renewable energy to account for approximately 12% of their electricity usage. The agencies are purchasing green power meet a 10% green-power goal established by New Jersey Governor James McGreevey.

Through March 2005, the agencies obtained green power through a contract with Pepco Energy. After this contract expired (in March 2005) the agencies anticipated signing a new contract for green-power delivery. The agencies' contract with Pepco supplied more than 24 megawatts of wind power certified by "Green-E."

The aggregated green power supplies 180 New Jersey accounts, including departments and agencies within the state government; 11 state universities; New Jersey Transit; the Port Authority of New York and New Jersey; the New Jersey Sports and Exposition Authority; the New Jersey Turnpike Authority; the New Jersey Highway Authority; the Hackensack Meadowlands Development Commission; the Delaware River Port Authority; the New Jersey Water Supply Authority; South Jersey Transportation Authority; and Palisades Interstate Park Commission.

A November 2003 EPA case study, Renewable Energy: New Jersey's Green Power Purchasing Program, describes the program in greater detail.

**Source:** http://www.dsireusa.org/

### *Solar Easements*

**Incentive Type:** Solar Access Law/Guideline
**Policy Level:** State
**Province/Territory/State:** New Jersey

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics
**Applicable Sectors:** Industrial, Commercial, Residential, Fed_Govt, Nonprofit, Local, Schools, State_Sector
**Summary:** New Jersey's Solar Easements Act provides for the creation of solar easements to ensure that proper sunlight is available to those who operate solar-energy systems.

**Source:** http://www.dsireusa.org/

### *Societal Benefits Charge*

**Incentive Type:** Public Benefits Fund
**Policy Level:** State
**Province/Territory/State:** New Jersey

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Landfill Gas, Hydro, Geothermal Electric
**Applicable Sectors:** Government
**Summary:** New Jersey's 1999 electricity restructuring legislation, the Electric Discount and Energy Competition Act (EDECA), supports investments in energy efficiency and renewable energy over an eight-year period through the "Societal Benefits Charge" (SBC). This charge is collected from all customers of public electric utilities. A separate Universal Service Fund (USF) provides assistance for low-income programs.

The SBC funds New Jersey's Clean Energy Program, established in March 2001 by the New Jersey Board of Public Utilities (BPU). The BPU administered total program funding of $358 million for the years 2001-2003, including $115 million in 2001, $119 million in 2002, and $124 million in 2003. Of this funding, 75% supported energy-efficiency programs. The remaining 25% supported Class I renewables, which include solar, wind, fuel cells using renewable fuels, geothermal, wave and tidal action, landfill gas, and sustainable biomass facilities.

The BPU anticipates that the Clean Energy Program—including New Jersey's RPS—will be readopted by January 2006. As part of this process, the BPU anticipates issuing new rules that will include substantive changes to the renewables portfolio standard (RPS).

The Clean Energy Council (CEC) advises the BPU's Office of Clean Energy on administration of the Clean Energy Program, which provides rebates of $0.15-$5.50 per watt for photovoltaic (PV), wind and biomass projects, including fuel cells using renewable fuels.

In 2001, the renewable-energy portion of the $115 million was split between customer-sited (60% of funding) and grid-supply renewable-energy projects (40% of funding) to allow more grid-supply projects to become market-ready. In 2002 and future years, these funds are split evenly between customer-sited and grid-supply projects.

**Source:** http://www.dsireusa.org/

### *Solar and Wind Energy Systems Exemption*

**Incentive Type:** Sales Tax Exemption
**Policy Level:** State
**Province/Territory/State:** New Jersey

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics, Wind
**Applicable Sectors:** Commercial, Residential, Government
**Summary:** New Jersey offers a full exemption from the state's 6% sales tax for all solar and wind-energy equipment. This exemption is available to all taxpayers. All major types solar-energy equipment, including equipment for passive solar design, is considered eligible for the exemption. The statute directed the New Jersey Division of Energy Planning and Conservation in the Department of Energy to establish technical standards for qualifying solar-energy systems. Although the regulations defining eligible systems expired in 2000, the exemption from the state's sales tax is still in effect.

**Source:** http://www.dsireusa.org/

### *Clean Energy Financing for Local Schools and Governments*

**Incentive Type:** State Loan Program
**Policy Level:** State
**Province/Territory/State:** New Jersey

**Eligible Renewable / Other Technologies:** Photovoltaics, Wind, En Eff, Biomass
**Applicable Sectors:** Local, Schools
**Summary:**
The New Jersey Board of Public Utilities, in partnership with the New Jersey Economic Development Authority, offers local governments and schools a low-interest, long-term financing program that allows them to combine traditional energy efficiency and renewable energy incentive programs. Financing under this program will cover the entire incremental cost of energy efficiency and renewable energy projects, enabling the governmental entities to finance the projects completely, with no up front capital necessary.

The Clean Energy Financing Program, formerly the REDO Program, can be combined with the New Jersey Clean Energy Program's incentives for a wide range of energy efficient technologies and renewable energy systems. For a listing of the incentives for specific energy efficient technologies, please visit the Smart Start Buildings webpage at www.njsmartstartbuildings.com. For details on the renewable energy rebate program, please visit the web site at www.njcep.com.

Visit the program web site shown above for a project application.

**Source:** http://www.dsireusa.org/

### *Environmental Information Disclosure*

**Incentive Type:** Generation Disclosure
**Policy Level:** State
**Province/Territory/State:** New Jersey

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Landfill Gas, Hydro, Geothermal Electric, Municipal Solid Waste, Fuel Cells
**Applicable Sectors:** Utility
**Summary:** As part of its 1999 electric-utility restructuring legislation, New Jersey mandates the disclosure of fuel mixes and emissions information by each electricity supplier or basic generation service provider serving retail customers (residential, commercial and industrial). The New Jersey Board of Public Utilities (BPU) adopted environmental disclosure standards in July 1999.

Disclosure information must be published in a standardized label format and distributed as part of advertising materials, customer billing materials and customer contracts. Information must be updated in semi-annual mailings. This disclosure requirement applies to every electricity supplier and every electricity product, regardless of whether or not the supplier is making an environmental claim about the electricity product.

The information that must be disclosed to customers includes the following:
– fuel mix, including categories for coal, gas, hydroelectric (large), nuclear, oil and renewable energy, or regional average default values as determined by the BPU;
– air emissions, in pounds/megawatt-hour, of sulfur dioxide, carbon dioxide, nitrogen oxides; and
– the electricity supplier's support of energy efficiency, as reflected in the number of discrete emission-reduction credits.

New Jersey's disclosure standards also include provisions for third-party certification and verification, as well as penalties for violations.

**Source:** http://www.dsireusa.org/

### *New Jersey Clean Energy Rebate Program*

**Incentive Type:** State Rebate Program
**Policy Level:** State
**Province/Territory/State:** New Jersey

**Eligible Renewable / Other Technologies:** Photovoltaics, Wind, Biomass, Landfill Gas
**Applicable Sectors:** Commercial, Residential, Nonprofit, Schools, Institutional
**Summary:** New Jersey's 1999 electric restructuring legislation provides for investments in energy efficiency and renewable energy through a "Societal Benefits Charge" collected from all customers of electric public utilities. In March 2001, the New Jersey Board of Public Utilities (BPU) approved funding for renewable-energy programs, including a customer-sited renewables rebate program for homes, businesses, institutions and non-profit facilities.

Eligible technologies include fuel cells, photovoltaic (PV) systems, small wind-energy systems and/or sustainable biomass-energy technologies. Systems must include at least a five-year, all-inclusive warranty. Eligible systems should be sized to produce no more than 125% of the historical or expected (if new construction) amount of electricity consumed at a system's site. Financial incentives for systems larger than 1 megawatt (MW) are available through the state's Renewable Energy Project Grants and Financing Program.

PV Systems
PV systems (also known as solar-electric systems) are eligible for incentives paid incrementally, based on the size of the system installed (DC rating). Systems up to 1 MW in capacity are eligible, but incentives are paid only for the first 700 kilowatts (kW) of capacity. Payment amounts also vary by customer class. The rebate is reduced by 15% for owner-installed systems. Effective for applications received on or after February 1, 2006, approved projects installed by public, institutional and AMT-documented applicants are eligible for the following incentive levels:
– $5.30 per watt for the first 10 kW of system capacity
– $4.35 per watt for the next 30 kW of system capacity
– $3.75 per watt for the next 60 kW of system capacity
– $3.60 per watt for the next 600 kW of system capacity

Effective for applications received on or after February 1, 2006, approved projects installed by residential, commercial and industrial applicants are eligible for the following incentive levels:
– $4.95 per watt for the first 10 kW of system capacity
– $3.70 per watt for the next 30 kW of system capacity
– $3.20 per watt for the next 60 kW of system capacity
– $3.05 per watt for the next 600 kW of system capacity

Significantly, effective for applications received on or after February 1, 2006, approved projects installed by residential, commercial and industrial applicants are eligible for an additional rebate of $0.25 per watt for PV modules manufactured in New Jersey. These projects are eligible for the following incentive levels:
– $5.20 per watt for the first 10 kW of system capacity
– $3.95 per watt for the next 30 kW of system capacity
– $3.45 per watt for the next 60 kW of system capacity
– $3.30 per watt for the next 600 kW of system capacity

Furthermore, PV systems up to 10 kW in capacity participating in the New Jersey Home Performance with Energy Star program also will receive an additional rebate of $0.25 per watt.*

Wind and Sustainable Biomass Systems
These systems are currently eligible for incentive levels beginning at $5 per watt (60% maximum) for systems up to 10 kW in capacity. Larger systems receive incrementally lower rebate amounts with a 30% maximum as follows:
– $3.00 per watt for the first 10 kW for systems greater than 10 kW
– $2.00 per watt for the next 90 kW of system size
– $1.50 per watt for the next 400 kW of system size
– $0.15 per watt for system capacity in excess of 500 kW, up to 1 MW

The New Jersey Clean Energy Program web site provides all application materials, complete funding schedule and information about current incentive levels.

See <http://www.njcep.com/html/sys_inst_rebate.html> for the latest statistics on the number and types of projects supported through this incentive program.

"* Owners of residential PV modules (up to 10 kW in capacity) that are manufactured in New Jersey and participating in the New Jersey Home Performance with Energy Star program are eligible for a total rebate of $5.45 per watt."

**Source:** http://www.dsireusa.org/

### *Renewable Energy Business Venture Assistance Program (REBVAP)*

**Incentive Type:** State Grant Program
**Policy Level:** State
**Province/Territory/State:** New Jersey

**Eligible Renewable / Other Technologies:** Photovoltaics, Wind, Biomass, Landfill Gas, Hydrogen, "Balance of Systems" Technologies
**Applicable Sectors:** Commercial
**Summary:** New Jersey's Renewable Energy Business Venture Assistance Program (REBVAP) provides grants and recoverable grants for the development of businesses, technologies, service and market infrastructure in support of the state's renewable-energy industry. Eligible technologies include photovoltaics (PV), wind energy, renewably-fueled fuel cells, wave energy, tidal energy, renewably-generated hydrogen, sustainably-harvested biomass, landfill gas and other technologies that can demonstrate their integral nature to the development of renewable-energy technologies, such as "Balance of System" technologies.* The program budget is approximately $5 million; individual awards range from $50,000 to $500,000. There is a 25% cost-share requirement.

Half of the program's funding supports a demonstration grant program that promotes the development, deployment and demonstration of renewable-energy projects. These projects should evaluate the scientific or technical merit and feasibility of ideas that appear to have commercial potential. Proposals for grants under the demonstration grant program were due December 30, 2005.

The remainder of the program budget supports a recoverable grant program for applicants with commercialization projects for renewable-energy products, services or systems. The recoverable grant program is designed to foster renewable energy businesses in New Jersey via seed capital for dynamic state-based expansion of this industry. These funds will be competitively awarded with provisions made for repayment. Companies receiving recoverable grants will be required to repay principal as they begin to generate revenues. Applications for the recoverable grant program will be evaluated on an ongoing basis, with no fixed deadline, throughout 2006 or until all funds are committed.

Eligibility is limited to renewable-energy companies primarily located in New Jersey, independently operated, and with not more than 500 employees. For more information, see the October 2005 REBVAP solicitation. Contact Ronald Jackson of the BPU with questions regarding the program or solicitation.

* "Balance of Systems" is defined in the solicitation as: "A catch-all phrase referring to the remainder of the components of clean energy systems other than the prime electricity generator. With a solar photovoltaic system for instance, balance of systems refers to equipment such as the inverter, disconnects, and power conditioning devices, other than the photovoltaic panels."

**Source:** http://www.dsireusa.org/

### *New Mexico - Net Metering*

**Incentive Type:** Net Metering Rules
**Policy Level:** State
**Province/Territory/State:** New Mexico

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Landfill Gas, Hydro, Geothermal Electric, Municipal Solid Waste, Cogeneration, Fuel Cells
**Applicable Sectors:** Industrial, Commercial, Residential
**Summary:** On September 30, 1999, the New Mexico Public Regulation Commission (PRC) issued a rule requiring all utilities regulated by the PRC to offer net metering for cogeneration facilities and small power producers with systems of 10 kW or less. Municipal utilities are exempt because they are not regulated by the PRC. There is no statewide cap on the number of systems eligible for net metering.

Net excess electricity generated by a qualifying system must be credited to the customer on the next bill by either: (1) crediting or paying the customer for the net energy supplied to the utility at the utility's "energy rate"; or (2) crediting the customer for the net kilowatt-hours of energy supplied to the utility. Unused credits shall be carried forward from month to month. In this case, if a customer leaves the system, utilities must pay the customer for any unused credits at the utility's "energy rate."

This rule amended New Mexico's November 30, 1998, net metering ruling, PUC Final Order Case #2847. Under this rule, net excess generation was credited to the customer's next monthly bill with any unused credited granted to the utility at the end of the year. (Note that the PRC was called the Public Utility Commission prior to 1999.)

**Source:** http://www.dsireusa.org/

### *Renewables Portfolio Standard*

**Incentive Type:** Renewables Portfolio Standard
**Policy Level:** State
**Province/Territory/State:** New Mexico

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Landfill Gas, Hydro, Geothermal Electric
**Applicable Sectors:** IOU
**Summary:** On December 17, 2002, the New Mexico Public Regulation Commission (PRC) unanimously approved a renewable energy rule requiring investor owned utilities to produce 5% of all energy they generate for New Mexico customers using solar, wind, hydropower, biomass, or geothermal sources by 2006. Generation from renewable sources must increase by at least 1% per year until the portfolio standard (RPS) of 10% is attained in the year 2011. In March of 2004,

Senate Bill 43 (the Renewable Energy Act) placed the PRC rule into statute and established additional requirements.

Utilities document compliance with the RPS through the use of renewable energy certificates, which represent kilowatt hours of renewable energy produced. The various sources of renewable energy have been assigned different values for the purposes of issuing certificates and calculating the percentage of electricity generated by renewables:

– One kilowatt-hour of electricity generated by wind or hydroelectric technologies is worth one kilowatt-hour toward compliance with the RPS;
– One kilowatt-hour of biomass, geothermal, landfill gas, or fuel cell power is worth two kilowatt-hours toward the RPS; and
– One kilowatt-hour of solar power is worth three kilowatt-hours toward the RPS.

The rule also requires utilities to offer a voluntary renewable energy tariff (green pricing option for customers) and to develop an educational program communicating the benefits and availability of this option. Note that electric cooperatives are only required to provide the green pricing option to the extent that their suppliers make such renewable resources available under their all-requirements contracts.

Investor-owned utilities that as of December 17, 2002, had all-requirements contracts that expire after January 1, 2006, are exempt from the RPS until the earlier of the date of their next contract forward or the date on which the all-requirements contract is amended or renegotiated.

With the passage of SB 43 in 2004, the PRC established the "reasonable cost threshold." If the cost of renewable energy generation is above this PRC-established level, the public utility will not be required to add renewable energy to its supply portfolio.

SB 43 also reduced the RPS for nongovernmental customers at a single location or facility with consumption exceeding 10,000,000 kWh/yr. The number of kWhs of electricity from renewable sources procured for these customers is to be limited so that the additional cost of the RPS to each customer does not exceed the lower of 1% of that customer's annual electric charges or $49,000. This procurement limit criterion is then increased by 1/5% or $10,000 per year until January 1, 2011, when it remains fixed at the lower of 2 % of the customer's annual electric charges or $99,000. The bill clarifies that this language in no way affects a public utility's right to recover all reasonable costs of complying with the RPS. It also provides the PRC the authority to defer recovery of the costs of complying with the PRS, including carrying charges.

**Source:** http://www.dsireusa.org/

### *Biomass Equipment & Materials Deduction*

**Incentive Type:** Sales Tax Exemption
**Policy Level:** State
**Province/Territory/State:** New Mexico

**Eligible Renewable / Other Technologies:** Biomass, Landfill Gas, Municipal Solid Waste, Cogeneration, Hydrogen
**Applicable Sectors:** Industrial, Commercial
**Summary:** Enacted April 5, 2005, HB 995 allows businesses to deduct the value of biomass equipment and biomass materials used for the processing of biopower, biofuels or biobased products in determining the amount of Compensating Tax due.

New Mexico's Compensating Tax is an excise, or "use" tax, which is typically levied on the purchaser of the product or service for using tangible property in the state. The tax applies to imports of factory and office equipment, and other items. The rate is 5% of the value of the

property or service. Compensating Tax is designed to protect New Mexico businesses from unfair competition from out-of-state business not subject to a sales or gross receipts tax. This biomass Compensating Tax deduction is analogous to a sales tax exemption for renewable energy equipment available in some other states.

Deductions from compensating tax do not have to be reported to the NM Taxation and Revenue Department but records substantiating the deduction should be kept in the taxpayer's records.

**Source:** http://www.dsireusa.org/

### *Energy Efficiency & Renewable Energy Bond Program*

**Incentive Type:** State Bond Program
**Policy Level:** State
**Province/Territory/State:** New Mexico

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Photovoltaics, Wind, En Eff, Biomass, Cogeneration, Fuel Cells
**Applicable Sectors:** Schools, State_Sector
**Summary:**
Enacted on April 5, 2005, the Energy Efficiency and Renewable Energy Bonding Act (HB 32), establishes up to $20 million in bonds to finance energy efficiency and renewable energy improvements in state government and school district buildings. The bonds are exempt from taxation by the state. Any type of renewable energy system and most energy efficiency measures, including energy recovery and combined heat and power systems, are eligible for funding.

Projects financed with the bonds will be paid back to the bonding authority using the savings on energy bills. A state energy efficiency plan will be developed by FY 2010 to identify the maximum on-site renewable energy generation possible (in combination with energy efficiency measures) to achieve a revenue-neutral plan.

**Source:** http://www.dsireusa.org/

### *Schools with Sol*

**Incentive Type:** State Grant Program
**Policy Level:** State
**Province/Territory/State:** New Mexico

**Eligible Renewable / Other Technologies:** Active Water Heat, Photovoltaics
**Applicable Sectors:** Schools
**Summary:** Schools with Sol is a four-year solar demonstration program of the Energy Conservation and Management Division for New Mexico's K-12 schools.

The program funds the installation of solar equipment that produces electricity and/or hot water for school facilities. The goals are to create opportunities for renewable energy education in New Mexico's schools; provide residential-scale demonstrations in the schools' local communities; and displace conventional electricity, natural gas, and propane consumption in school facilities.

Under the Schools with Sol program, solar energy systems are being installed at ten sites in New Mexico schools each year from 2004 through 2007. It is estimated that the installed systems will produce more than three million kilowatt-hours of energy during their 20-year life-cycles and save $150,000 in energy costs.

As part of the Schools with Sol educational component, students will learn about PV and other types of renewable energy systems, and see real-time energy production through performance monitoring.

Schools with Sol is funded by the Energy, Minerals and Natural Resources Department using State General Funds, U.S. Department of Energy funding, school district in-kind contributions, and utility company funding. Funds are used for design, purchase, installation, and maintenance of solar systems.

Through a competitive process EMNRD selects schools each year to receive one of three types of systems:
- photovoltaic (PV), grid interconnected with 500-to-1000 Watts;
- solar domestic hot water (SDHW), 30-to-120 square feet of liquid glazed collectors;
- solar swimming pool heating (SSPH), 200-to-300 square feet of liquid unglazed collectors.

The Energy Conservation and Management Division assists New Mexico public schools in reducing operating costs through programs for energy-efficient design, energy performance contracting, and clean energy grants. Schools with Sol offers an additional way to reduce operating costs, while also providing a great educational opportunity for students to learn about solar energy and other sustainable technologies.

**Source:** http://www.dsireusa.org/

### *Clean Energy Grants Program*

**Incentive Type:** State Grant Program
**Policy Level:** State
**Province/Territory/State:** New Mexico

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Photovoltaics, Wind, En Eff, Biomass, Landfill Gas, Renewable Transportation Fuels, Geothermal Heat Pumps, Fuel Cells
**Applicable Sectors:** Local, Schools, Tribal_Govt, State_Sector
**Summary:** The Clean Energy Grants Program, administered by the Energy Conservation and Management Division of the New Mexico Energy, Minerals and Natural Resources Department (ECMD-EMNRD), supports the development of renewable energy, energy efficiency, and alternative transportation fuels technologies. Grants are available to municipalities and county governments, state agencies, public schools (K-12), post-secondary educational institutions (colleges/universities), and tribal entities.

Capital projects resulting from the current Request for Proposals will be required to meet performance measures established for the Program, including a 5% reduction in energy consumption in building projects or 15% increase in alternative fuel usage. Educational and non-capital projects must provide one of the following benefits: increasing the development of clean energy market demand; or advancing commercialization and widespread application of clean energy technologies.

In 2005, the ECMD-EMNRD awarded a total of about $2 million in funding for 23 projects, including energy efficiency lighting upgrades, photovoltaic and solar thermal installations, wind projects, a landfill gas-to-energy biomass facility, and an expansion of E-85 and biodiesel fuel station infrastructure within the state. Applications are available on the program web site.

*Note: The application deadline for 2005 has passed, but funding is expected (though not yet approved by the legislature) for 2006.

**Source:** http://www.dsireusa.org/

### *Solar Rights Act of 1978*

**Incentive Type:** Solar Access Law/Guideline
**Policy Level:** State
**Province/Territory/State:** New Mexico

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics
**Applicable Sectors:** Industrial, Commercial, Residential, Fed_Govt, Nonprofit, Local, Schools, State_Sector
**Summary:** New Mexico's Solar Rights Act and Solar Recordation Act allow property owners to create solar easements for the purpose of protecting and maintaining proper access to sunlight. The Solar Recordation Act explains the procedures for filing a solar right. These rules also include provisions allowing local governments to create their own ordinances or zoning rules pertaining to the protection of solar rights.

**Source:** http://www.dsireusa.org/

### *Line Extension*

**Incentive Type:** Line Extension Analysis
**Policy Level:** State
**Province/Territory/State:** New Mexico

**Eligible Renewable / Other Technologies:** Photovoltaics, Wind, Biomass, Geothermal Electric
**Applicable Sectors:** Utility
**Summary:** Electric utilities in New Mexico are required to provide information on alternative energy systems to remote customers with less than a 25-kW load who request line extensions. This requirement applies when the cost of the requested line extension is greater than 15 times the estimated annual revenue from the line extension. In such cases, utilities must provide customers with information on suppliers of alternative energy systems.

**Source:** http://www.dsireusa.org/

### *Renewable Energy Production Tax Credit*

**Incentive Type:** Corporate Tax Credit
**Policy Level:** State
**Province/Territory/State:** New Mexico

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass
**Applicable Sectors:** Industrial, Commercial
**Summary:** Enacted in 2002, and amended in 2003 by HB 146, the New Mexico Renewable Energy Production Tax Credit provides a tax credit against the corporate income tax of one cent per kilowatt-hour for companies that generate electricity from wind, solar, or biomass. The credit is applicable only to the first 400,000 megawatt-hours of electricity in each of 10 consecutive years. To qualify, an energy generator must use a low- or zero-emissions generation technology and have capacity of at least 10 megawatts. Energy generation from all participants combined must not exceed two million megawatt-hours of production annually.

If the amount of the tax credit claimed exceeds the taxpayer's corporate income tax liability, the excess may be carried forward for up to five consecutive taxable years.

The renewable energy production tax credit claim form and instructions provide additional information.

**Source:** http://www.dsireusa.org/

### *Mandatory Utility Green Power Option*

**Incentive Type:** Mandatory Utility Green Power Option
**Policy Level:** State
**Province/Territory/State:** New Mexico

**Eligible Renewable / Other Technologies:** Photovoltaics, Wind, Biomass, Landfill Gas, Hydro, Geothermal Electric, Fuel Cells
**Applicable Sectors:** Utility
**Summary:** On December 17, 2002, the New Mexico Public Regulation Commission (NMPRC) unanimously approved an expansive new renewable energy rule. The rule requires utilities to offer a voluntary renewable energy tariff (green pricing option for customers) and to develop an educational program communicating the benefits and availability of this option. Electric cooperatives are only required to provide the green pricing option to the extent that their suppliers make such renewable resources available under their all-requirements contracts.

Public utilities were required to offer their voluntary renewable energy tariffs and present the details of their consumer educational programs by August 30, 2003.

The rule also requires public utility companies to produce 5% of all energy they generate for New Mexico customers from solar, wind, hydropower, biomass, or geothermal sources by 2006. Generation from renewables must increase by at least 1% per year until the renewable portfolio standard (RPS) of 10% is attained in the year 2011. Please review the New Mexico RPS and the complete NMAC 17.9.572 for more information.

New Mexico code defines "renewable energy" as electrical energy generated by means of a low- or zero-emissions generation technology that has substantial long-term production potential and may include, without limitation, solar, wind, hydropower, geothermal, biomass, including but not limited to agriculture or animal waste, small diameter timber, salt cedar and other phreatophyte or woody vegetation removed from river basins or watersheds in New Mexico, landfill gas, anaerobically digested waste biomass or fuel cells that are not fossil fueled, but does not include fossil fuel or nuclear energy.

**Source:** http://www.dsireusa.org/

### *Interconnection Standards*

**Incentive Type:** Interconnection
**Policy Level:** State
**Province/Territory/State:** New Mexico

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Other DG, Biomass, Landfill Gas, Hydro, Geothermal Electric, Municipal Solid Waste, Cogeneration, Fuel Cells
**Applicable Sectors:** Industrial, Commercial, Residential, Fed_Govt, Nonprofit, Local, Schools, State_Sector
**Summary:** Distributed generation (DG) and renewables interconnection in New Mexico is governed by New Mexico Public Regulation Commission (PRC) Rule 570</a>, for large PURPA class systems, and Rule 571, for small cogeneration and renewable systems up to 10 kW. Rule 571, which was established in September 1999, specifies the net metering provisions for small systems and provides guidance on interconnection. The rule also includes a standard interconnection agreement. Systems must comply with all local and national standards (National Electrical Code, Institute of Electrical and Electronic Engineers, and Underwriters Laboratories), and must also meet any additional requirements that a utility files and the PRC approves.

A manual external disconnect device is required unless the customer and utility agree that the meter can be used to disconnect the system in the case of a power outage. While it is not mandatory, the PRC strongly recommends that a customer purchase liability insurance, and may require the customer to do so at the utility's request. As a practical matter, PV interconnection in New Mexico is reportedly a straightforward process. Most utilities allow the meter to serve as the external disconnect. The only testing required is a simple shut-down test to ensure that systems recognize when the power grid is down. Customers of Public Service of New Mexico (the state's largest utility) must submit an application form before entering into an interconnection agreement with the company.

Rule 570 was established in 1988 to comply with PURPA regulations. It contains the legal, technical and buy-back rate issues for Qualifying Facilities over 10 kW. Note that Rule 570 and Rule 571 apply wherever electricity service is regulated by the PRC. This includes the areas serviced by New Mexico's four investor-owned utilities and the areas serviced by electric co-ops, but it does not include municipal utilities. The purpose of Rule 571 is to simplify the interconnection requirements for Qualifying Facilities of 10 kW or smaller and to encourage the use of small-scale, customer-owned renewable or alternative energy resources to benefit New Mexico's environment. Rule 571 (17 NMAC 9.571) was last amended by the PRC on September 7, 1999.

**Source:** http://www.dsireusa.org/

### *Solar and Fuel Cell Tax Credit*

**Incentive Type:** Personal Tax Credit
**Policy Level:** State
**Province/Territory/State:** New York

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Photovoltaics, Fuel Cells
**Applicable Sectors:** Residential
**Summary:** Enacted in August 1997, this personal income tax credit originally applied to expenditures on solar-electric (PV) equipment used on residential property. It was passed as part of a bill that also included net-metering provisions for solar-electric systems. The credit, equal to 25% percent of the cost of equipment and installation, was expanded in August 2005 (S.5252) to include solar-thermal equipment. The solar-thermal provisions apply to taxable years beginning on and after January 1, 2006. Senate Bill 5252 also eliminated the provision that capped qualified expenditures for solar-electric systems at $6 per watt of rated capacity (effective 1/1/2006).

The credit is capped at $3,750 for solar-energy systems placed in service before September 1, 2006, and capped at $5,000 for solar-energy systems placed in service on or after September 1, 2006. (The maximum credit was $3,750 prior to the enactment of S.5252).

Any amount of credit that exceeds a taxpayer's liability in a given tax year may be carried forward for the five following taxable years. Any amount of the system cost provided by a grant from any source is not eligible for this credit.

Solar-energy equipment is defined as "an arrangement or combination of components utilizing solar radiation, which, when installed in a residence, produces energy designed to provide heating, cooling, hot water or electricity." The credit may not be used for pool heating or other recreational applications.

While there is no explicit limit on the size of a solar-electric energy system eligible for the tax credit, there is a 10-kilowatt capacity limit on residential, net-metered solar-energy systems. There is also a statewide limit on the amount of total capacity that may be net metered. This limit is set at 0.1% of 1996 peak demand for each utility. That is, each electric utility is obligated to

provide net metering to customers only until the total net-metered capacity in that utility's service district reaches 0.1% of the utility's 1996 peak load. This limit provides insurance against excessive revenue losses by utilities, although the limit is not expected to deter solar-electric installations. Net-metered solar-electric systems must conform to the requirements set forth by § 66-j of the New York Public Service Law.

Effective for tax years beginning on or after January 1, 2003, fuel cells installed at a principal residence are eligible for a 20% tax credit, with a maximum credit of $1,500. To qualify, fuel cells must provide a maximum rated baseload capacity of 25 kW and must utilize proton exchange membrane (PEM) technology.

**Source:** http://www.dsireusa.org/

### *Interconnection Standards*

**Incentive Type:** Interconnection
**Policy Level:** State
**Province/Territory/State:** New York

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Other DG, Biomass, Landfill Gas, Hydro, Geothermal Electric, Municipal Solid Waste, Cogeneration, Fuel Cells
**Applicable Sectors:** Industrial, Commercial, Residential, Agricultural
**Summary:** New York was the second state to issue uniform interconnection standards for distributed generation (DG) systems. The New York Public Service Commission (PSC) originally adopted Standard Interconnection Requirements (SIR) for units of 300 kilowatts (kW) or less in December 1999. Because of concerns over some of the burdensome procedural issues, the PSC revisited the rules, and in November 2002 issued an order adopting several modifications to the SIR. These changes streamlined the application process and provided a more ordered progression for the study and review phases of the procedure. Subsequently, in November 2004 the PSC issued an order further modifying the SIR by increasing the maximum capacity of interconnected systems from 300 kW to 2 megawatts (MW) and expanding interconnections to the state's network systems, which exist in large, urban areas (including New York City).

The SIR address technical guidelines for interconnection and application procedures, although it leaves many details to the discretion of utilities. It includes the simplified requirements for small systems that qualify for net metering. (Prior to the PSC's November 2002 order, interconnection standards for net-metered systems were separate from the DG standards in the SIR.) Procedurally, the standard includes an 11-step process that covers initial inquiry to final utility acceptance for interconnection. Included in the appendices of the SIR are a standard contract and standard application forms.

The SIR provisions for type-tested systems (approved by NYSERDA) allow some systems to bypass many of the procedural steps. Type-tested equipment includes, for example, PV inverters and complete microturbine systems. A current list of PSC type-tested equipment can be found on the commission's DG site.

The SIR apply to state's six investor-owned local electric utilities: Central Hudson Gas and Electric, Consolidated Edison Company of New York, New York State Electric & Gas, Niagara Mohawk, Orange and Rockland Utilities, and Rochester Gas and Electric.

**Source:** http://www.dsireusa.org/

### *Renewable Energy Technology Manufacturing Incentive Program*

**Incentive Type:** Industry Recruitment
**Policy Level:** State

**Province/Territory/State:** New York

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Landfill Gas, Hydro, Products that support or are included in these systems, and products that incorporate these systems; Other electricity-generating technologies with zero-emission attributes
**Applicable Sectors:** Industrial, Commercial
**Summary:** The New York State Energy Research and Development Authority's (NYSERDA) Renewable Energy Technology Manufacturing Incentive Program aims to expand in-state manufacturing of electricity-generating renewable-energy products. This program provides funding for renewable-energy technology manufacturers to develop or expand facilities to produce certain systems and components, including those related to solar-electric, wind-electric, bio-electric and hydroelectric technologies.

Eligible solar-electric products include photovoltaic cells, photovoltaic systems and solar thermal-electric systems, products that support or are included in these systems, and products that incorporate these systems. Eligible wind-electric products include wind-energy conversion devices, and major components that support wind-energy systems and power plants. Eligible bio-electric products include combustion systems and components specifically designed for biomass feedstocks. Eligible hydroelectric products include new turbines or turbine systems, and components that increase electric-generating capacity or improve environmental performance. Technologies that uniquely enable the installation of renewable-energy technologies also will be considered (e.g., energy storage, power quality and associated installation equipment). Furthermore, other electricity-generating technologies with zero-emission attributes may be considered.

Facilities may be located at Saratoga Technology + Energy Park (STEP) or other locations consistent with restrictions associated with the New York Energy $mart Program.* Should the manufacturer decide to site its facility at STEP, NYSERDA may allow additional facility development incentives.

Participants may include, but are not limited to, current manufacturers of a qualifying renewable-energy technology. Teaming arrangements are encouraged when necessary to meet project goals. Proposing teams should include members who have manufacturing and plant-operation experience.

Proposals must include a description of the technology to be manufactured, a description of the proposed facility or expansion, and the applicability of the technology to the New York market. A business plan, corporate financial information and letters of support from all team members also are required. See the program web site for additional proposal requirements. Contingent on the availability of funds, NYSERDA anticipates announcing three proposal deadlines.

NYSERDA intends to award a total of $4 million under this solicitation, with a maximum award of $1,000,000. Incentive payments include the following restrictions: (1) up to 25% of project funding may be attributed to plant startup and 75% based on product sales; (2) local-source content is required; (3) projects are limited to five years; and (4) participants must actively pursue all other incentive and economic development assistance as part of this program. A minimum of 75% cost share is required for all proposals. Proposals are due at 5:00 p.m. EST on January 16, 2006, and June 1, 2006.

* “Consistent with restrictions associated with the New York Energy $mart program, only proposals for project development in the service territories of Rochester Gas & Electric, Consolidated Edison, Central Hudson Gas and Electric, New York State Electric and Gas, Niagara Mohawk Power/National Grid, and Orange and Rockland Utilities are eligible for awards.”

**Source:** http://www.dsireusa.org/

### *Green Building Tax Credit Program - Corporate*

**Incentive Type:** Corporate Tax Credit
**Policy Level:** State
**Province/Territory/State:** New York

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Photovoltaics, En Eff, Fuel Cells
**Applicable Sectors:** Commercial, Residential, Construction
**Summary:** In 2000, New York State passed an innovative Green Building Tax Credit for business and personal income taxpayers. The credit can be applied against corporate taxes, personal income, insurance corporation taxes and banking corporation taxes. The incentive applies to owners and tenants of eligible buildings and tenant spaces which meet certain "green" standards. These standards increase energy efficiency, improve indoor air quality, and reduce the environmental impacts of large commercial and residential buildings in New York State, among other benefits.

The original 2000 legislation (Period one) allowed applicants to apply for a Credit Component Certificate in years 2001-2004 and to claim the credits over five years. Legislation enacted in 2005 (Period two) extended the program, allowing applicants to apply for a Credit Component Certificate from 2005-2009. Taxpayers who are issued an Initial Credit Component Certificates for Period two have nine taxable years (2006-2014) to claim the credits. The original law provided for $25 million in credit certificates; the 2005 legislation added another $25 million.

Owners and tenants must work through an architect or engineer who will help obtain a credit certificate from the state for their project. The credits are distributed over a five year period with any unredeemed portion able to be carried forward indefinitely or transferred to a new owner or tenant.

Projects can qualify for credits under six different program components:
<ol>– “Whole Building Credit” (owner or tenant), where base building and all tenant space are green;
– “Base Building Credit” (owner), for non-dwelling spaces;
– “Tenant Space Credit” (owner or tenant), where the base building must be green to qualify if the tenant space is under 10,000 square feet;
– “Fuel Cell Credit”, for systems fueled by a "qualifying alternate energy source";
– “Photovoltaic Module Credit”; and
– “Green Refrigerant Credit”, for new air conditioning equipment using an EPA-approved non-ozone depleting refrigerant.

The components 4, 5 and 6 above must serve green spaces. For example, to qualify for the PV Module Credit, the building which the system serves must meet all requirements for energy, indoor air quality, materials, water conservation and commissioning. Credit cannot be earned by simply placing a PV system, for example, on a building.

The New York Department of Environmental Conservation must update the tax credit regulations (6NYCRR Part 638) before applications can be accepted for the $25 million allocated for Period two. Visit the program web site above for announcements regarding updated regulations.

**Source:** http://www.dsireusa.org/

### *Solar, Wind & Biomass Energy Systems Exemption*

**Incentive Type:** Property Tax Exemption
**Policy Level:** State
**Province/Territory/State:** New York

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics, Wind, Biomass
**Applicable Sectors:** Industrial, Commercial, Residential, Agricultural
**Summary:** "NOTE: This exemption does not apply to systems installed after December 31, 2005."

Section 487 of the New York State Real Property Tax Law provides a 15-year real property tax exemption for solar and wind energy systems constructed in New York State. In September 2002, the property tax exemption was expanded (S.B 6592) to include farm-waste energy systems, defined as systems and related equipment that generate electric energy from biogas produced by the anaerobic digestion of agricultural waste—such as livestock manure, farming waste and food processing wastes. The maximum rated system capacity for eligible farm-waste energy systems is 400 kilowatts (kW).

The exemption applies to systems that are (a) existing or constructed prior to July 1, 1988, or (b) constructed subsequent to January 1, 1991, and prior to January 1, 2006. The law intends to encourage the installation of solar, wind and farm-waste energy equipment systems and to ensure property owners that their real property taxes will not increase as a result of the installation of these systems. The amount of the exemption is equal to the increase in assessed value attributable to the solar, wind or farm-waste energy system.

Definitions and guidelines for the eligibility for exemption of solar and wind-energy equipment are available at the web site shown above. Guidelines for farm-waste energy equipment are available from New York State Energy Research and Development Authority (NYSERDA).

With respect to systems constructed after January 1, 1991, and before January 1, 2006, each county, city, town, village and school district (except the city school districts of New York, Buffalo, Rochester, Syracuse and Yonkers) may choose whether to disallow the exemption. The option must be exercised by counties, cities, towns and villages through adoption of a local law and by school districts through adoption of a resolution.

**Source:** http://www.dsireusa.org/

### *Renewable Power Procurement Policy*

**Incentive Type:** Green Power Purchasing/Aggregation
**Policy Level:** State
**Province/Territory/State:** New York

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Landfill Gas, Geothermal Electric, Fuel Cells, Other Methane Waste
**Applicable Sectors:** State_Sector
**Summary:** Governor George E. Pataki signed Executive Order No. 111 for "Green and Clean" State Buildings and Vehicles on June 10, 2001. The renewable power procurement component of the Executive Order commits State government to purchase a portion of its electric power from renewable energy sources—at least 10% from sources such as wind, solar thermal, photovoltaics, sustainably managed biomass, tidal, geothermal, methane waste, and fuel cells by 2005, and 20% by 2010. The order applies to the state's buildings and those of quasi-independent agencies like the State University of New York and the Metropolitan Transportation Authority. The order also requires the state to adhere to strict energy efficiency standards when it constructs buildings or significantly renovates existing ones.

State entities can fulfill their renewable-power procurement obligations through complete on-site generation of all renewable power requirements, a mix of on-site generation and open-market electricity procurement to meet the renewable power requirements, or the complete purchase of all renewable-power requirements from the open market.

**Source:** http://www.dsireusa.org/

### *Solar Easements*

**Incentive Type:** Solar Access Law/Guideline
**Policy Level:** State
**Province/Territory/State:** New York

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics
**Applicable Sectors:** Industrial, Commercial, Residential, Fed_Govt, Nonprofit, Local, Schools, State_Sector
**Summary:** New York's real property laws allow for the creation of solar easements. Like those in many other states, these are voluntary contracts which must be entered into in order to ensure uninterrupted solar access for solar energy devices. New York General City codes allow local zoning districts to make rules regarding solar access.

**Source:** http://www.dsireusa.org/

### *Renewable Portfolio Standard*

**Incentive Type:** Renewables Portfolio Standard
**Policy Level:** State
**Province/Territory/State:** New York

**Eligible Renewable / Other Technologies:** Photovoltaics, Wind, Biomass, Landfill Gas, Hydro, Cogeneration, Fuel Cells, Biogas, Liquid Biofuel
**Applicable Sectors:** IOU
**Summary:** The New York Public Service Commission (PSC) adopted a statewide renewable portfolio standard (RPS) in September 2004 and issued implementation rules in April 2005. New York's RPS will increase the amount of electricity generated from renewable resources to at least 25% of the state's supply by the end of 2013, with procurement of energy from additional resources through central procurement to commence early in 2006 and through continuation of voluntary efforts by green marketers in the state's competitive retail markets. The RPS requires that the state's investor-owned utilities collect revenues from their delivery customers to fund the central procurement program. (Customers exempt from contributing to the state's Systems Benefits Charge are also exempt from supporting the RPS.) Municipal utilities, the New York Power Authority and the Long Island Power Authority do not fall under the jurisdiction of this program, but have been encouraged by the PSC to adopt similar programs.

When the PSC created the RPS, approximately 19% of the electricity consumed in New York was generated by renewable sources (mostly from large-scale hydroelectric facilities). The RPS will require an additional 3,700 MW of renewable-energy capacity.

The RPS program identifies two tiers of eligible resources—a Main Tier and a Customer-Sited Tier. Potentially eligible resource categories in the Main Tier include methane digesters and other forms of biomass, liquid biofuel, fuel cells, hydroelectric, photovoltaics, ocean or tidal power, and wind power. Potentially eligible resources for the Customer-Sited Tier include fuel cells, photovoltaics, wind turbines up to 300 kilowatts in capacity, and methane digesters. While the program seeks to foster the development of additional renewable resources in New York, existing renewable facilities will also be eligible if they began operation on or after January 1, 2003. Certain existing hydroelectric, wind turbine and biomass direct combustion facilities built prior to January 1, 2003, may also be eligible if they demonstrate a need for financial support.*

Unlike RPS programs in other states that impose mandates on individual utilities for renewable-energy purchases, New York's RPS will encourage the development of renewables primarily

through a centrally administered, incentive-based procurement mechanism that will be managed by the New York State Energy Research and Development Authority (NYSERDA) and funded by a volumetric charge on the delivery portion of customers' electric bills beginning in the fourth quarter of 2005. The green-power industry will be encouraged to expand in the state's competitive retail market. Under the RPS program, annual megawatt-hour (MWh) targets and a corresponding schedule of customer payments and transfer of funds to NYSERDA will define milestones.

The 25% target will be achieved through two efforts: a mandatory component that will account for 24%, and a voluntary green-marketing component that will account for at least 1%. Specifically, to achieve the targets on a statewide basis, the increment expected from the mandatory component will increase the percentage of renewables from about 19% to the 24% of the state's supply, an increment of about 6.5% including expected load growth. The remainder will come from voluntary green marketing efforts. To encourage the growth of the state's voluntary green-power market, NYSERDA has adopted a set aside provision of 5% of a facility's output. Accordingly, project sponsors must demonstrate that at least 5% of their project is available for voluntary green market sales outside the RPS program. (NYSERDA will pay incentives for only 95% of a project's actual monthly output up to the contract amount.)

The PSC has inidcated that it supports a transition to a certificate-based attribute accounting system similar to other systems deployed in the market region. Furthermore, the PSC has stated that it supports a regionally compatible tracking system that can fully support the state's Environmental Disclosure Program.

The PSC will review the RPS program in 2009. This process will include an assessment of the costs and benefits of the RPS, consideration for any needed modifications to the list of eligible resources, consideration of the appropriateness of continuing the delivery requirement outlined in the PSC's implementation rules, and recommendations on transitioning to a more market-based system.

* See Appendix A of the April 2005 PSC order for a more complete listing of eligible technologies, including identification of requirements associated with the use of the technologies. Note that the PSC has made several changes to the criteria for eligible biomass technologies."

**Source:** http://www.dsireusa.org/

### *Energy $mart Loan Fund*

**Incentive Type:** State Loan Program
**Policy Level:** State
**Province/Territory/State:** New York

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Photovoltaics, Wind, En Eff, Biomass, Landfill Gas, Geothermal Heat Pumps
**Applicable Sectors:** Industrial, Commercial, Residential, Fed_Govt, Nonprofit, Local, Institutional, State_Sector, MultiFamilyRes, Agricultural, Healthcare Facility
**Summary:** The New York Energy $mart Loan Fund, administered by the New York State Energy Research and Development Authority (NYSERDA), provides reduced-interest rate loans through participating lenders to finance renovation or construction projects that improve a facility's energy efficiency or incorporate renewable energy systems. Any commercial, industrial, retail, agricultural, non-profit, residential, or multifamily facility that is an electric distribution customer of one of the State's six investor-owned utilities is eligible for this interest rate reduction program.

All facilities excluding 1-4 Family homes may also qualify for Green Building Improvement, up to $500,000. To be eligible for a loan for Green Building Improvements, the borrower must provide

evidence that the building has been registered for LEED certification with the United State Green Building Council.

For grid-connected photovoltaic and wind turbine systems, a customer must first be approved to receive incentives through NYSERDA's Powernaturally program. Once a customer has been approved to receive these incentives, they may then apply to the Loan Fund for a low-interest loan for their out-of-pocket expenses.

To apply to the Loan Fund, complete the Loan Fund Borrower Package from NYSERDA in addition to the individual lender application. The current deadline for the program is June 30, 2006 or until the funds are exhausted.

**Source:** http://www.dsireusa.org/

### *Energy $mart New Construction Program*

**Incentive Type:** State Rebate Program
**Policy Level:** State
**Province/Territory/State:** New York

**Eligible Renewable / Other Technologies:** Passive Solar, En Eff, Geothermal Heat Pumps
**Applicable Sectors:** Industrial, Commercial, Nonprofit, Local, Schools, Institutional, State_Sector, MultiFamilyRes
**Summary:** The NYSERDA New Construction Program (NCP) is designed to accelerate the incorporation of energy efficiency and renewable energy sources in the design, construction, and operation of commercial, industrial, institutional, and multifamily buildings. $10 million is available through Program Opportunity Notice 913 (PON 913) to conduct technical assessments of energy-efficiency measures in building designs and to offset up to 60% of the incremental capital costs to purchase and install energy-efficient equipment. Applicants may choose among pre-qualified equipment, custom measure or whole building capital cost incentives.

The NCP provides opportunities to:
– implement permanent energy efficiency and load management improvements in building envelopes and major systems (e.g., HVAC, lighting, controls, building envelope) at the time of new construction or substantial renovation;
– conduct building commissioning;
– construct a qualified Green Building (Green Building is defined as a building that meets or exceeds the requirements of the U.S. Green Buildings Council LEEDTM rating system):
– install advanced solar and daylighting technologies, such as lighting controls, electrochromic glazing, light shelves, building overhangs, passive solar design features, and solar preheated ventilation;
– implement measures to manage peak electrical demand in buildings; and
– monitor and benchmark actual energy performance.

NYSERDA will provide incentives of up to $375,000 per project for design and installation of technologies for Whole Building Design projects. For Custom Projects, up to 50% of incremental costs, or $120,000 will be covered under this incentive. For Pre-Qualified Incentives, which are found at the program web site, the maximum incentive an applicant can receive is $120,000.

Building Integrated Photovoltaic incentives are ineligible under this new program. See DSIRE summary of New York's PV Incentive Program for funding opportunities for PV.

Eligible Applicants are New York State electricity distribution customers of Central Hudson Gas & Electric Corp., Consolidated Edison Company of New York, Inc., New York State Electric & Gas Corporation, Niagara Mohawk Power Corporation, Orange and Rockland Utilities, Inc. and Rochester Gas and Electric Corporation.

**Source:** http://www.dsireusa.org/

### *New York - Net Metering*

**Incentive Type:** Net Metering Rules
**Policy Level:** State
**Province/Territory/State:** New York

**Eligible Renewable / Other Technologies:** Photovoltaics, Wind, Biomass
**Applicable Sectors:** Residential, Agricultural
**Summary:** In 1997, New York enacted a net-metering law for residential photovoltaic systems of 10 kW or less. In 2002 the net-metering law was expanded (see S.B. 6592 above) to include qualified farms that generate electricity from biogas produced by the anaerobic digestion of agricultural waste, such as livestock manure, farming waste, and food processing wastes. Eligible systems must have a rated capacity of not more than 400 kW. In 2004, Governor George Pataki signed S.B 4890-E of 2003, further expanding the law to include residential wind turbines up to 25 kW and farm-based wind turbines up to 125 kW. Utilities will prepare tariffs which will be submitted to the New York Public Service Commission (PSC) for approval.

Utilities are obliged to accept customers into the net metering program on a first come, first serve basis until the total solar electric capacity signed up for net metering equals 0.1% of the utility's 1996 electric demand; farm waste system capacity equals 0.4% of the utility's 1996 demand; and wind system capacity equals 0.2% of 2003 demand. Individual utilities, however, can choose to allow a greater capacity to enroll in net metering.

For solar-electric systems, farm biogas systems and small wind systems (10 kW and less), net excess generation (NEG) in a given month is credited toward the following month's bill at the retail rate. At the end of the annual billing cycle, if there is any net excess generation by the customer, consumers are paid the utility's avoided cost for that generation. However, net excess generation for wind systems larger than 10 kW is credited to the next month’s bill at the state's avoided cost rate. Excess generation at the end of the year is still paid at the avoided cost rate.

The PSC has developed uniform interconnection rules for net-metered systems. Visit the PSC web site (above) for more information, including the list of accepted (type-tested) inverters.

**Source:** http://www.dsireusa.org/

### *PV Incentive Program*

**Incentive Type:** State Rebate Program
**Policy Level:** State
**Province/Territory/State:** New York

**Eligible Renewable / Other Technologies:** Photovoltaics
**Applicable Sectors:** Industrial, Commercial, Residential, Nonprofit, Local, Schools, Institutional, State_Sector, (Must be customer of investor-owned utility in NY)
**Summary:** The New York State Energy Research and Development Authority (NYSERDA) provides incentives of $4 to $4.50 per watt (DC) to eligible installers for the installation of approved, grid-connected photovoltaic (PV) systems. The maximum capacity of an eligible system was raised from 15 kilowatts (kW) to 50 kW in June 2004. (Larger systems are permitted, but incentives are based on a maximum of 50 kW.) Incentives are only available to eligible installers, and incentives must be passed on to customers. Once eligible, installers reserve incentives for approved systems, for specific customers, on a first-come, first-served basis for as long as funds are available. The total available budget was raised from $2.5 million to $7 million in 2004, and raised again to $12 million in 2005.

The program continuously accepts applications from installers who seek to participate in the program. The goal is to increase the network of eligible installers across the state, offering customers a choice of qualified or certified installers in their area. Installer eligibility will be determined and maintained based on factors such as acceptance of all program terms and conditions, training, installation experience, track record related to utility interconnections, overall performance, monitoring, customer references, customer satisfaction, and commitment to become certified through a national certification program. NYSERDA is providing accredited training opportunities for PV installers to the greatest extent possible. Training opportunities are posted at <http://www.powernaturally.org>. The program web site (listed above) provides a list of eligible installers. There are currently over 35 installers on the list.

Program incentives are based on direct-current (DC) module ratings at standard test conditions:
– $4.00 per watt for most grid-connected systems
– $4.50 per watt for grid-connected systems installed on New York Energy Star homes
– $4.50 per watt for building-integrated PV (BIPV) systems that are approved as part of a technical analysis conducted under NYSERDA's New Construction Program.

All incentives are capped at 60% of the total installed cost for all systems. PV systems must be sized to meet specific site energy needs (local load or demand) and may not exceed 110% of the demonstrated energy demand for the site, taking into account any other on-site electrical power generation systems.

Incentives will be paid to installers in two increments, and are tied to specific installation milestones. The first incentive payment, or 75% of the total incentive amount approved by NYSERDA, will be paid after all system components have been delivered to a customer's site and the appropriate form is completed, submitted and approved by NYSERDA. The second incentive payment, or the remaining 25%, will be paid after a PV system has been connected to the utility grid and/or inspected by NYSERDA or its representatives and the appropriate form has been completed, submitted and approved by NYSERDA.

This program applies to customers of Central Hudson Gas & Electric Corporation, Consolidated Edison Company of New York, Inc., New York State Electric & Gas Corporation, Niagara Mohawk Power Corporation, Orange and Rockland Utilities, and Rochester Gas and Electric Corporation who pay the state's system benefits charge.

PV incentives are available for many end-uses (building or non-building) and sectors, including residential, commercial, industrial, agricultural, institutional, educational and non-for-profit facilities, and government-owned buildings. Incentives provided to customers under this program may not be combined with any other incentive programs offered by NYSERDA, such as a $/watt incentive, designed to directly offset the cost of a PV installation.

All systems, system components and installations must comply with all applicable laws, regulations, codes, licensing and permit requirements, including but not limited to, the New York State Building Code, the National Electric Code, New York State's Standard Interconnection Requirements and all applicable local ordinances. Additional requirements apply, including a five-year PV system warranty to the purchaser.

**Source:** http://www.dsireusa.org/

### *Renewables R&D Grant Program*

**Incentive Type:** State Grant Program
**Policy Level:** State
**Province/Territory/State:** New York

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Landfill Gas, Hydro, Renewable Transportation Fuels, Cogeneration
**Applicable Sectors:** Industrial, Commercial, Residential
**Summary:** This competitive research program, administered by the New York State Energy Research and Development Authority (NYSERDA), focuses on product and technology development as opposed to the installation of individual renewable-energy systems. The program involves a multi-step approach to assist companies in the development, testing and commercialization of renewable-energy technologies that will be manufactured in New York. NYSERDA provides funding along the product development-to-commercialization continuum and provides the due diligence necessary to acquire private-sector funding. Funding levels vary according to the stage of product development. Projects are selected, in part, based on the relative likelihood that a technology will be commercially competitive in the near term, and based on the ability of the company to reach specific performance and quality milestones.

Eligible technologies include solar thermal electric, photovoltaics, hydropower, alternative fuels, wind, landfill gas, and biomass. Information pertaining to current and upcoming funding opportunities from NYSERDA is available at the web site shown above.

**Source:** http://www.dsireusa.org/

### *Environmental Disclosure Program*

**Incentive Type:** Generation Disclosure
**Policy Level:** State
**Province/Territory/State:** New York

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Hydro, Municipal Solid Waste
**Applicable Sectors:** Utility
**Summary:** In December 1998, the New York Public Service Commission (PSC) issued an order creating the Environmental Disclosure Program, requiring electric suppliers to provide information to customers regarding the environmental impacts of electricity products. All suppliers must disclose fuel mix compared to a statewide average, as well as the quantities of emissions of sulfur dioxide, nitrogen oxides and carbon dioxide. This information must be disclosed in a standardized label twice annually. All investor-owned electric utilities and energy services companies providing retail electricity, as well as those municipal or cooperative electric utilities subject to PSC jurisdiction, are required to provide the environmental disclosure label.

Fuel source and emissions information will be calculated by the Department of Public Service (DPS) and provided to retail suppliers every six months. Calculations will be based on a rolling annual average with data supplied from the New York Independent System Operator and the U.S. Energy Information Administration, and verified by the DPS by matching emissions data to power generated.

In April 2005, the PSC issued an order approving implementations rules for the state's Renewable Portfolio Standard (RPS); this order required several modifications to the Environmental Disclosure Program. Specifically, to satisfy the PSC's responsibility to inform customers fully of the consequences of the RPS Program, all load-serving entities operating in New York must provide, to their retail customers who pay an RPS Program charge, environmental disclosure labels that accurately reflect on a "product" basis the fuel type and emissions characteristics of their pro-rata share of electricity related to the RPS's Main Tier, blended proportionately with the type of product they otherwise receive.

The PSC also called for the creation of a statewide consumer education program to further inform customers of the RPS Program. This program must include an explanation of the modifications to

the environmental disclosure label, and benefits of the RPS Program, as well as the billing and pricing impacts associated with renewable energy choices.

Individual Environmental Disclosure labels for retail electric suppliers are available at the Web site shown above. See http://www.dps.state.ny.us/EDLbrochure.htm for New York's consumer guide to environmental disclosure.

**Source:** http://www.dsireusa.org/

### *System Benefits Charge*

**Incentive Type:** Public Benefits Fund
**Policy Level:** State
**Province/Territory/State:** New York

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Hydro, Renewable Transportation Fuels, Geothermal Electric, Cogeneration, Fuel Cells
**Applicable Sectors:** Government
**Summary:** New York's system benefits charge (SBC), established in 1996, has supported energy efficiency, research and development, low-income programs, and environmental disclosure. Money is collected by the state's six investor-owned electric utilities through a surcharge on customers' bills.* The funds are used to further the public-policy goals of the New York Public Service Commission (PSC) by improving system-wide reliability and increasing peak-electricity reductions through end-user efficiency actions; improving energy efficiency and access to energy options for underserved customers; reducing the environmental impacts of energy production and use; and facilitating competition in electricity markets to benefit end-users. The New York Energy $mart program, administered by the New York State Energy Research and Development Authority (NYSERDA), was created to achieve these goals.

Initial funding totaled $234.3 million from 1998-2001, with $161.6 million allocated to energy-efficiency programs, $40.4 million supporting R&D projects (including renewables), $29 million supporting low-income energy-assistance programs, and $3 million supporting potential environmental-disclosure activities. In an order issued January 2001, the PSC extended the program for five years—through June 30, 2006—and increased annual funding from $78 million to $150 million. As a result, during this five-year period energy-efficiency programs received approximately $438 million in additional funding; R&D efforts received $143 million in additional funding, and low-income assistance programs (including weatherization) received approximately $141 million in additional funding.

In December 2005, the PSC voted to extend the SBC by an additional five years—through June 30, 2011—and to increase annual funding from $150 million to $175 million. Of the $875 million that will be collected during this five-year period, approximately $427 million will be allocated to peak load, energy efficiency, and outreach and education; $182 million will be allocated to R&D (including renewables); and $190 million will be allocated to low-income assistance programs.

NYSERDA has reported that, from the inception of the SBC program through September 2005, the accomplishments of the statewide SBC programs include the following:
– Annual electricity use in the New York has been reduced by approximately 1,700 GWh. Peak demand reduction of 1,000 MW has been achieved through installed efficiency measures and demand response programs.
– Annual bill savings by electricity, oil and natural-gas consumers are estimated at $230 million.
– The investment of approximately $813 million in SBC funds is expected to result in additional public and private sector investments of approximately $1.4 billion, primarily in cost-effective energy efficiencyimprovements.

– The program has delivered significant environmental benefits. It is estimated that annual nitrogen oxide (NOx) emissions have been reduced by 1,500 tons, sulfur dioxide (SO2) emissions by 2,700 tons, and carbon dioxide (CO2) emissions by over one million tons.
– The program is expected to create and sustain an average of 4,800 jobs annually over the eight-year SBC program period (1998 through 2006).

The New York Energy $mart Program portfolio consists of numerous program initiatives promoting energy efficiency and load management, providing energy-efficiency services to low-income residents, disseminating information to increase consumer energy awareness, and conducting energy and technology research, as well as development and environmental monitoring.

* Each year from 2006-2011, New York's six investor-owned utilities must collect and remit to NYSERDA an amount equal to 1.42% of each utility's 2004 revenue.

**Source:** http://www.dsireusa.org/

### *Solar Sales Tax Exemption*

**Incentive Type:** Sales Tax Exemption
**Policy Level:** State
**Province/Territory/State:** New York

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Photovoltaics
**Applicable Sectors:** Residential
**Summary:** New York enacted legislation in July 2005 exempting the sale and installation of residential solar-energy systems from the state's sales and compensating use taxes. The exemption applies to solar-energy systems that utilize solar radiation to produce energy designed to provide heating, cooling, hot water and/or electricity. The exemption does not apply to solar pool heating or other recreational applications.

The law allows municipalities the option of granting the local exemption. If a city with a population of 1 million or more chooses to grant the local exemption, it must enact a specific resolution that appears in the state law.

**Source:** http://www.dsireusa.org/

### *Wind Incentive Program*

**Incentive Type:** State Rebate Program
**Policy Level:** State
**Province/Territory/State:** New York

**Eligible Renewable / Other Technologies:** Wind
**Applicable Sectors:** Industrial, Commercial, Residential, Fed_Govt, Nonprofit, Local, Schools, State_Sector, Agricultural, (Must be customer of investor-owned utility in NY)
**Summary:** The New York State Energy Research and Development Authority (NYSERDA) has at least $2.5 million in incentives to encourage wind technology deployment and infrastructure development in New York. The goal of the program is to encourage the development of a network of eligible installers who will install end-use wind energy turbines for all sectors including, but not limited to, residential, commercial, industrial, agricultural, institutional, educational, not-for-profit, and government-owned facilities. The incentives, of up to $100,000 per installation, will be paid to eligible installers who meet NYSERDA's requirements for education, training, experience, insurance, and other criteria. The installers, in turn, pass through incentives directly to the owners of the wind systems.

Note that incentives will be provided only for customers that are New York electricity distribution customers of: Central Hudson Gas & Electric Corporation, Consolidated Edison Company of New York, Inc., New York State Electric & Gas Corporation, Niagara Mohawk Power Corporation, Orange and Rockland Utilities, Inc. and Rochester Gas and Electric Corporation who pay the System Benefits Charge.

Incentives will be based on a percentage of the installed cost, ranging from 50% of costs for systems of 500 W to 10 kW, to 15% for systems larger than 80 kW. Larger incentives of up to 70% of costs are available for commercial farms, and for school applications where wind energy study is incorporated into its curriculum. Incentives provided to customers under this program may not be combined with any other incentive programs offered by NYSERDA, designed to directly offset the cost of a wind installation with the exception of the New York Energy $martSM Loan Fund.

Incentives will be paid to installers in two increments and will be tied to specific installation milestones. The first incentive payment, 65% of the total incentive amount will be paid after all system components have been delivered to a customer's site and an incentive form is completed, submitted, and approved by NYSERDA. The second incentive payment, the remaining 35% of the total incentive amount, will be paid after a system has been connected to the utility grid and/or inspected by NYSERDA or its representatives and an incentive form has been completed, submitted and approved by NYSERDA.

Installers are encouraged to apply for eligibility through NYSERDA at any time during the program, expected to continue through December 2005. The complete eligibility requirements and application forms are available from the program Web site shown above. Interested potential owners wishing to participate in this program are encouraged to contact eligible installers; a list of eligible installers is available at the program Web site shown above.

Highlights of the wind system installation requirements are listed below. Refer to the program Web site above for complete details.

- All systems, system components, and installations must comply with all applicable laws, regulations, codes, licensing, certification and permit requirements, including but not limited to, New York State Environmental Quality Review Act, New York State Building Code, the National Electric Code, New York State's Standard Interconnection Requirements and all applicable local ordinances.
- All wind systems must be covered by a minimum five-year full warranty to the purchaser of the wind system
- All wind systems eligible for an incentive must be for grid-connected, end-use applications.
- All components of wind systems installed under this program must be new equipment. Wind generators may not be mounted on any pre-existing structure.
- All inverters must be certified as meeting requirements of IEEE Standard 929-2000 and UL 1741.
- Monitoring and reporting are required.

**Source:** http://www.dsireusa.org/

### *Green Building Tax Credit Program - Personal*

**Incentive Type:** Personal Tax Credit
**Policy Level:** State
**Province/Territory/State:** New York

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Photovoltaics, En Eff, Fuel Cells
**Applicable Sectors:** Commercial, Residential, Construction

**Summary:** In 2000, New York State passed an innovative Green Building Tax Credit for business and personal income taxpayers. The credit can be applied against corporate taxes, personal income, insurance corporation taxes and banking corporation taxes. The incentive applies to owners and tenants of eligible buildings and tenant spaces which meet certain "green" standards. These standards increase energy efficiency, improve indoor air quality, and reduce the environmental impacts of large commercial and residential buildings in New York State, among other benefits.

The original 2000 legislation (Period one) allowed applicants to apply for a Credit Component Certificate in years 2001-2004 and to claim the credits over five years. Legislation enacted in 2005 (Period two) extended the program, allowing applicants to apply for a Credit Component Certificate from 2005-2009. Taxpayers who are issued an Initial Credit Component Certificates for Period two have nine taxable years (2006-2014) to claim the credits. The original law provided for $25 million in credit certificates; the 2005 legislation added another $25 million.

Owners and tenants must work through an architect or engineer who will help obtain a credit certificate from the state for their project. The credits are distributed over a five year period with any unredeemed portion able to be carried forward indefinitely or transferred to a new owner or tenant.

Projects can qualify for credits under six different program components:
– “Whole Building Credit” (owner or tenant), where base building and all tenant space are green;
– “Base Building Credit” (owner), for non-dwelling spaces;
– “Tenant Space Credit” (owner or tenant), where the base building must be green to qualify if the tenant space is under 10,000 square feet;
– “Fuel Cell Credit”, for systems fueled by a "qualifying alternate energy source;"
– “Photovoltaic Module Credit”; and
– “Green Refrigerant Credit”, for new air conditioning equipment using an EPA-approved non-ozone depleting refrigerant.

The three last components above must serve green spaces. For example, to qualify for the PV Module Credit, the building which the system serves must meet all requirements for energy, indoor air quality, materials, water conservation and commissioning. Credit cannot be earned simply by placing a PV system, for example, on a building.

The New York Department of Environmental Conservation must update the tax credit regulations (6NYCRR Part 638) before applications can be accepted for the $25 million allocated for Period two. Visit the program web site above for announcements regarding updated regulations.

**Source:** http://www.dsireusa.org/

### *Home Performance with Energy Star - Loan Program*

**Incentive Type:** State Loan Program
**Policy Level:** State
**Province/Territory/State:** New York

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Photovoltaics, En Eff, Geothermal Heat Pumps
**Applicable Sectors:** Residential
**Summary:** NYSERDA offers an unsecured loan for the installation of energy efficient and renewable energy measures. To initiate the loan, a Comprehensive Home Assessment (CHA) must be performed by a certified Building Performance Institute contractor, which may cost a small fee. After the CHA is performed, the borrower will work with the contractor to decide what improvements should be made. For any improvements and replacement appliances, the borrower will sign a customer contract and a “Home Performance Work Scope.” After a credit check and

these forms are submitted, work may begin. Following completion of the work, a Certificate of Completion will be sent to the program administrator. Following review and approval, payment will be rendered directly to the contractor and the borrower will commence repaying the loan.

**Source:** http://www.dsireusa.org/

### *Renewable Energy Technology Options Program*

**Incentive Type:** Industry Recruitment
**Policy Level:** State
**Province/Territory/State:** New York

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Landfill Gas, Hydro, Products that support or are included in these systems, and products that incorporate these systems
**Applicable Sectors:** Industrial, Commercial
**Summary:** The New York State Energy Research and Development Authority's (NYSERDA) Renewable Energy Technology Options Program provides funding for individuals and businesses to develop, demonstrate, commercialize or market renewable-energy technology products, or to improve manufacturing methods for these products. Projects involving innovative solar-electric, wind-electric, biomass or hydroelectric technologies are eligible.

Eligible solar-electric technologies include photovoltaic and solar thermal-electric systems, components of these systems, and products that incorporate photovoltaics. Eligible wind-electric technologies include wind-energy conversion devices, components, and products that support wind-energy systems and power plants. Eligible biomass technologies include innovative products or components for biopower, biofuels, biochemicals or other bioproducts. Eligible hydroelectric technologies include those that increase generating capacity or improve environmental performance.

Proposals may be submitted by individual companies or teams. Proposals must include a description of two stages of a project—a Stage 1 options project and a Stage 2 development project. NYSERDA will evaluate projects in two steps. The first evaluation process will consider whether to recommend Stage 1 funding. Successful Stage 1 participants may submit a proposal for Stage 2 funding. (Only participants that have been awarded Stage 1 funding are eligible to compete for Stage 2 funding.) Projects selected for Stage 1 may be selected for Stage 2 funding up to two times. For example, if a project receives a Stage 2 award and successfully completes the award project, the participant may be eligible for another Stage 2 award depending on the results of a subsequent evaluation. Further explanation of project stages is available on the program web site.

NYSERDA will fund up to $40,000 for each Stage 1 project. Maximum funding for each Stage 2 project is $250,000 per award cycle with a maximum of two Stage 2 awards. Recoupment will be required for all projects receiving Stage 2 funding. A minimum cost share of 50% is required.

Total available funding for Stage 1 projects is $500,000; total available funding for Stage 2 projects is $2 million. The deadlines for Stage 1 proposals are 5:00 p.m. EST on December 13, 2005, and May 23, 2006.

**Source:** http://www.dsireusa.org/

### *Renewable Energy Tax Credit - Personal*

**Incentive Type:** Personal Tax Credit
**Policy Level:** State
**Province/Territory/State:** North Carolina

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics, Wind, Biomass, Hydro, Renewable Transportation Fuels, Spent pulping liquor
**Applicable Sectors:** Commercial, Residential, MultiFamilyRes
**Summary:** In 1999 North Carolina's various renewable-energy tax credits were revised and unified into a statute that addresses nearly all renewables. The revised statute provides for a tax credit of 35% of the cost of renewable energy property constructed, purchased or leased by a taxpayer and placed into service in North Carolina during the taxable year. These tax credits took effect January 1, 2000. In September 2005, the credits were extended for another five years (see SB 1149 above).

The credit is subject to various ceilings depending on sector and the type of renewable-energy system. The following credit limits for various technologies and sectors apply:
– A maximum of $3,500 for residential active space heating, combined active space and domestic water-heating systems, and passive space heating;
– A maximum of $1,400 for residential solar water-heating systems, including solar pool-heating systems;
– A maximum of $10,500 for photovoltaic (solar electric), wind, or other renewable-energy systems for residential use;
– A maximum of $2,500,000 for all solar, wind, hydro and biomass applications on commercial and industrial facilities, including photovoltaic (PV), daylighting, solar water-heating and space-heating technologies.

Renewable-energy equipment expenditures eligible for the tax credit include the cost of the equipment and associated design; construction costs; and installation costs less any discounts, rebates, advertising, installation-assistance credits, name-referral allowances or other similar reductions.

Under North Carolina's tax code, the allowable credit may not exceed 50% of a taxpayer's liability for the year, reduced by the sum of all other credits. Single-family homeowners who purchase and install a qualifying renewable-energy system must take the maximum credit amount allowable for the tax year in which the system is installed. If the credit is not used entirely during the first year, the remaining amount may be carried over for the next five years.

For all other taxpayers, the credit is taken in five equal installments beginning with the year in which the property is placed in service. If the credit is not used entirely during these five years, the remaining amount may be carried over for the next five years. The credit can be taken against franchise tax, income tax or, if the taxpayer is an insurance company, against the gross premiums tax.

Click the links below to access relevant 2005 tax forms and documents from the N.C. Department of Revenue.
– Guidelines for NC Renewable Energy Tax Credit
– NC-478G 2005
– NC-478G 2005 Instructions
– NC-478 2005
– NC-478 2005 Instructions
– NC-478 Series 2005 General Instructions

**Source:** http://www.dsireusa.org/

### *Energy Improvement Loan Program (EILP)*

**Incentive Type:** State Loan Program
**Policy Level:** State
**Province/Territory/State:** North Carolina

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics, Wind, En Eff, Biomass, Hydro
**Applicable Sectors:** Industrial, Commercial, Nonprofit, Local, Schools
**Summary:** The Energy Improvement Loan Program (EILP) is available to North Carolina businesses, local governments, public schools and nonprofit organizations for projects that include energy-efficiency improvements and renewable-energy systems. Loans with an interest rate of 1% are available for certain renewable-energy projects and energy-recycling projects. Eligible renewable-energy projects generally include solar, wind, small hydropower (less than 20 megawatts) and biomass. Loans with a rate of 3% are available for projects that demonstrate energy efficiency, energy cost savings or reduced energy demand. Energy conservation projects usually include improvements to HVAC systems, energy management controls, high efficiency lighting and building envelope improvements.

Through June 30, 2006, the North Carolina State Energy Office will pay the letter-of-credit fees (up to 1% of the loan value for the duration of the loan) for approved EILP applicants. Note that letter-of-credit fees do not apply to government agencies and public schools.

In order to qualify for the EILP, a project must (1) be located in North Carolina; (2) demonstrate energy efficiency, use of renewable-energy resources, energy cost savings or reduced energy demand; (3) use existing, reliable, commercially-available technologies; (4) meet federal and state air and water-quality standards; and (5) be able to recover capital costs within the loan's maximum term of 10 years through energy cost savings.

**Source:** http://www.dsireusa.org/

### *Interconnection Standards*

**Incentive Type:** Interconnection
**Policy Level:** State
**Province/Territory/State:** North Carolina

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Other DG, Biomass, Landfill Gas, Municipal Solid Waste, Cogeneration, Fuel Cells
**Applicable Sectors:** Industrial, Commercial, Residential, Fed_Govt, Nonprofit, Local, Schools, Institutional, State_Sector, Agricultural
**Summary:** In March 2005, the North Carolina Utilities Commission (NCUC) issued an order (E-100 Sub. 101) approving in part a proposed simplified interconnection standard for small distributed generation. The standard applies to renewable-energy systems and other forms of distributed generation 20 kW or less for residential systems, and 100 kW or less for non-residential systems.

Customer-generators must only carry a standard homeowner’s policy ($100,000 minimum coverage) or standard commercial policy ($300,000 minimum coverage), and a mutual indemnification provision applies. Significantly, generators are responsible only for upgrade and improvement costs associated directly with a system's interconnection. The state’s regulated utilities are prohibited from imposing indirect fees and charges.

A redundant external disconnect switch is required, and the capacity of all interconnected generation is limited to a maximum of 2% of rated circuit capacity. However, applications for interconnected systems that exceed this saturation limit may be reviewed on a case-by-case basis. Utilities regulated by the NCUC have committed to reconsider the saturation limits, if necessary, after gaining more experience with small-generator interconnections. Utilities must file semiannual reports detailing the number of interconnection requests approved and denied, and the reasons for any denial.

The NCUC's March 2005 order instructed the utilities to return to the bargaining table with the Commission's public staff to discuss and resolve several outstanding issues, including application forms and review fees, standby-tariff rates, the need for a separate interconnection agreement for residential generators (in addition to an application), and the need to expand the rules to cover three-phase generators.

The NCUC will rule on the ownership of renewable-energy credits (RECs) in a separate docket. Similarly, interconnection rules for systems up to 20 MW will be addressed after interconnection rules for smaller systems are complete.

**Source:** http://www.dsireusa.org/

### *Renewable Energy Equipment Manufacturer Incentive*

**Incentive Type:** Industry Recruitment
**Policy Level:** State
**Province/Territory/State:** North Carolina

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Solar Thermal Electric, Photovoltaics, Wind, Biomass, Landfill Gas, Hydro, Renewable Transportation Fuels
**Applicable Sectors:** Industrial
**Summary:**
In addition to North Carolina's 35% corporate tax credit for renewable energy installations, the state offers a corporate income tax credit to manufacturers of renewable-energy products and equipment. The credit is equal to 25% of the installation and equipment costs of construction, with no maximum limit. The entire credit may not be taken for the taxable year in which the costs are paid but must be taken in five equal installments beginning with the taxable year in which the costs are paid. However, the credit cannot exceed 50% of the taxpayer's tax liability in one year. If the credit does exceed a manufacturer's tax liability, the credit may be carried forward for up to 10 years. This incentive can be used in conjunction with the federal corporate tax credit and accelerated depreciation allowances. Any amount of a facility's costs provided by federal, state or local grants may not be included in the calculation of the allowable credit.

Effective for tax years beginning on or after January 1, 2000, the renewable energy facility credit is an expansion of North Carolina's Photovoltaic Systems Manufacturer Incentive, a corporate tax credit for manufacturers of photovoltaic equipment enacted in 1991.

**Source:** http://www.dsireusa.org/

### *Renewable Energy Tax Credit - Corporate*

**Incentive Type:** Corporate Tax Credit
**Policy Level:** State
**Province/Territory/State:** North Carolina

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics, Wind, Biomass, Landfill Gas, Hydro, Renewable Transportation Fuels, Spent pulping liquor
**Applicable Sectors:** Industrial, Commercial
**Summary:** In 1999 North Carolina's various renewable-energy tax credits were revised and unified into a statute that addresses nearly all renewables. The revised statute provides for a tax credit of 35% of the cost of renewable energy property constructed, purchased or leased by a taxpayer and placed into service in North Carolina during the taxable year. These tax credits took effect January 1, 2000. In September 2005, the credits were extended for another five years (see SB 1149 above).

The credit is subject to various ceilings depending on sector and the type of renewable-energy system. The following credit limits for various technologies and sectors apply:
– A maximum of $3,500 for residential active space heating, combined active space and domestic water-heating systems, and passive space heating;
– A maximum of $1,400 for residential solar water-heating systems, including solar pool-heating systems;
– A maximum of $10,500 for photovoltaic (solar electric), wind, or other renewable-energy systems for residential use;
– A maximum of $2,500,000 for all solar, wind, hydro and biomass applications on commercial and industrial facilities, including photovoltaic (PV), daylighting, solar water-heating and space-heating technologies.

Renewable-energy equipment expenditures eligible for the tax credit include the cost of the equipment and associated design; construction costs; and installation costs less any discounts, rebates, advertising, installation-assistance credits, name-referral allowances or other similar reductions.

Under North Carolina's tax code, the allowable credit may not exceed 50% of a taxpayer's liability for the year, reduced by the sum of all other credits. Single-family homeowners who purchase and install a qualifying renewable-energy system must take the maximum credit amount allowable for the tax year in which the system is installed. If the credit is not used entirely during the first year, the remaining amount may be carried over for the next five years.

For all other taxpayers, the credit is taken in five equal installments beginning with the year in which the property is placed in service. If the credit is not used entirely during these five years, the remaining amount may be carried over for the next five years. The credit can be taken against franchise tax, income tax or, if the taxpayer is an insurance company, against the gross premiums tax.

Click the links below to access relevant 2005 tax forms and documents from the N.C. Department of Revenue.
– Guidelines for NC Renewable Energy Tax Credit
– NC-478G 2005
– NC-478G 2005 Instructions
– NC-478 2005
– NC-478 2005 Instructions
– NC-478 Series 2005 General Instructions

**Source:** http://www.dsireusa.org/

### *Active Solar Heating and Cooling Systems Exemption*

**Incentive Type:** Property Tax Exemption
**Policy Level:** State
**Province/Territory/State:** North Carolina

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat
**Applicable Sectors:** Industrial, Commercial, Residential
**Summary:** Active solar heating and cooling systems may not be assessed at more than the value of a conventional system for property tax purposes. This law applies only to active solar systems and does not include any land or structural elements of buildings, such as walls and roofs, or other equipment ordinarily contained in a building. Specifically, a "system" includes all controls, tanks, pumps, heat exchangers and other equipment used directly and exclusively for the conversion of solar energy for heating or cooling. Systems placed on residential, commercial and industrial property are eligible for this exclusion.

**Source:** http://www.dsireusa.org/

### *North Carolina - Net Metering*

**Incentive Type:** Net Metering Rules
**Policy Level:** State
**Province/Territory/State:** North Carolina

**Eligible Renewable / Other Technologies:** Photovoltaics, Wind, Biomass, Landfill Gas
**Applicable Sectors:** Industrial, Commercial, Residential
**Summary:** In October 2005, the North Carolina Utilities Commission (NCUC) adopted an order requiring the state's three investor-owned utilities—Progress Energy, Duke Power and Dominion North Carolina Power—to make net metering available to utility customers that own and operate photovoltaic (solar-electric), wind-powered or biomass-energy facilities. Systems must be interconnected and operated in parallel with the utility's distribution system. (The NCUC adopted interconnection standards in March 2005). The maximum capacity of net-metered residential systems is 20 kilowatts (kW); the maximum capacity of net-metered nonresidential systems is 100 kW. Significantly, net-metered systems may not use battery storage. The utilities must submit tariffs or riders by December 1, 2005; these tariffs or riders will become effective on or before January 1, 2006.

Net metering will be available on a first-come, first-served basis in conjunction with the utility's interconnection standards, up to an aggregate limit of 0.2% of the utility's North Carolina jurisdictional retail peak load for the previous year. Customer-generators who choose to net meter must be on (or must switch to) a time-of-use demand rate schedule. This requirement, along with the ineligibility of facilities with battery storage, seeks to account for the potential mismatch of off-peak generation and on-peak consumption. Utilities may not charge customer-generators any standby, capacity or metering fees, or other fees and charges other than those approved for all customers under the applicable time-of-use demand-rate schedule.

Net excess generation (NEG) will be credited to a customer's next monthly bill, but will be reset to zero at the beginning of each summer billing season (June 1) and winter billing season (October 1), as defined in the utility's tariff. Any renewable-energy credits (RECs) associated with NEG will be granted to the utility when the NEG balance is zeroed out. This provision is designed to limit the size of individual facilities to match on-site power needs. Customer-generators who choose to net meter are not permitted to sell electricity under the NC GreenPower Program.

Utilities must file with the NCUC annual reports indicating the number of net-metering applicants and customer-generators, the aggregate capacity of net-metered generation, the size and types of renewable energy systems, the amounts of on-peak and off-peak generation credited and ultimately granted to the utility, and the reasons for any rejections or removals of customer-generators from a net-metering arrangement.

**Source:** http://www.dsireusa.org/

### *North Dakota - Net Metering*

**Incentive Type:** Net Metering Rules
**Policy Level:** State
**Province/Territory/State:** North Dakota

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Hydro, Geothermal Electric, Municipal Solid Waste, Cogeneration
**Applicable Sectors:** Industrial, Commercial, Residential
**Summary:** Passed in 1991 by the North Dakota Public Utility Commission, this net metering ruling applies to both renewable energy generators and cogenerators up to 100 kW in capacity.

Net metering is available to all customer classes and there is no statewide limit to the capacity signed up for net metering.

When customers have excess generation in a monthly billing period, utilities must purchase net excess generation at the avoided cost.

**Source:** http://www.dsireusa.org/

### *Geothermal, Solar, and Wind Corporate Credit*

**Incentive Type:** Corporate Tax Credit
**Policy Level:** State
**Province/Territory/State:** North Dakota

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics, Wind, Geothermal Electric, Geothermal Heat Pumps
**Applicable Sectors:** Industrial, Commercial
**Summary:**
This statute allows any taxpayer - individual or corporation - to claim an income tax credit of 3% per year for five years for the cost of equipment and installation of a geothermal, solar, or wind energy device. That is, tax payers can claim this 3% credit in the year of installation and the four subsequent years. If the eligible device is part of a system that uses other energy sources, only the portion of the system that uses geothermal, solar, or wind energy is eligible. To claim this credit, corporations must complete Schedule 2 on their return.

**Source:** http://www.dsireusa.org/

### *Geothermal, Solar and Wind Personal Credit*

**Incentive Type:** Personal Tax Credit
**Policy Level:** State
**Province/Territory/State:** North Dakota

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics, Wind, Geothermal Electric, Geothermal Heat Pumps
**Applicable Sectors:** Residential
**Summary:** This statute allows any taxpayer—individual or corporation—to claim an income tax credit of 3% per year for five years for the cost of equipment and installation of a geothermal, solar, or wind energy device. That is, tax payers can claim this 3% credit in the year of installation and the four subsequent years. If the eligible device is part of a system that uses other energy sources, only the portion of the system that uses geothermal, solar, or wind energy is eligible. To claim this credit, individuals must use the long form – Form 37.

**Source:** http://www.dsireusa.org/

### *Large Wind Property Tax Reduction*

**Incentive Type:** Property Tax Assessment
**Policy Level:** State
**Province/Territory/State:** North Dakota

**Eligible Renewable / Other Technologies:** Wind
**Applicable Sectors:** Industrial, Commercial, Residential
**Summary:**

North Dakota modified its property tax incentives for large wind systems with its 2001 bill that reduces property taxes by 70% for wind facilities of 100 kW or larger. To be eligible, construction must begin by January 1, 2011. The state also has a sales tax exemption for these systems.

**Source:** http://www.dsireusa.org/

### *Hydrogen and Large Wind Sales Tax Exemption*

**Incentive Type:** Sales Tax Exemption
**Policy Level:** State
**Province/Territory/State:** North Dakota

**Eligible Renewable / Other Technologies:** Wind, Hydrogen
**Applicable Sectors:** Industrial, Commercial
**Summary:**
North Dakota offers a sales and use tax exemption for hydrogen and large wind facilities. The large wind sales tax exemption applies to the owner of a wind-powered electrical generating facility that has at least one single electrical energy generation unit with a nameplate capacity of one hundred kilowatts or more. The exemption will apply to building materials, production equipment and other tangible personal property used in the construction of the facility. The exemption applies to any sales or use tax that would be due in the construction of a the facility between July 2001 and January 2011.

The wind-powered electrical generating facility must receive prior approval from the State Tax Commissioner to qualify for the exemption at the time of the purchase. If prior approval is not received, the wind-powered electrical generating facility must pay the tax and then apply to the State Tax Commissioner for a refund.

With the enactment of HB 1496 (2005), the sales of hydrogen and the production, storage, and transportation equipment used by a facility engaged in hydrogen generation became eligible for a sales and use tax exemption. Hydrogen may be used to power an internal combustion engine or fuel cell. The bill defines "storage" as "stationary and portable hydrogen containers or pressure vessels, piping, tubing, fittings, gaskets, controls, valves, gauges, pressure regulators, safety relief devices, and other accessories intended for hydrogen storage containers or pressure vessels."

A property tax reduction incentive for geothermal, solar, and wind property is also available.

**Source:** http://www.dsireusa.org/

### *Geothermal, Solar, and Wind Property Exemption*

**Incentive Type:** Property Tax Exemption
**Policy Level:** State
**Province/Territory/State:** North Dakota

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics, Wind, Geothermal Electric, Geothermal Heat Pumps
**Applicable Sectors:** Industrial, Commercial, Residential
**Summary:**
North Dakota exempts from local property taxes any solar, wind, or geothermal energy device. Qualifying systems can be stand alone or part of a conventional system, but in the case where the solar, wind, or geothermal system is part of a conventional energy system, only the renewable energy portion of the total system is eligible. This exemption is applied only during the five year period following installation. To apply for this exemption, system owners must contact their local tax assessor or their county director of tax equalization.

**Source:** http://www.dsireusa.org/

### *Solar Easements*

**Incentive Type:** Solar Access Law/Guideline
**Policy Level:** State
**Province/Territory/State:** North Dakota

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics
**Applicable Sectors:** Industrial, Commercial, Residential, Fed_Govt, Nonprofit, Local, Schools, State_Sector
**Summary:** North Dakota's solar easement provisions are similar to those in many other states. They do not create an automatic right to sunlight. Rather, they allow parties to voluntarily enter into solar easement contracts for the purpose of ensuring adequate exposure of a solar energy system.

**Source:** http://www.dsireusa.org/

### *Conversion Facilities Corporate Tax Exemption*

**Incentive Type:** Corporate Exemption
**Policy Level:** State
**Province/Territory/State:** Ohio

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics, Wind, Biomass, Landfill Gas, Renewable Transportation Fuels, Municipal Solid Waste, Cogeneration
**Applicable Sectors:** Industrial, Commercial
**Summary:** Ohio exempts certain equipment from property taxation, the state's sales and use tax, and the state's franchise tax where applicable. Originally enacted in 1978, this incentive has had some impact in the promotion of renewable energy in Ohio, according to the Ohio Office of Energy Efficiency.

The exemption applies to tangible property used in energy conversion, thermal-efficiency improvements and the conversion of solid waste to energy. Generally, "conversion" refers to the replacement of fossil-fuel resources with alternative fuels or technologies; "thermal efficiency improvements" refers to the recovery of waste heat or steam produced in any commercial or industrial processes; and "solid waste conversion" refers to the use of waste to produce energy and the utilization of such energy. Eligible technologies include solar-thermal systems, photovoltaic systems, wind, biomass, landfill gas, and waste-recovery systems.

Upon receipt of certification from the tax commissioner, such property is exempt from Ohio's sales and use tax. In addition, such equipment improvements are not considered to be an improvement on land for purposes of property taxation, and they are not considered in the assessment of Ohio's franchise tax.

**Source:** http://www.dsireusa.org/

### *Conversion Facilities Property Tax Exemption*

**Incentive Type:** Property Tax Exemption
**Policy Level:** State
**Province/Territory/State:** Ohio

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics, Wind, Biomass, Landfill Gas, Municipal Solid Waste, Cogeneration
**Applicable Sectors:** Industrial, Commercial
**Summary:** Ohio exempts certain equipment from property taxation, the state's sales and use tax, and the state's franchise tax where applicable. Originally enacted in 1978, this incentive has had some impact in the promotion of renewable energy in Ohio, according to the Ohio Office of Energy Efficiency.

The exemption applies to tangible property used in energy conversion, thermal-efficiency improvements and the conversion of solid waste to energy. Generally, "conversion" refers to the replacement of fossil-fuel resources with alternative fuels or technologies; "thermal efficiency improvements" refers to the recovery of waste heat or steam produced in any commercial or industrial processes; and "solid waste conversion" refers to the use of waste to produce energy and the utilization of such energy. Eligible technologies include solar-thermal systems, photovoltaic systems, wind, biomass, landfill gas, and waste-recovery systems.

Upon receipt of certification from the tax commissioner, such property is exempt from Ohio's sales and use tax. In addition, such equipment improvements are not considered to be an improvement on land for purposes of property taxation, and they are not considered in the assessment of Ohio's franchise tax.

**Source:** http://www.dsireusa.org/

### *Ohio - Net Metering*

**Incentive Type:** Net Metering Rules
**Policy Level:** State
**Province/Territory/State:** Ohio

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Landfill Gas, Hydro, Fuel Cells
**Applicable Sectors:** Industrial, Commercial, Residential
**Summary:** Enacted in 1999 as a result of the Ohio General Assembly's electric utility restructuring bill, Ohio's net-metering rules requires investor-owned utilities to offer net metering to customer-generators who generate electricity using wind, solar, biomass, landfill gas, hydropower, fuel cells or microturbines. These systems must be designed to offset part or all of the customer-generator's requirements for electricity. With the exception of a 100-kW limit on microturbines, there is no cap on system size. However, utilities are only required to offer net metering until the total generating capacity of all participating customers equals 1% of the supplier's aggregate customer peak demand in Ohio.

When these rules was enacted, the Public Utilities Commission of Ohio (PUCO) ordered utilities to credit net excess generation (NEG) from customers at the full retail rate. However, in June 2002, the Ohio Supreme Court ruled that this exchange was unreasonable and illegal (Case No. 01-0573). As a result, each utility must credit NEG to the customer at the utility's unbundled generation rate. If a customer’s bill shows credit amounts for three consecutive months, the customer may request a cash payment for the total accumulated credit.

Net-metered systems must meet safety standards specified by the National Electrical Code (NEC), the Institute of Electrical and Electronics Engineers (IEEE), and Underwriters Laboratories (UL). Utilities may not require customer-generators to comply with additional safety and performance standards.

In December 2005, the PUCO opened a docket (Case No. 05-1500-EL-COI) to assess to the state's current interconnection standards and net-metering rules. The commission will conduct a

series of technical conferences for stakeholders to learn more about the details of net metering and interconnection in Ohio, and to understand the commission's activities relevant to the requirements of the federal Energy Policy Act of 2005 regarding net metering, smart metering and demand response, combined heat and power (CHP), the sale of stand-by power, and the interconnection of distributed generation. The PUCO may amend the state's interconnection standards and net-metering rules based on comments submitted in this case.

**Source:** http://www.dsireusa.org/

### *Conversion Facilities Sales Tax Exemption*

**Incentive Type:** Sales Tax Exemption
**Policy Level:** State
**Province/Territory/State:** Ohio

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics, Wind, Biomass, Landfill Gas, Renewable Transportation Fuels, Municipal Solid Waste
**Applicable Sectors:** Industrial, Commercial
**Summary:** Ohio exempts certain equipment from property taxation, the state's sales and use tax, and the state's franchise tax where applicable. Originally enacted in 1978, this incentive has had some impact in the promotion of renewable energy in Ohio, according to the Ohio Office of Energy Efficiency.

The exemption applies to tangible property used in energy conversion, thermal-efficiency improvements and the conversion of solid waste to energy. Generally, "conversion" refers to the replacement of fossil-fuel resources with alternative fuels or technologies; "thermal efficiency improvements" refers to the recovery of waste heat or steam produced in any commercial or industrial processes; and "solid waste conversion" refers to the use of waste to produce energy and the utilization of such energy. Eligible technologies include solar-thermal systems, photovoltaic systems, wind, biomass, landfill gas and waste-recovery systems.

Upon receipt of certification from the tax commissioner, such property is exempt from Ohio's sales and use tax. In addition, such equipment improvements are not considered to be an improvement on land for purposes of property taxation, and they are not considered in the assessment of Ohio's franchise tax.

**Source:** http://www.dsireusa.org/

### *Distributed and Renewable Energy Grants*

**Incentive Type:** State Grant Program
**Policy Level:** State
**Province/Territory/State:** Ohio

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Photovoltaics, Wind, Other DG, Biomass, Landfill Gas, Cogeneration
**Applicable Sectors:** Industrial, Commercial, Residential, Nonprofit, Local, Schools, Institutional, State_Sector, Agricultural
**Summary:** The Ohio Department of Development's Office of Energy Efficiency (OEE) offers grants to support the implementation of certain types of energy projects, including distributed energy resources (DER), renewable-energy projects and energy-efficiency projects. Grant funding is provided by the Energy Loan Fund (ELF), Ohio's public benefits fund. To qualify, projects must be located in Ohio and installed in the service territory of one of the five participating electric utilities: American Electric Power (Columbus and Southern Power and Ohio Power); CINergy (Cincinnati Gas and Electric); Dayton Power and Light; First Energy (Cleveland Electric Illuminating, Ohio Edison, Toledo Edison); and Monongahela Power (Allegheny Power).

Distributed Energy Resources (DER) Grants

DER grants are available for (but not limited to) new projects utilizing, combined heat and power (CHP), landfill or biomass methane for electric generation, microturbines, innovative industrial heat recovery, or clean-burning reciprocating engines. Commercial, institutional and industrial projects with a maximum capacity of 25 megawatts (MW) are eligible. The maximum grant award is $100,000; a minimum of 75% cost share is required. All projects must use the maximum Energy Loan Fund (ELF) linked deposit or ELF direct loan for which the project is eligible as part of the financing package. The maximum linked deposit is $1 million; the maximum direct loan is $500,000. (See the Notice of Funding Available for more information about ELF financing.) Previous recipients of OEE's DER grant program are not eligible.

The OEE began accepting applications for DER grants on January 31, 2006.

Renewable-Energy Grants

Renewable-Energy Grants totaling $450,000 are available for new solar-electric (PV), wind-electric and solar-thermal systems for all customer classes in Ohio. Incentive funds are limited, but qualifying applications will receive financial support until all the funds for this program have been awarded.

Owners of new wind-energy systems may apply for a grant equal to $2.50 per watt of system capacity, up to 50% of system cost. Solar-thermal systems are eligible for an award equal to $30 per kBtu/day, up to 50% of system cost. PV projects must be installed by NABCEP-certified installers. PV systems up to 75 kilowatts (kW) are eligible for “tiered” awards based on system size:*
– 1 kW - 10 kW: $3.50 per watt
– 10.001 kW - 25 kW: $2.50 per watt
– 25.001 kW - 75 kW: $1.50 per watt

Grants for residential renewable-energy energy systems are capped at $25,000; awards for non-residential systems are capped at $150,000. All project components must be new and must include a manufacturers' warranty. In cases where the installing contractor custom builds components, the installing contractor must provide a five-year warranty on those components.

All applicants may use ELF financing as part of their financial package. (See the Notice of Funding Available for more information about ELF financing.) The OEE began accepting applications for Renewable-Energy Grants on February 1, 2006.

* For example, a qualifying 75-kW non-residential PV system is eligible for an award of $147,500. This amount is equal to the sum of $35,000 for the first tier, plus $37,500 for the second tier, plus $75,000 for the third tier.

**Source:** http://www.dsireusa.org/

### *Energy Loan Fund (ELF)*

**Incentive Type:** Public Benefits Fund
**Policy Level:** State
**Province/Territory/State:** Ohio

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Solar Thermal Electric, Photovoltaics, Wind, En Eff, Biomass, Landfill Gas, Hydro, Renewable Transportation Fuels, Geothermal Electric, Municipal Solid Waste, Cogeneration, Fuel Cells
**Applicable Sectors:** Industrial, Commercial, Residential, Government, Nonprofit, Local, Schools, MultiFamilyRes, LowIncomeRes, Agricultural
**Summary:** Ohio's 1999 electric-restructuring law created the Energy Loan Fund (ELF) and Universal Service Board, which consolidated low-income assistance programs and created a weatherization program targeted at low-income housing. The ELF will collect $100 million over 10 years to provide low-interest loans and loan guarantees for energy-efficiency improvements at residential, government, educational, small commercial, small industrial and agricultural facilities. The ELF also provides funding for renewable-energy projects and public-education efforts. The Ohio Department of Development's Office of Energy Efficiency (OEE) operates this fund.

In addition to establishing funding levels, Ohio's restructuring legislation created the Public Benefits Advisory Board, a multi-stakeholder panel that assists the Department of Development in administering the Universal Service Board and the ELF. The Department of Development collaborates with the Ohio Public Utilities Commission to design and develop energy programs.

The OEE has developed four loan programs for the ELF:
– Business & Institutional Loans
– Renewable Energy Financial Assistance Program
– Double-Saving Loans for Energy Home Improvements
– Whole-House Energy Performance Training (for contractors, inspectors and service providers).
In addition, the ELF provided funding to support grants for distributed energy resources (DER) projects in 2003, 2004 and 2005.

**Source:** http://www.dsireusa.org/

### *Fuel Cell Loan Program*

**Incentive Type:** Industry Recruitment
**Policy Level:** State
**Province/Territory/State:** Ohio

**Eligible Renewable / Other Technologies:** Fuel Cells
**Applicable Sectors:** Industrial, Commercial
**Summary:**
To position Ohio as a national leader in the U.S. fuel-cell industry, Governor Bob Taft unveiled a $100 million, three-year initiative in May 2002 to invest in research, project demonstration and job creation. Ohio's fuel cell initiative provides (1) $75 million in financing to make strategic capital investments that will create and retain jobs, (2) $25 million for fuel cell research, development and demonstration, and (3) $3 million for worker training.

The Ohio Fuel Cell Initiative has $15 million to finance traditional economic development investments for expansion of Ohio’s fuel cell industry, as well as job retention and job creation activities, through low-interest loans and guarantees. The maximum loan per company is $5 million. In addition, the Ohio Department of Development (ODOD) has set aside $60 million in federal volume cap for tax-exempt financing of qualified, small-issue projects. All of the $75 million total may be used for the purchase of land, buildings, and equipment Contact ODOD for current details regarding loans.

ODOD also conducts educational workshops and business seminars in conjunction with the Ohio Fuel Cell Coalition and maintains informational materials on the State's Third Frontier Project web site (<http://www.thirdfrontier.com>) and the Ohio Fuel Cell Coalition (<http://www.fuelcellsohio.org>) web site.

Ohio's fuel cell initiative is an integral part of the state's Third Frontier Project, a 10-year, $1.6 billion plan to create high-tech, high-paying jobs through the expansion of the state's high-tech research sector and promotion of start-up companies.

**Source:** http://www.dsireusa.org/

### *Renewable Energy Loans*

**Incentive Type:** State Loan Program
**Policy Level:** State
**Province/Territory/State:** Ohio

**Eligible Renewable / Other Technologies:** Active Water Heat, Photovoltaics, Wind, Biomass, Landfill Gas, Hydro, Fuel Cells
**Applicable Sectors:** Industrial, Commercial, Residential, Nonprofit, Local, Schools
**Summary:** The Renewable Energy Financial Assistance Program is one of four loan programs funded by the Energy Loan Fund (ELF), established by the Ohio General Assembly under the state's 1999 electric restructuring act (SB 3). The ELF was created to provide incentives for implementing energy-efficiency projects and renewable-energy projects.

The renewable-energy loan program reduces the interest rate—by approximately half—on standard bank loans for qualifying Ohio residents and businesses that borrow money to implement energy-efficiency projects or renewable-energy projects. Approximately 11 banks currently participate in the program. Although the interest rate buy-down is available for five years, individual banks establish loan repayment terms on a case-by-case basis.

Qualifying projects must be located in the service territory of one of the five participating electric-distribution companies to be eligible for ELF financing: American Electric Power (Columbus and Southern Power and Ohio Power); Cinergy (Cincinnati Gas and Electric); Dayton Power and Light; First Energy (Cleveland Electric Illuminating, Ohio Edison, Toledo Edison); and Monongahela Power (Allegheny Power).

Eligible projects include but are not limited to the purchase and installation of solar-electric (PV) systems, wind, biomass or bio-energy (from agricultural products or landfill methane), hydropower (from flowing water or existing dams) and fuel cells. Loans for residential projects range from $500 to $25,000, whereas loans for commercial and institutional projects range from $5,000 to $500,000. Industrial facilities are eligible if they qualify as "small businesses," as defined by the Small Business Administration.

Applications and program details are available at the web site above. For questions regarding homes, contact Judy Pacifico. For questions regarding businesses and institutions, contact Carolyn Seward.

**Source:** http://www.dsireusa.org/

### *Interconnection Standards*

**Incentive Type:** Interconnection
**Policy Level:** State
**Province/Territory/State:** Ohio

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Other DG, Biomass, Landfill Gas, Hydro, Geothermal Electric, Municipal Solid Waste, Cogeneration, Fuel Cells
**Applicable Sectors:** Industrial, Commercial, Residential, Fed_Govt, Nonprofit, Local, Schools, State_Sector

**Summary:** As part of the state's 1999 electric utility restructuring law, Ohio established net metering for renewable-energy systems, including fuel cells. (Microturbines up to 100 kilowatts in capacity also are eligible for net metering.) Subsequently, the Public Utilities Commission of Ohio (PUCO) initiated a lengthy process to establish interconnection rules and procedures. The technical rules cover all distributed generation (DG) up to 300 kVA, with separate provisions for small systems up to 25 kilowatts (kW). These rules are accompanied by a screening document similar to California's, which is a flow chart for the DG interconnection process. A sample application has also been developed by the PUCO, but system owners must use individual utility applications to apply for interconnection.

Although the Ohio DG interconnection rules do not reference IEEE 1547 or IEEE 929 specifically, the requirements essentially mirror these two national standards. For small systems, utilities may require an external disconnect.

Procedurally, the screening process establishes the criteria for systems that qualify for a simplified interconnection agreement. A supplemental review is required where the system is larger than the 300-kW three-phase or 25-kW single-phase size limits, or the equipment has not been type-tested. Site commissioning tests may still be required in any event to insure that the system is connected properly and that the protective functions are working properly. Beyond the supplemental review, some systems will require a "System Impact and Facility Study" where certain distribution feeder capacity limits are met. Utilities may collect fees to cover the costs of the application process as well as a refundable deposit if any studies are required to analyze the impact of the customer's equipment on the distribution wires system.

In December 2005, the PUCO opened a docket (Case No. 05-1500-EL-COI) to assess to the state's current interconnection standards and net-metering rules. The commission will conduct a series of technical conferences for stakeholders to learn more about the details of net metering and interconnection in Ohio, and to understand the commission's activities relevant to the requirements of the federal Energy Policy Act of 2005 regarding net metering, smart metering and demand response, combined heat and power (CHP), the sale of stand-by power, and the interconnection of distributed generation. The PUCO may amend the state's interconnection standards and net-metering rules based on comments submitted in this case.

**Source:** http://www.dsireusa.org/

### *Solar Easements*

**Incentive Type:** Solar Access Law/Guideline
**Policy Level:** State
**Province/Territory/State:** Ohio

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Photovoltaics
**Applicable Sectors:** Industrial, Commercial, Residential, Fed_Govt, Nonprofit, Local, Schools, State_Sector
**Summary:** Ohio's solar easement provisions are similar to those in effect in other states. Ohio law allows property owners to create binding solar easements for the purpose of protecting and maintaining proper access to sunlight.

**Source:** http://www.dsireusa.org/

### *Environmental Disclosure*

**Incentive Type:** Generation Disclosure
**Policy Level:** State
**Province/Territory/State:** Ohio

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Solar, Other DG, Biomass, Hydro
**Applicable Sectors:** Utility
**Summary:** In 2000, the Ohio Public Utilities Commission adopted rules requiring electricity suppliers to disclose environmental information to retail customers in accordance with the state's 1999 restructuring law (SB 3). Retail providers must disclose fuel mix and emissions data for each electricity product offered. Disclosure must be provided in a standard format on an annual basis, with quarterly comparisons of actual and projected data. Fuel mix and emissions of carbon dioxide, sulfur dioxide and nitrogen oxides must be presented relative to the regional average. The amount of high-level and low-level radioactive waste generated also must be disclosed. The energy supplier should keep the records for all this data on file and be able to supply information to the Public Utilities Commission or a member of the public upon request.

**Source:** http://www.dsireusa.org/

### *Fuel Cell Grant Program*

**Incentive Type:** Industry Recruitment
**Policy Level:** State
**Province/Territory/State:** Ohio

**Eligible Renewable / Other Technologies:** Fuel Cells
**Applicable Sectors:** Industrial, Commercial
**Summary:**
To position Ohio as a national leader in the U.S. fuel cell industry, Governor Bob Taft unveiled a $100 million, three-year initiative in May 2002 to invest in research, project demonstration and job creation. Ohio's fuel cell initiative provides $75 million in financing to make strategic capital investments that will create and retain jobs, $25 million for fuel cell research, development and demonstration, and $3 million for worker training.

Research, Development & Demonstration - $25 million
$25 million is designated for Research, Development & Demonstration (RD&D) grants. In 2003, the Ohio Department of Development (ODOD) received 26 proposals for fuel cell-related projects. Ultimately, seven projects were awarded a total of $6.4 million. R&D proposals must be submitted to ODOD by an Ohio entity that is part of a larger project team that can include out-of-state partners. The $25 million RD&D budget is comprised of $13 million of oil overcharge monies, $2 million from the Ohio Coal Development Office to further develop coal gasification and hot gas cleanup technologies for hydrogen supply for fuel cells, and a $10 million Third Frontier Action Fund for competitive technology development and commercialization projects.

Training - $3 million
The Ohio Investment Training Program allocates $1,000,000 per year for fuel-cell-related companies. Through this program, Ohio companies are eligible to receive grants of up to 50% of the cost for training to upgrade the skills of their employees, or to train or re-train employees in areas related to fuel cells.

Public Education
ODOD conducts educational workshops and business seminars in conjunction with the Ohio Fuel Cell Coalition and maintains informational materials on the State's Third Frontier Project web site (http://www.thirdfrontier.com) and the Ohio Fuel Cell Coalition (http://www.fuelcellsohio.org) web site.

Ohio's fuel cell initiative is an integral part of the state's Third Frontier Project, a 10-year, $1.6 billion plan to create high-tech, high-paying jobs through the expansion of the state's high-tech research sector and promotion of start-up companies.

**Source:** http://www.dsireusa.org/

### *Tax Credit for Manufacturers of Small Wind Turbines*

**Incentive Type:** Industry Recruitment
**Policy Level:** State
**Province/Territory/State:** Oklahoma

**Eligible Renewable / Other Technologies:** Wind
**Applicable Sectors:** Industrial
**Summary:** Oklahoma offers an income tax credit to the manufacturers of small wind turbines for tax years 2003 through 2005. Oklahoma manufacturers of wind turbines with a rated capacity of between 1 kW and 50 kW are eligible for the credit if they agree in advance to allow their production and claims to be audited by the Oklahoma Tax Commission. They must also be able to show that they have made economic development investments in Oklahoma over the period of time for which the credit was claimed that exceed the amount of credit claimed.

The turbine must incorporate advanced technologies such as new airfoils, new generators, and new power electronics and at least one unit of each model must have been installed for testing at the US-DOE National Wind Technology Center. All turbines must comply with appropriate interconnection safety standards of the Institute of Electrical and Electronics Engineers.

The credit amount varies based on the turbine's square footage of rotor swept area. The credit was $25 per square foot produced in 2003 and $12.50 per square foot produced in 2004. The current incentive (2005) is $6.25 per square foot. The credit is transferable during the ten years following the year of qualification. To claim this credit, complete Tax Form 511CR, Schedule for Other Credits.

**Source:** http://www.dsireusa.org/

### *Zero-Emission Facilities Production Tax Credit*

**Incentive Type:** Corporate Tax Credit
**Policy Level:** State
**Province/Territory/State:** Oklahoma

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Hydro, Geothermal Electric
**Applicable Sectors:** Industrial, Commercial
**Summary:** Effective January 1, 2003, an income tax credit became available to producers of electric power using renewable energy resources from a zero emission facility located in Oklahoma. The zero-emission facility must have a rated production capacity of fifty megawatts (50 MW) or greater. Renewable energy resources include wind, moving water, sun, and geothermal energy. The construction and operation of the zero-emission facility must result in no pollution or emissions that are or may be harmful to the environment, as determined by the Department of Environmental Quality.

The amount of the credit varies depending on when the electricity is generated. For electricity generated prior to January 1, 2004, the amount of the credit was seventy-five one hundredths of one cent ($0.0075) for each kilowatt-hour of electricity generated by zero-emission facilities. For electricity generated after January 1, 2004, but prior to January 1, 2007, the amount of the credit is fifty one hundredths of one cent ($0.0050) per kilowatt-hour for electricity generated by zero-emission facilities. For electricity generated after January 1, 2007, but prior to January 1, 2012, the amount of the credit is twenty-five one hundredths of one cent ($0.0025) per kilowatt-hour of electricity generated by zero-emission facilities.

Credits may be claimed over a 10-year period and non-taxable entities may transfer the tax credit to taxable entities. To claim this credit, applicants must complete Tax Form 511CR, Schedule for Other Credits.

**Source:** http://www.dsireusa.org/

### *Oklahoma - Net Metering*

**Incentive Type:** Net Metering Rules
**Policy Level:** State
**Province/Territory/State:** Oklahoma

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Hydro, Geothermal Electric, Municipal Solid Waste, Cogeneration
**Applicable Sectors:** Industrial, Commercial, Residential
**Summary:** Net metering has been available in Oklahoma since 1988 under Oklahoma Corporate Commission Order 326195. This ruling requires investor owned utilities and rural cooperatives under the Commission's jurisdiction to file net metering tariffs for customer-owned renewable energy and cogeneration facilities at 100 kW or less in capacity. The program is available to all customer classes and there is no statewide limit to the amount of net metering capacity.

Utilities are not allowed to impose extra charges for customers signed up for net metering, nor are they allowed to require new liability insurance as a condition for interconnection. Utilities are also not required to purchase net excess generation from customers. The ruling, however, does allow customers to request that utilities purchase the net generation. In this case, the utility purchases the generation at the utility's filed avoided cost. Although all renewable energy sources are eligible, only wind generating systems have used net metering in Oklahoma to date. In most cases, customer generation does not exceed demand.

**Source:** http://www.dsireusa.org/

### *Oregon - Net Metering*

**Incentive Type:** Net Metering Rules
**Policy Level:** State
**Province/Territory/State:** Oregon

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Landfill Gas, Hydro, Fuel Cells
**Applicable Sectors:** Industrial, Commercial, Residential
**Summary:** Oregon's original 1999 net metering law (HB 3219) allowed net metering for customers with solar, wind, or hydropower systems up to 25 kW. The law was expanded in June 2005 (SB 84) to include landfill gas, digester gas, waste, dedicated energy crops, and low-emission, nontoxic biomass derived from wood, forest, or field residues. Furthermore, the Oregon Public Utilities Commission may increase the 25-kW system limit for customers of public (investor-owned) utilities. Residential and commerical customers are eligible for net metering up to a total installed capacity of 0.5% of a utility's historic single-hour peak load. Above this installed capacity, net metering eligibility can be limited by regulatory authority.

Net excess generation is either purchased at avoided cost or credited to the customers next monthly bill. At the end of an annual period, any unused credit is granted to the electric utility. This credit is then either granted to customers enrolled in the utility's low-income assistance programs, credited to the generating customer, or "dedicated to other use."

Net metering is to be accomplished using a standard bi-directional meter. Utilities cannot place any additional standards or requirements on customer-generators beyond those requirements

established by the National Electric Code, National Electrical Safety Code, Institute of Electrical and Electronic Engineers, and Underwriters Laboratories. However, utilities may be authorized to assess a fee or charge if the utility's direct costs of interconnection and administration of the net metering policy outweigh the distribution system, environmental and public policy benefits of allocating costs among its customers.

From the Oregon Energy Office site, you can download the "Oregon Solar Electric Guide," which discusses net metering.

**Source:** http://www.dsireusa.org/

### *Small-Scale Energy Loan Program (SELP)*

**Incentive Type:** State Loan Program
**Policy Level:** State
**Province/Territory/State:** Oregon

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Solar Thermal Process Heat, Photovoltaics, Wind, En Eff, Biomass, Landfill Gas, Geothermal Electric, Municipal Solid Waste, Cogeneration
**Applicable Sectors:** Industrial, Commercial, Residential, Fed_Govt, Nonprofit, Local, Schools, Coop, Tribal_Govt, State_Sector
**Summary:** The Oregon Small Scale Energy Loan Program (SELP) is administered by the Oregon Department of Energy and was created in 1981 after voters approved a constitutional ammendment authorizing the sale of bonds to finance small scale, local energy projects. The sale of bonds is made on a periodic basis and, occasionally, to accommodate a particularly large loan request.

The program offers low-interest loans for projects that:
– Save energy;
– Produce energy from renewable resources such as water, wind, geothermal, solar, biomass, waste materials or waste heat;
– Use recycled materials to create products;
– Use alternative fuels; and
– Reduce energy consumption during construction or operation of another facility

Loans are available to individuals, businesses, schools, cities, counties, special districts, state and federal agencies, public corporations, cooperatives, tribes, and non-profits. In June of 2005, the passage of Senate Bill 735 expanded the program to allow projects proposed by intergovernmental entities as well as projects located outside of Oregon, where providing substantial benefits within Oregon.

Though there is no legal maximum loan, the size of loans generally ranges from $20,000 to $20 million. Terms vary, but are generally set to match the term of the bonds that funded the loans. Loan terms may not exceed project life. Businesses which qualify for SELP often qualify for the Business Energy Tax Credit (BETC).

As of December 2004, 643 loans had been closed totaling $363 million. Renewable energy projects accounted for 215 loans and 428 loans were for conservation projects.

Applications are available on the program web site.

**Source:** http://www.dsireusa.org/

### *Energy Trust Open Solicitation Program*

**Incentive Type:** State Grant Program

**Policy Level:** State
**Province/Territory/State:** Oregon

**Eligible Renewable / Other Technologies:** Photovoltaics, Wind, Biomass, Landfill Gas, Hydro, Geothermal Electric
**Applicable Sectors:** Industrial, Commercial, Residential, Government, Nonprofit, Local, Schools, State_Sector, Agricultural
**Summary:** In order to provide opportunities for Oregonians to take advantage of incentives for innovative applications of renewable technology, the Energy Trust of Oregon, a nonprofit organization created to invest public purpose funding for energy efficiency and renewable energy in Oregon, created the Open Solicitations program in May 2002.

This program is designed to support renewable energy projects that do not already have an established incentive program developed and launched by the Energy Trust of Oregon. They expect to reserve 10% of the Renewable Energy program budget, or about $1 million annually, for open solicitation incentives. Projects will generally be awarded in the areas of small wind, solar photovoltaics, biomass, biogas, small hydro and geothermal electric. There is no funding cap for projects, but the projected program budget is expected to fund 4-6 projects each year.

The program does not fund R&D or pre-commercial activities. It is likely to fund projects that follow certain guidelines, including:
- New, commercial technologies in established applications
- Old technologies in new applications
- Projects that can be implemented quickly
- Market defining demonstrations

The Energy Trust may fund all or a portion of the above-market costs of a project, defined generally as the difference between current wholesale or retail electricity prices and the cost of electricity generated by the project. There is no fixed percentage for the amount of the above-market costs the Energy Trust will pay.

Eligible projects must either be located in the Oregon service territory of Pacific Power or Portland General Electric, or have a power purchase agreement with one of those utilities. Off-grid projects are not eligible for Energy Trust support.

The Open Solicitation program has funded various types of applicants since its inception in 2002 including farmers, ranchers, schools, non-profits, local governments and private businesses. Projects funded include small wind, solar electric and micro-hydro. For more information on previously funded projects, visit the Open Solicitation Success Stories web site.

**Source:** http://www.dsireusa.org/

### *Residential Energy Tax Credit*

**Incentive Type:** Personal Tax Credit
**Policy Level:** State
**Province/Territory/State:** Oregon

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Photovoltaics, Wind, En Eff, Renewable Fuel Vehicles, Geothermal Heat Pumps, Fuel Cells
**Applicable Sectors:** Residential
**Summary:** Homeowners and renters who pay Oregon income taxes are eligible for the Residential Energy Tax Credit if they purchase premium-efficiency appliances, heating and cooling systems, duct systems, closed-loop geothermal space or water heating systems, solar water and space heating systems, photovoltaics, wind, fuel cells, and alternative fuel vehicles and charging or fueling systems.

Renewable Energy Incentives
Photovoltaic (PV) systems are eligible for $3 per peak watt, up to $1,500. (NOTE: Beginning in 2006, the maximum tax credit for PV increases to $6,000 up to 50% of the installed cost—a result of SB 31, enacted in September 2005.) However, the amount claimed in any one tax year may not exceed $1,500 or the taxpayer's tax liability, whichever is less. Unused credits may be carried forward for five years.

Solar space and water heating systems, wind systems, and fuel cells are eligible for a credit of 60 cents per kWh saved during the first year, up to $1,500.

Spa and pool heating systems are eligible for a tax credit of 15 cents per kWh saved, up to 50 percent of the cost, with a maximum tax credit of $1,500.

Closed-loop geothermal systems for space or water heating are eligible for $300 to $900.

Energy Efficiency Incentives
Only appliances recognized as premium efficiency by the Oregon Department of Energy are eligible for the tax credit. The Oregon Department of Energy keeps a list of qualifying appliances. The tax credit is the lesser of: (1) the amount listed for qualifying models, or (2) 25% of the net cost of the appliance.

Performance-tested duct systems qualify for a tax credit of 25% of the cost of the work, not to exceed $250. The testing must be performed by a contractor certified by the Oregon Department of Energy.

Qualifying air-source heat pump systems are eligible for a tax credit of $300 to $500 when installed by a contractor from the list of certified contractors available from the Oregon Department of Energy.

Qualifying condensing furnaces and boilers are eligible for tax credits of $350 and $225. If the heat pumps and furnaces are connected to a performance-tested duct system, they are eligible for an additional $150 tax credit.

Alternative Fuel Vehicles Incentive
Vehicles that run on alternative type of fuels qualify for a tax credit. Examples are electricity, natural gas, methanol, propane and hydrogen. Vehicles must be registered in the state of Oregon to operate on public roadways. An additional tax credit is available for installing a home charging or fueling system. The tax credit is 25 percent of the cost of the vehicle or device, not to exceed $750. The tax credit may be claimed for a vehicle and a charging or fueling system, for a total of $1,500.

This tax credit sunsets on December 31, 2015.

**Source:** http://www.dsireusa.org/

### *Interconnection Standards*

**Incentive Type:** Interconnection
**Policy Level:** State
**Province/Territory/State:** Oregon

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Landfill Gas, Hydro, Municipal Solid Waste, Fuel Cells
**Applicable Sectors:** Industrial, Commercial, Residential, Fed_Govt, Nonprofit, Local, Schools, State_Sector

**Summary:** Oregon's net metering law, ORS 757.300 (HB 3219 of 1999), includes interconnection requirements for systems generating up to 25 kW. This law was expanded by SB 84 of 2005 to include landfill gas, digester gas, waste, dedicated energy crops, and low-emission, nontoxic biomass derived from wood, forest, or field residues. The Oregon Public Utilities Commission may increase the 25-kW system limit for customers of public (investor-owned) utilities.

Standardized technical interconnection standards were developed by the Oregon Building Codes Division and apply to all utilities in the state. Systems must be installed according to the Oregon Electric Specialty Code (essentially NEC Article 690), must comply with Institute of Electrical and Electronic Engineers (IEEE) codes, and must employ Underwriters Laboratories (UL)-listed equipment. Manual external disconnects are not required. Additional liability insurance is not required, but the utility is exempt from any liability for loss, injury or death related to the interconnection of a net-metered system.

Oregon currently does not have uniform interconnection procedures. Each utility has different requirements. Contact your utility at an early phase of your project to find out what is required.

The Oregon Energy Office offers the "Oregon Solar Electric Guide," a publication that discusses the interconnection process.

**Source:** http://www.dsireusa.org/

### *Energy Trust Solar Electric Buy-Down Program*

**Incentive Type:** State Rebate Program
**Policy Level:** State
**Province/Territory/State:** Oregon

**Eligible Renewable / Other Technologies:** Photovoltaics
**Applicable Sectors:** Industrial, Commercial, Residential, Nonprofit, Local, Schools, Institutional, Agricultural
**Summary:** The Energy Trust of Oregon's (Energy Trust) Solar Electric Buy-down Program, launched in May 2003, is available to customers of Pacific Power and PGE who install new photovoltaic systems on their new or existing homes, commercial and community buildings, farms, and municipal facilities. The following incentive amounts became effective for systems installed beginning January 1, 2006:

Buy-down amounts for residential customers are currently $2.00/W DC installed for Pacific Power customers and $2.25/W for PGE customers, with a $10,000 cap per site.

Buy-down amounts for commercial customers are currently $1.00/W DC installed for Pacific Power customers and $1.25/W for PGE customers, with a $35,000 cap per site.

As of January 2006, 188 PV systems have been installed, 171 of which were residential systems.

All PV systems must be grid-tied and net metered. Oregon's current net metering size limit is 25 kW. Pre-approval of projects is required. The Energy Trust will provide referrals to contractors from their Trade Ally Network (self-installed systems will not qualify). The solar contractor selected advises the customer on installation options and best siting designs to obtain the maximum performance and satisfaction from the solar electric system. The contractor will provide a system quote that estimates the PV system annual performance, installation date, and the cost after Energy Trust incentive deductions. Once the Energy Trust approves the customer's PV system, the buy-down incentive will be paid to the solar contractor and deducted from the final cost.

Other available incentives include a residential tax credit through the Oregon Department of Energy of $3.00/Watt, up to $6,000 maximum (with up to $1500 being claimed per year), and a business tax credit through the Oregon Department of Energy of approximately 35% of installed system cost applied over 5 years.

**Source:** http://www.dsireusa.org/

### *Fuel Mix and Emissions Disclosure*

**Incentive Type:** Generation Disclosure
**Policy Level:** State
**Province/Territory/State:** Oregon

**Eligible Renewable / Other Technologies:**
**Applicable Sectors:** Utility
**Summary:** Under Oregon's 1999 electric utility restructuring legislation, electricity suppliers are required to disclose their fuel mix and emissions. Beginning March 1, 2002, disclosure must be supplied using a format prescribed by the Oregon Public Utility Commission. Power source and environmental impact information must be provided to all residential consumers at least quarterly.

Power source information must be reported as the percentages of the total production supply, including coal, hydroelectricity, natural gas, nuclear, and other fuels including but not limited to new renewable resources, if over 1.5 percent of the total fuel mix. Electricity suppliers are to disclose the net system power mix for the current calendar year unless they are "able to demonstrate a different power source and environmental impact." Electricity suppliers with a different fuel mix must base disclosure on projections of the mix to be supplied during the current year. Renewable resources are to be reported as "other fuels" unless they comprise over 1.5 percent of the total fuel mix. Utility mix and emissions are based on the previous calendar year.

Environmental impact information must be reported in lbs/kWh. Pollutants that must be disclosed include carbon dioxide, sulfur dioxide, and nitrogen oxides. Spent nuclear fuel must be disclosed in mg/kWh.

Beginning in April 2003, suppliers making claims of sources other than net system power must file a "reconciliation report" with the Commission detailing the fuel mix of individual products.

**Source:** http://www.dsireusa.org/

### *Business Energy Tax Credit*

**Incentive Type:** Corporate Tax Credit
**Policy Level:** State
**Province/Territory/State:** Oregon

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Solar Thermal Electric, Photovoltaics, Wind, En Eff, Biomass, Landfill Gas, Hydro, Renewable Transportation Fuels, Geothermal Electric, Geothermal Heat Pumps, Municipal Solid Waste, Cogeneration, Hydrog
**Applicable Sectors:** Industrial, Commercial, MultiFamilyRes
**Summary:**
Oregon's Business Energy Tax Credit (BETC) is for investments in energy conservation, recycling, renewable energy resources, or less-polluting transportation fuels. Any Oregon business may qualify. As examples, projects may be in manufacturing plants, stores, offices, apartment buildings, farms, and transportation.

The 35% tax credit is taken over five years: 10% the first and second years and 5% for each year thereafter. Any unused credit can be carried forward up to eight years. Those with eligible project costs of $20,000 or less may take the tax credit in one year.

Under the pass-through option, a project owner may transfer a tax credit to a pass-through partner in return for a lump-sum cash payment (the net present value of the tax credit) upon completion of the project. The Pass-through Option allows non-profit organizations, schools, governmental agencies, tribes, other public entities and businesses with and without tax liability to use the Business Energy Tax Credit by transferring their tax credit for an eligible project to a partner with a tax liability.

Projects that use solar, wind, hydro, geothermal, biomass, or fuel cells (renewable fuels only) to produce energy, displace energy, or reclaim energy from waste may qualify for a tax credit. Renewable resource projects must replace at least 10% of the electricity, gas or oil used. The energy can be used on site or sold.

General retrofit projects, in addition to those for lighting, and weatherization projects for rental property may be eligible for the program, as well as new construction projects, including energy efficiency and lighting. Retrofit projects must be 10% more energy efficient than existing installation; lighting retrofit must be 25% more efficient than existing lighting. For new buildings, all measures must reduce energy use by at least 10% compared to a similar building that meets the minimum requirements of the state energy code.

Cogeneration projects may also be eligible. Projects that develop new markets for recycled materials or recycle materials not required by law may be eligible for the tax credit. Projects that reduce employee commuting (or work-related travel) and investments in cleaner-burning fuels may qualify.

In 2001, the Oregon Legislature added sustainable buildings to the list of measures and systems eligible for the tax credit. This addition became effective October 8, 2001 and is retroactive to January 1, 2001. In addition to several requirements set forth by the ODOE, the building must meet established standards set by the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) for Silver Certification.

Applications and instructions are available on the program web site. To date, more than 7,400 energy tax credits have been awarded to Oregon businesses. Altogether, those investments save or generate energy worth about $215 million a year.

**Source:** http://www.dsireusa.org/

### *Solar Access Laws*

**Incentive Type:** Solar Access Law/Guideline
**Policy Level:** State
**Province/Territory/State:** Oregon

**Eligible Renewable / Other Technologies:** Active Water Heat, Solar Thermal Electric, Photovoltaics
**Applicable Sectors:** Local
**Summary:** Oregon state law allows municipalities and local authorities to establish solar access laws.

Access laws are intended to protect solar access to the south face of buildings during solar heating hours, taking into account existing development, vegetation, and planned uses. The ordinances may include standards for orientation of new streets and lots, placement and height of new buildings, and the placement of new trees on public property. City and County laws tend to

be most applicable to protecting south-facing roofspace for active solar energy systems such as solar electric and solar hot water panels, as opposed to daylighting and passive solar heating that require southern exposure to a building's wall.

**Source:** http://www.dsireusa.org/

### *Renewable Energy Systems Exemption*

**Incentive Type:** Property Tax Exemption
**Policy Level:** State
**Province/Territory/State:** Oregon

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics, Wind, Biomass, Landfill Gas, Hydro, Geothermal Electric, Geothermal Heat Pumps, Fuel Cells, Methane Gas
**Applicable Sectors:** Industrial, Commercial, Residential
**Summary:**
Oregon's property tax exemption states that the added value to any property from the installation of a qualifying renewable energy system not be included in the assessment of the property's value for property tax purposes. Qualifying renewables include solar, geothermal, wind, water, fuel cell or methane gas systems for the purpose of heating, cooling or generating electricity. This exemption is intended for end users and does not apply to property owned by anyone directly or indirectly involved in the energy industry.

**Source:** http://www.dsireusa.org/

### *Energy Trust Solar Water Heating Buy-Down Program*

**Incentive Type:** State Rebate Program
**Policy Level:** State
**Province/Territory/State:** Oregon

**Eligible Renewable / Other Technologies:** Active Water Heat
**Applicable Sectors:** Industrial, Commercial, Residential, Nonprofit, Local, Schools, Institutional, Agricultural
**Summary:** Initiated in the fall of 2003, the Energy Trust of Oregon's Solar Water Heating (SWH) Buy-down Program offers incentives to customers of Pacific Power, PGE, and NW Natural Gas who install solar water or pool heating systems on their homes, office buildings, community buildings, agricultural, and municipal facilities. The Energy Trust is a nonprofit organization created to invest public purpose funding for energy efficiency and renewable energy in Oregon.

The buy-down incentive is calculated by multiplying the incentive rate by the estimated annual energy savings. The incentive will be paid to the solar contractor and deducted from the customer's final cost as follows:

For PGE and Pacific Electric customers heating water with electricity:
– Solar domestic water heating $0.40/kWh
– Summer pool heating $0.10/kWh

For NW Natural Gas customers heating water with gas:
– Solar domestic water heating $6.00/therm
– Summer pool heating $1.50/therm

Incentives are capped as follows:
– Residential DHW: $1500
– Residential pool: $1000
– Commercial DHW or pool: 35% of system cost

The Energy Trust SWH Program has adopted the quality control requirements of Bonneville Power Administration's (BPA) The Bright WayTM To Heat Water Program for electric water heating systems and the requirement to use Solar Rating and Certification Corporation (SRCC) qualified SWH systems with known energy savings.

The Energy Trust will provide referrals to contractors from their trade ally network. The contractor will help select a solar water heating system and provide a system quote estimating annual performance, installation date, and the cost after incentive deductions. The contractor will explain maintenance and warranty details and how to apply for tax credits available from the state and federal governments.

Oregon also offers renewable energy personal and corporate tax credits.

**Source:** http://www.dsireusa.org/

### *Public Benefits Funds*

**Incentive Type:** Public Benefits Fund
**Policy Level:** State
**Province/Territory/State:** Oregon

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Solar Thermal Electric, Photovoltaics, Wind, Biomass, Hydro, Geothermal Electric, Direct-Use Geothermal Energy
**Applicable Sectors:** Government
**Summary:**
Oregon's 1999 electric-utility restructuring legislation (SB 1149) required Pacific Power and Portland General Electric (PGE) to collect a 3% public-purpose charge from their customers to support renewable energy and energy-efficiency projects. The Oregon Public Utility Commission (OPUC) authorized the Energy Trust of Oregon, an independent non-profit organization, to administer these programs beginning in 2002. The Energy Trust now serves Oregon customers of Pacific Power, Portland General Electric and NW Natural Gas (which opted in to the Energy Trust's efficiency programs only, with a 1.25% public charge beginning in 2003).

Of the funds collected by the utilities, 75% (amounting to approximately $45 million per year) support the Energy Trust's renewable energy and efficiency programs, with at least $10 million of that allocated to renewables. The remaining 25% of funds support low-income housing energy assistance and K-12 school energy-conservation efforts.

The Energy Trust's renewable-energy programs include financial incentives for small-scale and utility-scale projects that generate energy from solar, wind, hydro, biomass and geothermal resources. Efficiency programs include residential, commercial, new building, retrofit, appliances and manufacturing processes. The Energy Trust accepts applications for funding in response to specific programs, as well as through an open solicitation process. At least 80% of the energy-conservation expenditures are concentrated in the service territory of the utility where the funds were collected.

**Source:** http://www.dsireusa.org/

### *Fuel Mix Disclosure*

**Incentive Type:** Generation Disclosure
**Policy Level:** State
**Province/Territory/State:** Pennsylvania

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Hydro, Geothermal Electric, Municipal Solid Waste, Cogeneration
**Applicable Sectors:** Utility
**Summary:** In April 1998, the Pennsylvania Public Utility Commission (PUC) issued final rules requiring retail electricity suppliers to "respond to reasonable requests made by consumers for information concerning generation energy sources." Suppliers must respond to these requests "by informing consumers that this information is included in the annual licensing report and that this report exists at the Commission." Suppliers must also respond in a similar manner to requests for information pertaining to energy efficiency. Suppliers must verify fuel mix data through an independent auditor and submit this information in an annual report to the PUC. Suppliers that market electricity as "having special characteristics" (such as being green or environmentally friendly) must substantiate these claims.

Under terms of the state's Alternative Energy Portfolio Standard (AEPS), enacted in November 2004, utilities will have to disclose more information regarding fuel mix and generation. The PUC is developing rules to address expanded disclosure requirements.

**Source:** http://www.dsireusa.org/

### *Pennsylvania - Net Metering*

**Incentive Type:** Net Metering Rules
**Policy Level:** State
**Province/Territory/State:** Pennsylvania

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Hydro
**Applicable Sectors:** Industrial, Commercial, Residential
**Summary:** “NOTE: As authorized by Pennsylvania's Alternative Energy Portfolio Standards Act of 2004, the Pennsylvania Public Utility Commission (PUC) is currently in the process of developing statewide net-metering rules. This proceeding has been designated Docket No. L-00050174.”

Pennsylvania's Public Utility Code states that owners of qualifying facilities less than 50 kilowatts (kW) may opt for net energy billing. Each utility is required to file its policy for net billing with the PUC. Individual utility tariff filings and operating procedures vary by utility. In some cases the maximum system size eligible for net metering is less than 50 kW. For example, West Penn Power Company's Net Energy Metering Rider applies to systems that do not exceed 10 kW, while PECO Energy Company offers net metering for systems up to 40 kW. Links to tariffs of individual utilities are available on the program web site.

**Source:** http://www.dsireusa.org/

### *Pennsylvania Energy Development Authority (PEDA) - Grants*

**Incentive Type:** State Grant Program
**Policy Level:** State
**Province/Territory/State:** Pennsylvania

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, En Eff, Biomass, Landfill Gas, Geothermal Electric, Fuel Cells, Coal-Mine Methane; Waste Coal
**Applicable Sectors:** Industrial, Commercial, Nonprofit, Local, Agricultural
**Summary:** The Pennsylvania Energy Development Authority (PEDA) issues funding solicitations to support advanced energy research and deployment projects, and to assist businesses interested in locating or expanding advanced energy operations in Pennsylvania. PEDA's April 2005 solicitation offered $10 million in grants, loans and loan guarantees to support in-state projects, manufacturing or research involving solar energy; wind; low-impact hydropower;

geothermal; biologically-derived methane gas, including landfill gas; biomass; fuel cells; coal-mine methane; waste coal; integrated gasification combined cycle, and; demand management measures, including recycled energy and energy recovery, energy efficiency and load management. PEDA intends to issue a new funding solicitation in 2006 to support grants, loans and loan guarantees.

Under the 2005 solicitation, two types of grants were available through PEDA: Alternative Energy Deployment Grants and Applied Research Grants. Alternative Energy Deployment Grants support the construction of innovative, advanced-energy projects in Pennsylvania. Applied Research Grants support research directly related to alternative-energy resources.

PEDA jointly administers the loan program with the Pennsylvania Department of Community and Economic Development (DCED). Loans awarded under the 2005 solicitation had a maximum term of 10 years, or the life of the asset, whichever is less. The interest rate on PEDA loans is 50% of the prime interest rate (as specified by Bloomberg), but no less than 3.25%. Loan guarantees of up to $500,000 for corporations, partnerships and other legal business entities were also supported by the 2005 solicitation. Loan terms are determined by a lending institution rather than by PEDA.

PEDA was established in 1982 to promote applied energy research, provide financial incentives for the deployment of clean, alternative-energy projects and promote investment in Pennsylvania's energy sector. After a period of inactivity, Governor Ed Rendell revitalized PEDA in 2005 as part of his strategy to build a clean, indigenous, diversified energy industry in the state.

**Source:** http://www.dsireusa.org/

### *Pennsylvania Energy Development Authority (PEDA) - Loans and Loan Guarantees*

**Incentive Type:** State Loan Program
**Policy Level:** State
**Province/Territory/State:** Pennsylvania

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, En Eff, Biomass, Landfill Gas, Geothermal Electric, Fuel Cells, Coal-Mine Methane; Waste Coal
**Applicable Sectors:** Industrial, Commercial, Local, Agricultural
**Summary:** The Pennsylvania Energy Development Authority (PEDA) issues funding solicitations to support advanced energy research and deployment projects, and to assist businesses interested in locating or expanding advanced energy operations in Pennsylvania. PEDA's April 2005 solicitation offered $10 million in grants, loans and loan guarantees to support in-state projects, manufacturing or research involving solar energy; wind; low-impact hydropower; geothermal; biologically-derived methane gas, including landfill gas; biomass; fuel cells; coal-mine methane; waste coal; integrated gasification combined cycle, and; demand management measures, including recycled energy and energy recovery, energy efficiency and load management. PEDA intedns to issue a new funding solicitation in 2006.

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by the 2005 solicitation. Loan terms are determined by the lending institution rather than by PEDA. Under the 2005 soliciation, the maximum amount of a loan guaranteed through this program is $500,000.

PEDA was established in 1982 to promote applied energy research, provide financial incentives for the deployment of clean, alternative-energy projects and promote investment in Pennsylvania's energy sector. After a period of inactivity, Governor Ed Rendell revitalized PEDA in 2005 as part of his strategy to build a clean, indigenous, diversified energy industry in the state.

**Source:** http://www.dsireusa.org/

### *Pennsylvania Energy Harvest Grant Program*

**Incentive Type:** State Grant Program
**Policy Level:** State
**Province/Territory/State:** Pennsylvania

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Solar Thermal Electric, Photovoltaics, Wind, Other DG, En Eff, Biomass, Landfill Gas, Renewable Transportation Fuels, Cogeneration, Fuel Cells
**Applicable Sectors:** Commercial, Nonprofit, Local, Schools, Agricultural
**Summary:** The Pennsylvania Department of Environmental Protection (DEP) and the Pennsylvania Department of Agriculture initiated a $5 million program in 2003 to improve air quality, preserve land, protect local watersheds and provide economic opportunities for the state's agricultural community. The initiative, Pennsylvania Energy Harvest, finances the implementation of clean and renewable-energy technologies that have measurable benefits in terms of pollution reduction, environmental quality and reduced energy use.

The initiative is part of a plan for state-government agencies to obtain 10% of their electricity from renewable and alternative energy resources, including biomass, wind, solar, small-scale hydroelectric, landfill methane, coal-bed methane and waste coal. The DEP also invites applications for projects involving clean or renewable-energy resources other than those resources listed above.

The DEP announced the availability of a third round of grant funding totaling $5 million in May 2005; the deadline for this round of grants was July 22, 2005. Funding under the Pennsylvania Energy Harvest Grant Program is available to local governments, conservation districts, nonprofit organizations, school districts, colleges and universities, and for some sources of funding, farms and businesses.

In its first year, Pennsylvania Energy Harvest awarded grants to 32 applicants, who leveraged another $13 million in private funds to promote advanced energy technologies. In its second round of funding, in 2004, grants totaling more than $5 million were awarded to 34 applicants. During the program's third round of funding, in 2005, $5.9 million was awarded to support 34 projects.

For information about the next round of grant opportunities, contact the DEP Grants Center at (717) 705-5400.

**Source:** http://www.dsireusa.org/

### *Interconnection Standards*

**Incentive Type:** Interconnection
**Policy Level:** State
**Province/Territory/State:** Pennsylvania

**Eligible Renewable / Other Technologies:**
**Applicable Sectors:**
**Summary:** “NOTE: As authorized by Pennsylvania's Alternative Energy Portfolio Standards Act of 2004, the Pennsylvania Public Utility Commission (PUC) is currently in the process of developing statewide interconnection standards for distributed generation. This proceeding has been designated Docket No. L-00050175.”

The PUC began examining interconnection standards for small generators in January 2001 (Docket No. M-00011450) by establishing an Interconnection Working Group (IWG). However, the IWG suspended work in spring 2001 when the Federal Energy Regulatory Commission (FERC) issued an ANOPR on interconnection standards. The IWG was reactivated after FERC released a NOPR on small-generator standards in July 2003.

**Source:** http://www.dsireusa.org/

### *Commonwealth of Pennsylvania - Green Power Purchasing*

**Incentive Type:** Green Power Purchasing/Aggregation
**Policy Level:** State
**Province/Territory/State:** Pennsylvania

**Eligible Renewable / Other Technologies:** Photovoltaics, Wind, Biomass, Landfill Gas, Hydro
**Applicable Sectors:** State_Sector
**Summary:** Under four-year contracts with Community Energy and Strategic Energy, Pennsylvania's state government will purchase each year 100,000 megawatt-hours (MWh) of electricity—10% of the state government's total electricity use—generated by renewable resources and waste coal, at a premium rate of $0.0034 (0.34 cents) per kilowatt-hour (kWh).

Wind power will supply 35% of this green-power purchase, and 10% will be generated by burning waste coal in circulating fluidized bed facilities, which produces lower air emissions than conventional coal-fired plants. The remainder will come from low-impact, run-of-river hydropower from the Susquehanna River. The new government purchase more than triples the amount of wind certificates purchased in Pennsylvania.

In October 2004, Governor Edward Rendell doubled the state government's original green-power purchase commitment from 5% to 10%.

**Source:** http://www.dsireusa.org/

### *Public Benefits Programs*

**Incentive Type:** Public Benefits Fund
**Policy Level:** State
**Province/Territory/State:** Pennsylvania

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics, Wind, Biomass, Landfill Gas, Hydro, Geothermal Heat Pumps, Municipal Solid Waste, Fuel Cells
**Applicable Sectors:** Government
**Summary:** Although Pennsylvania's December 1996 electricity restructuring law did not establish a clean-energy fund, renewable and sustainable-energy funding programs were subsequently created through individual settlements with the state’s five major distribution utilities: Metropolitan Edison Company (Met-Ed), Pennsylvania Electric Company (Penelec), PECO Energy (PECO), PP&L (PPL), and Allegheny Power/West Penn Power Company (WPP). Each utility created its own "Sustainable Energy Fund" with the goals of promoting (1) the development and use of renewable energy and advanced clean energy technologies, (2) energy conservation and

efficiency, and (3) sustainable energy businesses. Each utility has established an oversight board and designated a fund administrator.

The five Sustainable Energy Funds (SEF) serving Pennsylvania are:
– The Metropolitan Edison Region SEF, serving Metropolitan Edison customers of the FirstEnergy (formerly GPU) service territory, is administered by the Berks County Community Foundation. This is a companion fund to the Penelec Region SEF.
– The Penelec Region SEF, serving Penelec customers of the FirstEnergy (formerly GPU) service territory, is administered by the Community Foundation of the Alleghenies. This is a companion fund to the Metropolitan Edison Region SEF.
– The Sustainable Development Fund, serving the Southeastern Pennsylvania PECO service territory, is administered by The Reinvestment Fund.
– The West Penn Power SEF, serving the West Penn Power market area, is administered by The Energy Institute of Penn State University, in partnership with Energetics, Incorporated, with all non-invested assets managed by PNC Bank.
– The Sustainable Energy Fund of Central Eastern Pennsylvania, serving the Central Eastern Pennsylvania PP&L Electric Utilities Corporation service territory.

From the creation of the funds through the end of 2004, approximately $55 million had been collected through these utilities' distribution rates to promote the development of sustainable and renewable-energy technologies. Furthermore, supplemental funding has been collected under terms of various utility mergers. Collectively in 2004, the five funds provided loans totaling approximately $18 million and grants totaling approximately $1 million.

The Statewide Sustainable Energy Board was formed in 1999 to enhance communications among the four funds and state agencies. The board includes representatives from the commission; the Pennsylvania Department of Environmental Protection; the Pennsylvania Department of Community and Economic Development; the Pennsylvania Office of Consumer Advocate; the Pennsylvania Environmental Council; and each regional board. Download the board's 2004 Annual Report for details on the projects and activities supported by each of the funds.

See DSIRE's summaries of financial incentives in Pennsylvania for more information about grants, rebates and loans available from these funds.

**Source:** http://www.dsireusa.org/

### *Alternative Energy Portfolio Standard*

**Incentive Type:** Renewables Portfolio Standard
**Policy Level:** State
**Province/Territory/State:** Pennsylvania

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics, Wind, Other DG, En Eff, Biomass, Landfill Gas, Hydro, Geothermal Electric, Municipal Solid Waste, Cogeneration, Fuel Cells, Waste Coal, Coal Mine Meth
**Applicable Sectors:** Utility
**Summary:** Pennsylvania's Alternative Energy Portfolio Standard (AEPS) (SB 1030), enacted on November 30, 2004, requires all load-serving energy companies in Pennsylvania to provide 18% of their electricity using alternative sources by the year 2020. As is the case for several other states' renewables portfolio standard (RPS), including that of neighboring New Jersey, the law provides for a solar set-aside mandating a certain percentage of PV-generated electricity. Like Hawaii's RPS, Pennsylvania's AEPS includes demand-side management as an eligible measure. However, Pennsylvania is the first state to include waste coal, coal mine methane, and coal gasification in its portfolio standard.

The law established two categories of energy sources. The standard calls for 8% of Pennsylvania's electricity to be generated by Tier I energy sources and 10% by Tier II sources by the end of 15 years—the year 2020. Eligible resources may originate within Pennsylvania or within the PJM (Pennsylvania-New Jersey-Maryland) regional transmission organization.

Tier I sources include the following new and existing sources:
– solar photovoltaic energy;
– wind;
– low-impact hydro;
– geothermal;
– biomass;
– biologically derived methane gas;
– coal mine methane; and
– fuel cells.

Within two years (2007) suppliers must source at least 1.5% of their generation from Tier I sources, which increases by 0.5% each year thereafter, up to 8% by 2020. Solar photovoltaics must comprise at least 0.0013% for years 1 through 4, rising to 0.0203% for years 5 through 9, 0.25% for years 10 through 14, and 0.5% in year 15 (2020) and thereafter.

Tier II includes the following new and existing sources:
– waste coal;
– distributed generation systems;
– demand-side management;
– large-scale hydro;
– municipal solid waste;
– pulping process and wood manufacturing byproducts; and
– integrated combined coal gasification technology.

The Tier II requirement begins at 4.2% for years 1 - 4, increasing to 6.2% for years 5 - 9, 8.2% for years 10 - 14, and 10% thereafter. See SB 1030 for detailed definitions of eligible energy sources.

By November 30, 2005, the Public Utilities Commission is to develop net metering and interconnection standards for non-utility owners of distributed generation systems up to 50 kW for residents and 1 MW (or up to 2 MW under certain conditions) for others.

The law establishes alternative compliance payments (ACP) of $45 per alternative energy credit (1 MWh) needed to comply with the standard, except that the ACP for the solar PV share is set at "200% of average market value" of the solar credits sold during the reporting period. A credit-based compliance system will be established and banking of credits will be allowed for up to two years.

However, the "force majeure" clause allows the Public Utility Commission (PUC), on their own initiative, or at the request of an electric company, if they determine that there is not enough renewable energy available to meet the portfolio standard, to lower the obligation or recommend to the legislature that it be eliminated.

Rural electric cooperatives in the state must offer retail customers a voluntary program of energy efficiency and demand-side management programs to satisfy compliance with the AEPS law.

**Source:** http://www.dsireusa.org/

### *Tax Deduction for Solar and Wind Energy Equipment*

**Incentive Type:** Personal Deduction
**Policy Level:** State
**Province/Territory/State:** Puerto Rico

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Photovoltaics, Wind
**Applicable Sectors:** Residential
**Summary:** Puerto Rico offers a 30% tax deduction (up to $500) for expenses incurred in the purchase and installation of solar equipment for residential use. "Solar equipment" is defined as "all equipment which can convert solar energy into usable energy, directly or indirectly, whether it is purchased or manufactured by the taxpayer, and is in operation." The deduction applies to those who lease or own the residential property.

An individual who claims the deduction must enclose with his/her tax return invoices or receipts for expenses incurred; a certificate stating that the solar equipment has been approved by the Department of Natural and Environmental Resources, and a certificate stating that the solar equipment purchased is guaranteed for five years or more.

In addition, Puerto Rico offers a 50% tax deduction (up to $3,000) for expenses incurred in the purchase and installation of windmills to produce electrical power for residential use. The equipment must be manufactured in Puerto Rico, or must have at least 50% of the cost added by local manufacture.

An individual who claims this deduction must enclose with his/her tax return the invoice or receipt for expenses incurred; a copy of the installation permit; a certificate stating that the windmill has been approved by the Department of Natural and Environmental Resources; and a certificate stating that the windmill is guaranteed for five years or more.

**Source:** http://www.dsireusa.org/

### *Solar & Wind Equipment Certification*

**Incentive Type:** Equipment Certification
**Policy Level:** State
**Province/Territory/State:** Puerto Rico

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Wind
**Applicable Sectors:** Construction, Installers_Contractors
**Summary:** According to the Regulation Equipments Certification in Puerto Rico, all equipment to be manufactured or sold in Puerto Rico must comply with minimum efficiency requirements. The Energy Affairs Administration gives certificates to equipment that complies with this requirement.

For solar equipment certification, an existing system at the place of manufacture or distribution will be chosen at random. The manufacturer or distributor will send the equipment to a specialized laboratories to carry out test on thermal efficiency. Once the results of thermal efficiency data are obtained and the requirements met, a certification number is dispatched for the model to be manufactured and distributed by the solar equipment company. This equipment shall have a label adhered to one of the collectors permanently.

For wind energy equipment certification: The certification of a wind turbine model and its components will be issued by the Puerto Rico Energy Affairs Administration (PREAA), once the applicant complies with the following requirements:

1. The submittal of a written a request for certification of the wind turbine model, in compliance with all the requirements of Part III of the Regulation for Certification of Equipment for Generating Wind Energy.

2. Evaluation and approval by the PREAA of all parts of the Rendition Test Report set forth in Appendix F of the Regulation for Certification of Equipment for Generating Wind Energy for the designated Small Wind Energy Converter System model, in accordance with sections A and B of the Third Part of said Regulation.

After compliance will all requirements, the PREAA will certify the Small Wind Energy Converter System model and notify the Applicant of the action taken.

**Source:** http://www.dsireusa.org/

### *Excise Tax Exemption for Farming Businesses*

**Incentive Type:** Sales Tax Exemption
**Policy Level:** State
**Province/Territory/State:** Puerto Rico

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Solar Thermal Process Heat, Photovoltaics, Wind, Biomass, Hydro, Geothermal Heat Pumps
**Applicable Sectors:** Agricultural
**Summary:** Individuals who operate a farming business are exempt from paying excise tax on "equipment, devices, or objects whose operation depends exclusively on solar, wind, hydraulic or any type of energy, excluding energy produced by petroleum or its derivatives." An individual who wishes to take advantage of the exemption must comply with documentation requirements certifying that he/she is a "bona fide farmer."

**Source:** http://www.dsireusa.org/

### *Renewable Energy Sales Tax Exemption*

**Incentive Type:** Sales Tax Exemption
**Policy Level:** State
**Province/Territory/State:** Rhode Island

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Solar Thermal Electric, Photovoltaics, Wind, Geothermal Heat Pumps
**Applicable Sectors:** Commercial, Residential, Government
**Summary:** Certain renewable-energy systems and equipment sold in Rhode Island are exempt from the state's sales-and-use tax. Eligible products include solar-electric systems, inverters for solar-electric systems, solar-thermal systems, manufactured mounting racks and ballast pans for solar collectors, geothermal heat pumps, and wind turbines and towers.

**Source:** http://www.dsireusa.org/

### *Energy Source Disclosure*

**Incentive Type:** Generation Disclosure
**Policy Level:** State
**Province/Territory/State:** Rhode Island

**Eligible Renewable / Other Technologies:**
**Applicable Sectors:** Retail_Suppliers
**Summary:** Rhode Island's energy-source disclosure rules, devised by the state's Public Utilities Commission (PUC), took effect April 1, 2005. The rules apply to any "person or entity that sells

electrical energy to end-use customers" in the state. Disclosure must be presented to consumers in “plain English” and must indicate what sources of energy were used to generate electricity for each electrical energy product, expressed as a percentage of the total amount of energy used towards each electrical energy product. Suppliers are required to use the energy fuel source disclosure categories as provided by the New England Generation Information System (NE-GIS). Disclosure must indicate the percentages of energy obtained from eligible renewable-energy resources, as well as from nuclear plants, natural gas, oil (which may include any fossil fuel), hydroelectric plants that are not eligible renewable-energy resources, coal and any other energy source reported by the NE-GIS. Disclosure must also indicate the emissions created as a result of generating electricity as provided by the NE-GIS in pounds per megawatt-hour (MWh). Emissions data must be presented to consumers as a percentage of the New England regional average, as provided by the NE-GIS for the same time period. All percentages shall be calculated to the nearest one-tenth of a percent.

Disclosures are distributed to consumers on a quarterly basis beginning July 1, 2005, covering the most recent one-year period, including the most recent quarter for which NE-GIS data has been finalized. (For the first year of disclosure under these regulations, suppliers are permitted to phase in the quarterly information rather than providing the most recent one-year period.) In addition, each supplier must file with the PUC a copy of its disclosure label along with a summary report of certificates assigned as generated by the NE-GIS that it presents to a consumer covering the most recent 12-month period.

Suppliers are permitted to recover in the retail rate of the electrical energy product all incremental costs associated with preparation and distribution of the disclosure label.

**Source:** http://www.dsireusa.org/

### *RFP for Purchase/Sale of Renewable Electricity to Large Customers*

**Incentive Type:** State Grant Program
**Policy Level:** State
**Province/Territory/State:** Rhode Island

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Landfill Gas, Hydro, Fuel Cells
**Applicable Sectors:** Industrial, Commercial, Nonprofit, Local, Utility, Retail_Suppliers, State_Sector
**Summary:**
This funding opportunity is designed to encourage the purchase of renewable energy-based electricity supply by large electricity customers in Rhode Island, including business, government, and institutional customers. Rhode Island's Renewable Energy Fund has $370,000 available to support proposals by large electric customers and/or registered retail electricity suppliers for the purchase or sales of green power to large electricity customers in Rhode Island. The intent is to buy-down but not eliminate entirely the cost premium associated with purchasing green power.

Applicants are encouraged to propose creative approaches to supporting the purchase of green power by large customers. Possible funding structures include, but are not limited to:

– Customer Rebate: a fixed grant to either the supplier or the customer, distributed upon green power delivery, intended to buy-down a portion of the cost of the purchase.
– Purchase Incentive: A cents/kWh incentive offered to the customer or the marketer based on kWh of green power purchased/sold.

Funds may be paid to either the green power purchaser or the green power seller.

Click on the web site shown above to access the Request for Proposals (RFP).

**Source:** http://www.dsireusa.org/

### *Small Customer Incentive Program for Green Power Marketers*

**Incentive Type:** State Rebate Program
**Policy Level:** State
**Province/Territory/State:** Rhode Island

**Eligible Renewable / Other Technologies:** Photovoltaics, Wind, Biomass, Landfill Gas, Geothermal Electric, Fuel Cells
**Applicable Sectors:** Retail_Suppliers
**Summary:** The Rhode Island State Energy Office, as administrator of the Rhode Island Renewable Energy Fund, offers financial incentives to in-state retail electricity suppliers who make available eligible green-power products to residential and small business consumers in the state. The objective of this program is to build a market for green power that is sustainable after program funding is discontinued.

The program rewards suppliers who enroll up to 15,000 new residential and small commercial customers in eligible green-power products; no incentive will be paid for signups after June 30, 2008. The incentives will be distributed on a first-come, first-served basis at a rate of $125 per customer for the first 6,000 customers statewide, and $75 per customer thereafter until funds are fully allocated.

Products eligible for this incentive are either "bundled" electricity supply offerings from competitive energy suppliers or tradable renewable certificate (TRC) offerings (either sold through the Narragansett Electric Company GreenUp Program or independently) that meet product-eligibility requirements.* Customers served under Residential and Small General Service tariffs of Narragansett Electric and Pascoag Utility District qualify for this program.

Minimum renewable-energy percentages must be in addition to requirements of Rhode Island's Renewable Energy Standard. After September 30, 2005, the only new product offerings that may be added to the program are those that convey price-stability benefits to customers. Products already registered prior to this date may be changed according to program guidelines. Only suppliers with approved products in the program as of December 31, 2006, will be permitted to register additional products after that date; the program will be closed to suppliers not participating in the program.

* GreenUp products that are not Green-e-certified must exceed by at least 5% the current Green-e "new" renewables requirement.

**Source:** http://www.dsireusa.org/

### *Renewable Energy Standard*

**Incentive Type:** Renewables Portfolio Standard
**Policy Level:** State
**Province/Territory/State:** Rhode Island

**Eligible Renewable / Other Technologies:** Photovoltaics, Wind, Biomass, Landfill Gas, Geothermal Electric
**Applicable Sectors:** Utility, Retail_Suppliers
**Summary:** Rhode Island's Renewable Energy Standard (RES), enacted in June 2004, requires the state's retail electricity providers, including nonregulated power producers and distribution companies, to supply 16% of their retail electricity sales from renewable resources by the end of

2019. The requirement begins at 3% by the end of 2007, escalates by 0.5% per year through 2010, then by 1.0% per year from 2011 through 2014, and finally by an additional 1.5% per year from 2015 through 2019. In 2020, and each year thereafter, the minimum renewable energy standard established in 2019 must be maintained unless the Rhode Island Public Utilities Commission (PUC) determines that the standard is no longer necessary.

Eligible renewable-energy resources include:
– direct solar radiation
– wind
– movement or the latent heat of the ocean
– the heat of the earth
– small hydro facilities
– biomass facilities using eligible biomass fuels and maintaining compliance with current air permits; eligible biomass fuels may be co-fired with fossil fuels, provided that only the renewable-energy portion of production from multi-fuel facilities will be considered eligible– fuel cells using renewable resources.

Compliance with the RES may also be achieved through the purchase of New England Generation Information System certificates or by making an alternative compliance payment to the Renewable Energy Development Fund. Voluntary green-power purchases may not be counted toward RES compliance.

The PUC is charged with developing and adopting regulations for implementing the Renewable Energy Standard by December 31, 2005.

**Source:** http://www.dsireusa.org/

### *Interconnection Standards*

**Incentive Type:** Interconnection
**Policy Level:** State
**Province/Territory/State:** Rhode Island

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Other DG, Biomass, Landfill Gas, Hydro, Geothermal Electric, Municipal Solid Waste, Cogeneration, Fuel Cells
**Applicable Sectors:** Industrial, Commercial, Residential, Local, Schools, State_Sector
**Summary:**
While Rhode Island does not have formal statewide uniform interconnection standards for net-metered systems, it does have informal standards. Narragansett Electric, which serves 99% of the state's mainland customers, has developed a streamlined one-page interconnection application and agreement form for net-metered systems. Narragansett is a subsidiary of National Grid, and therefore uses the same one-page agreement available to Massachusetts Electric (also a subsidiary of National Grid) customers in Massachusetts. Additional insurance and an external disconnect switch are not required. Rhode Island allows net metering of renewable energy and cogeneration systems up to 25 kilowatts, but the state has not addressed the establishment of streamlined interconnection standards for all other distributed generation (DG).

**Source:** http://www.dsireusa.org/

### *Renewable Energy Fund*

**Incentive Type:** Public Benefits Fund
**Policy Level:** State
**Province/Territory/State:** Rhode Island

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics, Wind, Biomass, Hydro, Renewable Transportation Fuels, Geothermal Electric, Cofiring
**Applicable Sectors:** Government
**Summary:** Rhode Island's August 1996 restructuring legislation established the nation's first public benefits fund (PBF) to support the development of renewable energy and demand-side management programs. The surcharge on customers' bills was initially set at $0.0023 per kWh (2.3 mills per kWh) for five years. From 2003-2012, the surcharge was lowered to $0.0003 per kWh (0.3 mills per kWh).

The annual budget for the Rhode Island Renewable Energy Fund is roughly $3 million. However, due to the passage of Rhode Island's renewables portfolio standard in 2004, the future role of the Renewable Energy Fund is unclear. As of March 2005, the Rhode Island Public Utilities Commission was conducting an extensive review of the fund.

Legislation enacted in June 2005 (HB 5877) expanded the scope of renewable-energy resources eligible for PBF funding. Eligible renewable-energy resources are defined as generation units in the New England Power Pool (NEPOOL) control area using solar, wind, wave and tidal energy, ocean thermal, geothermal, hydro, biomass, cofiring, and fuel cells operating with renewable fuels. In addition, solar space-heating systems and solar-thermal systems are eligible if installed on housing projects certified by the executive director of the Rhode Island Housing and Mortgage Finance Corporation as serving low-income Rhode Island residents.

A wide variety of projects are receiving support or have received support through these funds, including:
– Wind resource assessment;
– Residential and commercial PV buy-downs;
– Residential and commercial wind buy-downs;
– Landfill gas-to-energy project;
– PV outdoor lighting demonstration projects;
– Large-scale and small-scale fuel-cell projects;
– Program development studies, including in-depth study of market development in the PV industry (1997-98);
– Incentives for renewable-energy suppliers;
– Incentives for green-power marketers; and
– Outreach and education efforts.

A utility-based collaborative initially worked with the Rhode Island Public Utilities Commission to administer renewables and efficiency funds. Collaborative members included the Rhode Island Division of Public Utilities and Carriers, the Office of the Attorney General, the State Energy Office, the Conservation Law Foundation, electric utilities, and the Energy Council of Rhode Island. On January 1, 2003, the Rhode Island State Energy Office took over the administration of the renewable-energy funds collected from Rhode Island ratepayers.

Rhode Island's public benefits fund also supports energy-assistance programs for low-income residents. These programs receive $2.4 million per year in funding.

**Source:** http://www.dsireusa.org/

### *Solar Easements*

**Incentive Type:** Solar Access Law/Guideline
**Policy Level:** State
**Province/Territory/State:** Rhode Island

**Eligible Renewable / Other Technologies:** Solar

**Applicable Sectors:** Industrial, Commercial, Residential, Fed_Govt, Nonprofit, Local, Schools, State_Sector
**Summary:** Rhode Island's solar-easement provisions are similar to those in many other states. They do not create an automatic right to sunlight. Rather, they allow parties to voluntarily enter into solar-easement contracts for the purpose of ensuring adequate sunlight exposure for a solar-energy system. In addition, zoning laws in cities and towns must address solar access.

**Source:** http://www.dsireusa.org/

### *Residential Renewable Energy Tax Credit*

**Incentive Type:** Personal Tax Credit
**Policy Level:** State
**Province/Territory/State:** Rhode Island

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Photovoltaics, Wind, Geothermal Heat Pumps
**Applicable Sectors:** Residential
**Summary:** Rhode Island offers a personal tax credit for photovoltaic systems (on-grid and off-grid), solar hot-water systems, active solar-heating systems, wind-energy systems and geothermal-energy systems. The tax credit is equal to 25% of the system cost and applies to residential installations.

Photovoltaic (PV) systems must have a minimum module size of 24 square feet, and must either be connected to the grid or to a battery-storage system. PV systems up to $15,000 are eligible for the full 25% credit. (Owners of PV systems that exceed $15,000 in cost will receive a credit based on a $15,000 system cost.)

Solar hot-water systems must have a minimum collector area of 60 square feet and must include a storage tank that holds at least 80 gallons. Solar hot-water systems up to $7,000 are eligible for the full 25% credit. (Owners of solar hot-water systems that exceed $7,000 in cost will receive a credit based on a $7,000 system cost.)

Active solar-heating systems must have a minimum collector area of 125 square feet, and must include a system for storing and/or distributing heat to the living area of a house. Active solar-heating systems up to $15,000 are eligible for the full 25% credit. (Owners of active solar-heating systems that exceed $15,000 in cost will receive a credit based on a $15,000 system cost.)

Wind-energy systems must have a rotor diameter of at least 44 inches and a minimum factory-rated output of at least two 250 watts at 28 miles per hour. Wind-energy systems up to $15,000 are eligible for the full 25% credit. (Owners of wind-energy systems that exceed $15,000 in cost will receive a credit based on a $15,000 system cost.)

Geothermal systems must have either a minimum coefficient of performance of 3.4, or an efficiency ratio of 16 or greater. All geothermal systems must have a commissioning sign-off by the manufacturer or distributor of the equipment to verify the proper installation and performance of the system. In addition, all geothermal systems must meet the following standards:
– ARI/ASHRAE/ISO-13256-1 for water-to-air geothermal systems
– ARI/ASHRAE/ISO-13256-2 for water-to-water geothermal systems
– ARI/ASHRAE/ISO-13256 GWHP for groundwater heat pumps
– ARI/ASHRAE/ISO-13256 GLHP for closed-loop heat pumps

Geothermal systems up to $7,000 are eligible for the full 25% credit. (Owners of geothermal systems that exceed $7,000 in cost will receive a credit based on a $7,000 system cost.)

The following systems are not eligible for the credit: passive solar space-heating systems, passive solar hot-water systems, sunspaces, solar greenhouses, PV and wind systems on boats or recreational vehicles, solar collectors for pools, existing renewable-energy systems, used renewable-energy equipment, and repairs and replacements of existing renewable-energy systems.

Applicants for the tax credit must obtain a systems certification from the Rhode Island State Energy Office. Information required for the application is outlined in the statute (see web link above). Although the statute contains a provision for the State Energy Office to certify contractors in lieu of requiring system certification, contractor certification procedures are not in place at this time.

**Source:** http://www.dsireusa.org/

### *Renewable Generation Supply Incentive*

**Incentive Type:** Production Incentive
**Policy Level:** State
**Province/Territory/State:** Rhode Island

**Eligible Renewable / Other Technologies:** Photovoltaics, Wind, Biomass, Landfill Gas, Hydro, Fuel Cells
**Applicable Sectors:** Commercial, Retail_Suppliers
**Summary:**
The Rhode Island Renewable Energy Fund has incentives available for eligible new renewable-energy projects located in New England and developed to serve customer demand in Rhode Island. This incentive program is currently undergoing revisions and will be designed to directly enhance the economics and creditworthiness of projects, and to help assure that renewable-energy supply sources are available to the Rhode Island market.

The revised RFP will be posted on the program web site when it is finalized.

**Source:** http://www.dsireusa.org/

### *Solar Property Tax Exemption*

**Incentive Type:** Property Tax Exemption
**Policy Level:** State
**Province/Territory/State:** Rhode Island

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Photovoltaics, Wind
**Applicable Sectors:** Residential
**Summary:** Like the property tax provisions of many other states, Rhode Island law specifies that for purposes of local municipal property tax assessment, certain renewable energy systems cannot be assessed at more than the value of a conventional heating system, a conventional hot-water system or energy production capacity that otherwise could be necessary to install in a building. Qualifying technologies include photovoltaics (PV), solar hot-water systems, and active solar space-heating systems.

**Source:** http://www.dsireusa.org/

### *Rhode Island - Net Metering*

**Incentive Type:** Net Metering Rules
**Policy Level:** State
**Province/Territory/State:** Rhode Island

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Hydro, Geothermal Electric, Municipal Solid Waste, Cogeneration, Fuel Cells
**Applicable Sectors:** Industrial, Commercial, Residential
**Summary:** In August 1998, the Rhode Island Public Utilities Commission (PUC) issued an order requiring Narragansett Electric (a subsidiary of National Grid), which serves 99% of the state's mainland customers, to offer net metering to all customers generating electricity using renewable-energy systems with a maximum capacity of 25 kilowatts.* Specifically, net metering applies to the technologies listed in the state's Utility Restructuring Act, R.I.G.L. §39-2-1.2(b): "power generation technologies that produce electricity from wind energy, small-scale (less than 100 megawatts) hydropower plants that do not require the construction of new dams, solar energy and sustainably managed biomass." Fuel cells up to 25 kW in capacity also are eligible.

At the end of each month, any power generated in excess of the customer's needs is credited to the following month. Any used credits are granted to the utility at the end of a twelve-month period. For Narragansett Electric, the aggregate net-metered capacity is limited to 1 megawatt.

Narragansett Electric has developed a streamlined one-page net metering and interconnection form. Contact the utility at (401) 784-7000 for more information.

* Net metering was initially available to customer-owned renewable-energy facilities and cogeneration units under a September 1985 PUC order. This order allowed utilities to offer net metering, but it did not require them to do so.

**Source:** http://www.dsireusa.org/

### *PV & Wind Rebate Program*

**Incentive Type:** State Rebate Program
**Policy Level:** State
**Province/Territory/State:** Rhode Island

**Eligible Renewable / Other Technologies:** Photovoltaics, Wind
**Applicable Sectors:** Commercial, Residential
**Summary:** “Note: This program was fully subscribed as of December 2005. However, the Rhode Island State Energy Office is still accepting applications, which will be placed in queue upon receipt.”

Rhode Island's PV & Wind Rebate Program offers residents and small businesses a rebate of $3.50 per watt for photovoltaic (PV) systems with a maximum capacity of 2 kilowatts (kW) and $3.00 per watt for PV systems with a capacity between 2 kW and 6 kW. Residents who install wind-energy systems with a maximum capacity of 50 kW are eligible for a rebate of $2.00 per watt (up to 50% of the system's cost).

This program is funded by the Rhode Island Renewable Energy Fund, the state's public benefits fund. Contact the Rhode Island State Energy Office for current program information or information on participating PV vendors.

**Source:** http://www.dsireusa.org/

### *Residential Solar Initiative for EarthCraft Homes Rebate*

**Incentive Type:** State Rebate Program
**Policy Level:** State
**Province/Territory/State:** South Carolina

**Eligible Renewable / Other Technologies:** Active Water Heat

**Applicable Sectors:** Residential
**Summary:**
The South Carolina State Energy Office began the Residential Solar Initiative to demonstrate and encourage the building of homes with solar hot water heating systems. Homebuilders can receive a rebate for every home built with a solar hot water heating system, along with promotion from the State Energy Office as a builder with experience in installing solar hot water systems.

Homebuilders are eligible if they are building a EarthCraft Home with an eligible solar hot water heating system. Builders submit an application, and after approval, they have 180 days to install a new solar hot water system in the home. After the installation is verified, the State Energy Office will issue a rebate to the homebuilder.

**Source:** http://www.dsireusa.org/

### *Wind Energy Property Tax Exemption*

**Incentive Type:** Property Tax Exemption
**Policy Level:** State
**Province/Territory/State:** South Dakota

**Eligible Renewable / Other Technologies:** Wind
**Applicable Sectors:** Commercial
**Summary:** This wind energy property tax exemption bill (HB 1235) was signed by the Governor on March 30, 2003. It requires that all commercial wind power production facilities, regardless of ownership, now be assessed at the local level. Previously, some facilities were centrally assessed for tax purposes at the state level. The assessment is for the base, foundation, tower, and substations, which are considered real property, but doesn't include the generator and turbine blades, which are considered personal property.

**Source:** http://www.dsireusa.org/

### *Renewable Energy Systems Exemption*

**Incentive Type:** Property Tax Exemption
**Policy Level:** State
**Province/Territory/State:** South Dakota

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Photovoltaics, Wind, Biomass, Landfill Gas, Geothermal Electric
**Applicable Sectors:** Commercial, Residential
**Summary:** This statute exempts from local property taxes renewable energy systems on residential and commercial property. The exemption applies to the entire assessed value of residential systems and 50% of the installed cost of commercial systems, and it may be taken for three years after installation. This exemption is not allowed for systems which produce energy for resale. For additional information or to apply for the exemption, contact the Director of Equalization for your county.

**Source:** http://www.dsireusa.org/

### *Small Business Energy Loan Program*

**Incentive Type:** State Loan Program
**Policy Level:** State
**Province/Territory/State:** Tennessee

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Solar Thermal Electric, Photovoltaics, Wind, En Eff, Biomass, Landfill Gas, Hydro, Renewable Transportation Fuels, Geothermal Electric, Municipal Solid Waste
**Applicable Sectors:** Industrial, Commercial
**Summary:** The Tennessee Energy Division offers low-interest loans of up to $100,000, with terms of up to 7 years, for renewable energy and energy efficiency projects. Businesses with fewer than 300 employees or less than $3.5 million in annual gross sales or receipts are eligible. Loans cannot be used for new construction or business start-up. All renewable energy technologies are eligible under the program's guidelines. In addition to low-interest loans, the Energy Division offers free audits and technical assistance.

**Source:** http://www.dsireusa.org/

### *Solar Easements*

**Incentive Type:** Solar Access Law/Guideline
**Policy Level:** State
**Province/Territory/State:** Tennessee

**Eligible Renewable / Other Technologies:** Solar
**Applicable Sectors:** Industrial, Commercial, Residential, Fed_Govt, Nonprofit, Local, Schools, State_Sector
**Summary:** Tennessee law allows for the creation of easements for the purpose of ensuring access to direct sunlight. This statute also states that the "encouragement and protection of solar energy systems is a valid objective which counties and municipalities may consider in promulgating zoning regulations."

**Source:** http://www.dsireusa.org/

### *Wind Energy Systems Exemption*

**Incentive Type:** Property Tax Exemption
**Policy Level:** State
**Province/Territory/State:** Tennessee

**Eligible Renewable / Other Technologies:** Wind
**Applicable Sectors:** Industrial, Commercial, Utility
**Summary:** Tennessee House Bill 809, enacted into law in Public Chapter 377, Acts of 2003 and codifed under Title 67, Chapter 5, states that wind energy systems operated by public utilities, businesses or industrial facilities shall not be taxed at more than one-third of their total installed cost. This law applies to the initial appraisal and subsequent appraisals of wind energy systems.

**Source:** http://www.dsireusa.org/

### *Solar Energy Business Franchise Tax Exemption*

**Incentive Type:** Industry Recruitment
**Policy Level:** State
**Province/Territory/State:** Texas

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics
**Applicable Sectors:** Industrial, Commercial
**Summary:** A corporation in Texas engaged solely in the business of manufacturing, selling, or installing solar energy devices is exempted from the franchise tax. The franchise tax is Texas's equivalent to a corporate tax; their primary elements are the same. There is no ceiling on this exemption, so it is a substantial incentive for solar manufacturers.

For the purposes of this exemption, a solar energy device means "a system or series of mechanisms designed primarily to provide heating or cooling or to produce electrical or mechanical power by collecting and transferring solar-generated energy. The term includes a mechanical or chemical device that has the ability to store solar-generated energy for use in heating or cooling or in the production of power."

**Source:** http://www.dsireusa.org/

### *Solar Energy Device Franchise Tax Deduction*

**Incentive Type:** Corporate Deduction
**Policy Level:** State
**Province/Territory/State:** Texas

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics
**Applicable Sectors:** Industrial, Commercial
**Summary:** Texas allows a corporation to deduct the cost of a solar energy device from the franchise tax in one of two ways: (1) the total cost of the system may be deducted from the company's taxable capital; or, (2) 10% of the system's cost may be deducted from the company's income. Both taxable capital and a company's income are taxed under the franchise tax, which is Texas's equivalent to a corporate tax.

For the purposes of this deduction, a solar energy device means "a system or series of mechanisms designed primarily to provide heating or cooling or to produce electrical or mechanical power by collecting and transferring solar-generated energy. The term includes a mechanical or chemical device that has the ability to store solar-generated energy for use in heating or cooling or in the production of power."

Texas also offers a franchise tax exemption for manufacturers, seller, or installers of solar energy systems.

**Source:** http://www.dsireusa.org/

### *Alternative Energy in New State Construction*

**Incentive Type:** Construction/Design Standard
**Policy Level:** State
**Province/Territory/State:** Texas

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Solar Thermal Electric, Photovoltaics, Wind, Biomass
**Applicable Sectors:** Construction, State_Sector
**Summary:**
Texas requires state government departments to compare the cost of providing energy alternatives for new and reconstructed state government buildings and for certain construction or repair to energy systems and equipment. The governing body must determine economic feasibility for each function by comparing the estimated cost of providing energy for the function using conventional design practices and energy systems with the estimated cost of providing energy for the function using alternative energy devices during the economic life of the building. If the use of alternative energy devices for a particular function (including space heating and cooling, water heating, electrical loads, and interior lighting) is economically feasible, then the use of alternative energy devices must be included in construction plans.

**Source:** http://www.dsireusa.org/

### *Interconnection Standards*

**Incentive Type:** Interconnection
**Policy Level:** State
**Province/Territory/State:** Texas

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Other DG, Biomass, Landfill Gas, Hydro, Geothermal Electric, Cogeneration, Fuel Cells, Reciprocating Engines, Turbines, Storage
**Applicable Sectors:** Industrial, Commercial, Residential
**Summary:**
The Texas Public Utility Regulatory Act (PURA) of 1999 included a provision that "a customer is entitled to have access 'to on-site distributed generation' [§39.101(b)(3)]. This provision led the Public Utility Commission (PUC) of Texas to adopt interconnection standards (Substantive Rules §25.211 and §25.212) in 1999. The rules apply to electrical generating facilities (consisting of one or more on-site distributed-generation units) located at a customer's point of delivery, with a maximum capcity of 10 megawatts (MW) and connected at a voltage less than 60 kilovolts (kV). The total capacity of a facility's individual on-site distributed generation units may exceed 10 MW. However, no more than 10 MW of capacity will be interconnected at any point in time at the point of common coupling.

The following conditions apply to Texas's interconnection rules for distributed generation:

– Installations must meet all applicable national, state and local construction and safety codes;
– No pre-interconnection study fees are required for units up to 500 kW (under most circumstances), and study fees for larger systems are limited;
– Time limits apply to pre-interconnection studies and application approval or rejection (4-6 weeks);
– Pre-certification provisions allow for fast-track interconnection;
– Equipment and operational requirements are differentiated based on connection type (single-phase or three-phase), paralleling mode and system size;
– Cut-off points exist 10 kW, 500 kW, 2 MW and 10 MW;
– The rules include technical provisions for interconnection to radial as well as network distribution systems;
– An external disconnect device is required for all systems;
– Standardized interconnection applications (2-3 pages) and interconnection agreements (4-5 pages) are used;
– No additional insurance is required;
– Liability is limited; and
– Dispute-resolution procedures have been designated.

The PUC's “Distributed Generation Interconnection Manual” (see link above) includes a review of safety and technical requirements of DG installations; a copy of applicable rules, application procedures and forms; Texas utility contacts; and equipment pre-certification requirements.

**Source:** http://www.dsireusa.org/

### *Renewable Generation Requirement*

**Incentive Type:** Renewables Portfolio Standard
**Policy Level:** State
**Province/Territory/State:** Texas

**Eligible Renewable / Other Technologies:** Active Water Heat, Solar Thermal Electric, Photovoltaics, Wind, Biomass, Landfill Gas, Hydro, Geothermal Electric, Geothermal Heat Pumps

**Applicable Sectors:** IOU, Muni, Coop, Retail_Suppliers
**Summary:**
In 1999 the Public Utility Commission of Texas (PUCT) issued the Renewable Energy Mandate Rule establishing the state's renewable portfolio standard, a renewable energy credits trading program, and renewable energy purchase requirements for competitive retailers in Texas. The 1999 standard called for 2,000 megawatts (MW) of new renewables to be installed in Texas by 2009, in addition to the 880 MW of existing renewables generation at the time. In August 2005, Senate Bill 20 increased the renewable energy mandate to 5,880 MW by 2015 (about 5% of the state's electricity demand), including a target of 500 MW of renewable energy capacity from sources other than wind power. Wind accounts for nearly all of the current renewable energy generation in Texas. The 2005 legislation also set a goal of reaching 10,000 MW in renewable energy capacity by 2025.

Furthermore, to address concerns about the adequacy of the state's transmission systems, the new law instructs the PUCT to require utilities to add to their transmission systems as necessary to meet the renewable energy goal, and to allow utilities to recover the cost of such projects in their electric rates.

The schedule of renewable energy capacity required and the corresponding compliance dates are as follows:
– 2,280 MW by 1/1/2007
– 3,272 MW by 1/1/2009
– 4,264 MW by 1/1/2011
– 5,256 MW by 1/1/2013
– 5,880 MW by 1/1/2015

As of early 2005, 1,190 MW of new renewable energy had been added, representing about 3% of the state's total electric generating capacity, according to the PUCT.

Qualifying renewable energy sources include solar, wind, geothermal, hydroelectric, wave or tidal energy, or biomass or biomass-based waste products, including landfill gas. Qualifying systems are those installed after September of 1999. The RPS applies to all retail energy providers including municipal and cooperative utilities.

The Public Utility Commission of Texas established a Renewable Energy Credits (REC) Trading Program that began July 1, 2001, and continues through 2019. A REC represents one megawatt hour (MWh) of qualified renewable energy that is generated and metered in Texas. A Capacity Conversion Factor (CCF) is used to convert MW goals into MWh requirements for each retailer in the competitive market. The CCF is administratively set and equal to 35% for the first two compliance years, thereafter based on the actual performance of the resources in the credits trading program.

Each retailer in Texas is allocated a share of the mandate based on that retailer's pro rata share of statewide retail energy sales. The program administrator will maintain a REC account for program participants to track the production, sale, transfer, purchase, and retirement of RECs. Credits can be banked for three years, and all renewable additions have a minimum of 10 years of credits to recover over-market costs. A penalty system has been established for providers that do not meet the RPS requirements. The penalty is the lesser of $50 per MWh or 200% of the average cost of credits traded during the year.

A 1/29/2004 amendment changes the formula for calculating final REC purchase requirements, adds a mechanism to account for corrections to retail sales data, and permits the program administrator of the REC trading program to petition for deadline changes under certain circumstances.

The PUCT has the authority to cap the price of renewable energy credits and may suspend the goal if necessary to protect the reliability and operation of the grid.

For more information on RECs, visit the <a href=" ">ERCOT web site.

**Source:** http://www.dsireusa.org/

### *Line Extension and Construction Charges*

**Incentive Type:** Line Extension Analysis
**Policy Level:** State
**Province/Territory/State:** Texas

**Eligible Renewable / Other Technologies:** Photovoltaics, Wind, Other DG
**Applicable Sectors:** Utility
**Summary:**
If a utility must build a line extension for a customer and the utility requires that customer pay a Contribution in Aid to Construction (CIAC), or a prepayment, or sign a contract with a term of one year or longer, the electric utility must provide the customer with information about on-site renewable energy and distributed generation technology alternatives. The information must be provided to the customer at the time of the CIAC estimate or prepayment. If no CIAC or prepayment is required, the information must be provided to the customer prior to signing of contract.

**Source:** http://www.dsireusa.org/

### *Fuel Mix and Emission Disclosure*

**Incentive Type:** Generation Disclosure
**Policy Level:** State
**Province/Territory/State:** Texas

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Landfill Gas, Hydro
**Applicable Sectors:** Utility
**Summary:** As part of its 1999 electric utility restructuring legislation, Texas retail electric providers (REP) are required to disclose certain information to customers on an "Electricity Facts Label". Beginning July 1, 2002, REPs must provide the standardized label to customers upon their request. The label must include electricity prices, contract terms, sources of generation, and emissions levels and is designed to help customers choose whom they want to provide their electric service. Energy suppliers must make information available to consumers at least once a year, or upon a request made to the Texas Public Utility Commission.

More specifically, the following information must be included on the label: (1) pricing; (2) contract terms (minimum contract term and early termination penalties, if any); (3) fuel mix (table showing percentages of net system power generated by each source; and (4) air emissions and waste (bar chart showing the amounts of carbon dioxide, nitrogen oxide, sulfur dioxide, particulate emissions, and nuclear waste attributable to the aggregate known sources of electricity).

The fuel mix is the percentage of total MWh obtained from each of the following fuel categories: coal and lignite, natural gas, nuclear, renewable energy (comprising biomass, hydropower, solar, and wind), and "other" sources, calculated as specified by the electricity labeling rule (see §25.476(f)).

**Source:** http://www.dsireusa.org/

### *Texas - Net Metering*

**Incentive Type:** Net Metering Rules
**Policy Level:** State
**Province/Territory/State:** Texas

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Landfill Gas, Hydro, Geothermal Electric
**Applicable Sectors:** Industrial, Commercial, Residential
**Summary:** The net metering policy in Texas was established by the Public Utility Commission of Texas (PUCT) to promote the generation of electrcitiy by small wind and photovoltaic systems. The PUCT requires certain utilities to offer net metering to qualified facilities 50 kW or less that use renewable resources. The rule applies to all Texas price-to-beat retail electric providers (PTB REPs), transmission and distribution utilities (TDUs), and integrated investor-owned utilities that have not unbundled in accordance with Public Utility Regulatory Act § 39.051. This rule does not apply to municipal utilities, river authorities or electric cooperatives. For customers of qualifying utilities, the utility must install a single meter that can read electric flow in both directions. There is no statewide limit on the number of customers or total capacity under the net metering program.

Net consumption is billed at the applicable tariff. Net excess generation by the customers during a billing cycle is purchased by utilities at rates not to exceed the avoided cost (fuel cost only, no capacity component).

Distributed generators (the generator and any associated interface equipment) operating in parallel with the distribution utility also are required to operate and maintain equipment such that there is no adverse effect on other customers, or on the utility's ability to maintain voltage and frequency in compliance with PUC Substantive Rule 25.51 relating to power quality. All renewable energy equipment must comply with the Public Utility Commission of Texas rules for safe interconnection of distributed generation systems (Substantive Rule 25.211 and 25.212).

**Source:** http://www.dsireusa.org/

### *Renewable Energy Systems Property Tax Exemption*

**Incentive Type:** Property Tax Exemption
**Policy Level:** State
**Province/Territory/State:** Texas

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Photovoltaics, Wind, Biomass
**Applicable Sectors:** Industrial, Commercial, Residential
**Summary:** The Texas property tax code allows an exemption of the amount of the appraised property value that arises from the installation or construction of a solar or wind-powered energy device that is primarily for the production and distribution of energy for on-site use. "Solar" is broadly defined to include a range of biomass technologies.

"Solar energy device" means an apparatus designed or adapted to convert the radiant energy from the sun, including energy imparted to plants through photosynthesis employing the bioconversion processes of anaerobic digestion, gasification, pyrolysis, or fermentation, but not including direct combustion, into thermal, mechanical, or electrical energy; to store the converted energy, either in the form to which originally converted or another form; or to distribute radiant solar energy or the energy to which the radiant solar energy is converted.

"Wind-powered energy device" means an apparatus designed or adapted to convert the energy available in the wind into thermal, mechanical, or electrical energy; to store the converted energy, either in the form to which originally converted or another form; or to distribute the converted energy.

**Source:** http://www.dsireusa.org/

### *Renewable Energy Systems Tax Credit - Personal*

**Incentive Type:** Personal Tax Credit
**Policy Level:** State
**Province/Territory/State:** Utah

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Solar Thermal Electric, Photovoltaics, Wind, Hydro
**Applicable Sectors:** Residential
**Summary:** Utah's individual income tax credit for renewable energy systems on residential buildings applies to 25% of the cost of installation of a system up to a maximum credit of $2,000 per system. Eligible technologies include active and passive solar systems, wind, biomass, or hydroenergy. The tax credit applies to systems placed in service from January 1, 2001, through December 31, 2006. There is also a corporate tax credit which applies to 10% of the cost of installation of a system up to a maximum credit of $50,000.

**Source:** http://www.dsireusa.org/

### *Solar Access Laws and Solar Easements*

**Incentive Type:** Solar Access Law/Guideline
**Policy Level:** State
**Province/Territory/State:** Utah

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics
**Applicable Sectors:** Industrial, Commercial, Residential, Fed_Govt, Nonprofit, Local, Schools, State_Sector
**Summary:** Utah's solar easement provisions are similar to easement provisions in many other states. Parties can voluntarily enter into written solar easement contracts which are enforceable by law. A solar easement, once created, runs with the land and does not terminate unless specified by conditions of the easement. State statute stipulates that local zoning authorities may adopt regulations that mandate solar access and specifically grants legislative bodies the right to refuse or renew any plat or subdivision plan if deed restrictions, covenants or other agreements running with the land prohibit or have the effect of prohibiting reasonably sited and designed solar collectors or other renewable resource devices.

**Source:** http://www.dsireusa.org/

### *Solar Contractor Licensing*

**Incentive Type:** Contractor Licensing
**Policy Level:** State
**Province/Territory/State:** Utah

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics
**Applicable Sectors:** Installers_Contractors
**Summary:** Utah's Division of Occupational and Professional Licensing requires installers of solar energy systems to be licensed contractors. The Division has established the contractors license classification S215 - Solar Energy Systems contractor. The Solar Energy Systems Contractor is licensed for the fabrication and/or installation of solar energy systems. Qualifications for a S215 classification include two years of full-time experience with a licensed or exempt solar contractor and passage of the Utah business and law, and trade exams.

**Source:** http://www.dsireusa.org/

### *Utah - Net Metering*

**Incentive Type:** Net Metering Rules
**Policy Level:** State
**Province/Territory/State:** Utah

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Hydro, Fuel Cells
**Applicable Sectors:** Industrial, Commercial, Residential
**Summary:** On March 15, 2002, Governor Leavitt signed into law House Bill 7, Net Metering of Electricity. This law requires all electric utilities and cooperatives in Utah (municipal utilities are excluded) to allow customers to connect renewable energy systems to the grid for their own use and to supply excess electricity to the electric grid. Eligible renewable energy systems include fuel cells, solar, wind or small hydropower facilities with a generating capacity of up to 25 kilowatts. Total participation in the program is capped at 0.1 percent of the cumulative generating capacity of the electrical corporation's peak demand during 2001.

Utilities are required to give the customer a credit for electricity generated that exceeds the amount supplied. If net metering results in excess customer-generated electricity during the billing period, the utility must credit the customer for the excess customer-generated electricity at a minimum value of avoided cost. All credits that the customer does not use during the calendar year expire at the end of the calendar year.

The act prohibits the electrical corporation from imposing additional charges or fees to customers participating in a net metering program unless authorized by the Utilities Commission.

**Source:** http://www.dsireusa.org/

### *Renewable Energy Systems Tax Credit - Corporate*

**Incentive Type:** Corporate Tax Credit
**Policy Level:** State
**Province/Territory/State:** Utah

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Solar Thermal Electric, Photovoltaics, Wind, Biomass, Landfill Gas, Hydro
**Applicable Sectors:** Industrial, Commercial
**Summary:** Utah's corporate income tax credit for renewable energy systems applies to 10% of the cost of installation of a system up to $50,000. Eligible technologies include active and passive solar systems, photovoltaics, biomass, hydropower, and wind. For residential buildings owned by the business, the credit is 25% of the cost of installation of a system up to a maximum credit of $2,000 per system. This tax credit expires on December 31, 2006.

**Source:** http://www.dsireusa.org/

### *Interconnection Standards*

**Incentive Type:** Interconnection
**Policy Level:** State
**Province/Territory/State:** Utah

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Hydro
**Applicable Sectors:** Industrial, Commercial, Residential, Fed_Govt, Nonprofit, Local, Schools, State_Sector

**Summary:** Utah's net metering law allows customers generating up to 25 kW in solar, wind, or hydroelectric power to interconnect to the utility grid. The customer must follow local fire safety standards and national standards as established by the National Electrical Code (NEC), National Electrical Safety Code (NESC), Institute of Electrical and Electronic Engineers (IEEE), and Underwriters Laboratories (UL). Utilities may enforce additional requirements if approved by the Utah Public Utility Commission (PUC) as necessary safety and reliability measures.

Unless the PUC deems it necessary, utilities are not permitted to require customers to install manual external disconnect switches for their systems. In addition, customers are not required to purchase additional liability insurance or perform or pay for tests beyond those required by national and local standards or the PUC. The utility may, however, test or inspect an interconnected facility at any time and may not be held accountable for any injury or loss incurred due to an unsafe interconnection.

PacifiCorp's net metering rate schedule can be accessed from the Energy Office Solar site at <http://www.energy.utah.gov/solar/netmeter.htm>.

**Source:** http://www.dsireusa.org/

### *Renewable Energy Sales Tax Exemption*

**Incentive Type:** Sales Tax Exemption
**Policy Level:** State
**Province/Territory/State:** Utah

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Landfill Gas, Hydro, Geothermal Electric
**Applicable Sectors:** Industrial, Commercial, Utility
**Summary:** Utah Code exempts the purchase or lease of equipment used to generate electricity from renewable resources from the state sales tax. Eligible purchases or leases must be made for or by a renewable energy production facility on or after July 1, 2004 and before June 30, 2009. All leases must be made for at least seven years.

Renewable resources include wind generation, solar, biomass, landfill gas, anaerobic digestion, hydroelectricity, and geothermal energy. Eligible facilities must use renewable energy to produce electricity and have a production capacity of 20 kW or greater. A facility that has its generation capacity increased by one or more MW as a result of the machinery or equipment may also be eligible for the exemption.

Equipment eligible for the exemption includes wind turbines, generating equipment, control and monitoring systems, power lines, substation equipment, lighting, fencing, pipes and other equipment for locating power lines and poles. Equipment not eligible for the exemption includes tools and other equipment used in construction of a new facility, contracted services required for construction and routine maintenance activities and equipment utilized or acquired after the project is operational.

This exemption is scheduled to be repealed on June 30, 2009.

**Source:** http://www.dsireusa.org/

### *Vermont - Net Metering*

**Incentive Type:** Net Metering Rules
**Policy Level:** State
**Province/Territory/State:** Vermont

**Eligible Renewable / Other Technologies:** Photovoltaics, Wind, Biomass, Fuel Cells

**Applicable Sectors:** Commercial, Residential, Agricultural
**Summary:** Vermont's net-metering legislation was passed in 1998 (H.605), and amended in 1999 (H.705) and 2002 (S.138). Any electric customer in Vermont may net meter after obtaining a "Certificate of Public Good" from the Vermont Public Service Board (PSB). An application for a "Certificate of Public Good for Interconnected Net Metered Power Systems" is available via the program web site listed above.

System capacity is limited to 15 kilowatts (kW) for certain forms of renewable-energy generation, such as solar-electric (PV) systems, wind turbines, and fuel cells operating with renewable fuels. Net excess generation (NEG) during a billing period is credited to the next billing period through the end of the calendar year. At the beginning of the next calendar year, any remaining credited will be granted to the utility without compensation to the customer.

Vermont has established special net-metering provisions for farm-based renewable-energy systems. Farmers who generate electricity from anaerobic digestion of agricultural products or byproducts, solar-electric (PV) systems, wind systems or fuel cells may net meter systems up to 150 kW. This 150-kW limit offers farmers an opportunity to economically generate their own power and reduce demand from utilities. The 2002 amendments include a provision for "group net metering," allowing on-farm systems to credit on-site generation against all meters designated to the farm system. Accumulated credit from net excess generation must be used within 12 months, or it will revert to the utility without compensation to the system owner.

The PSB may also allow net metering for up to 10 systems per year for non-farm systems greater than 15 kW but less than 150 kW of capacity. The total generating capacity under net metering for each electric utility company is limited to 1% of a company's peak demand during 1996, or the peak demand during the most recent full calendar year, whichever is less. However, a utility and an on-farm system owner may jointly petition the PSB to exceed the enrollment cap.

PV systems must conform to all applicable electrical safety, power quality and interconnection requirements established by the National Electrical Code (NEC), the Institute of Electrical and Electronic Engineers (IEEE), and Underwriters Laboratories (UL). Utilities may not charge customers any additional standby, capacity, interconnection, or other fees or charges, although utilities may charge "reasonable" fees for interconnection, establishment, special meter reading and accounting net-metering arrangements for farm systems. Other costs may apply to on-farm systems as well. Interconnection requirements are accessible at the program web site listed above.

As of November 2005, 212 net-metered systems (54 wind, 157 solar and one on-farm methane) had been granted a "Certificate of Public Good." These systems have a combined capacity of approximately 811 kW, according to the Vermont Department of Public Service.

**Source:** http://www.dsireusa.org/

### *Sales Tax Exemption*

**Incentive Type:** Sales Tax Exemption
**Policy Level:** State
**Province/Territory/State:** Vermont

**Eligible Renewable / Other Technologies:** Active Water Heat, Photovoltaics, Wind, Biomass
**Applicable Sectors:** Commercial, Residential, Government, Agricultural
**Summary:** Vermont's sales tax exemption for renewable-energy systems, passed as part of the Miscellaneous Tax Reduction Act of 1999 (H. 0548), originally applied only to net-metered systems. Amendments enacted in 2002 (S. 138) extended the exemption to residential and commercial renewable-energy systems not connected to the grid. In addition, solar hot water systems are now eligible for the exemption. Vermont's current sales tax rate is 6%.

The sales tax exemption applies to solar-electric (PV) systems, wind systems, anaerobic digesters and fuel cells fueled by renewable resources. On-farm systems with a maximum capacity of 150 kW are eligible for the exemption; other eligible technologies are limited to a system capacity of 15 kW.

**Source:** http://www.dsireusa.org/

### *Solar & Small Wind Incentive Program*

**Incentive Type:** State Rebate Program
**Policy Level:** State
**Province/Territory/State:** Vermont

**Eligible Renewable / Other Technologies:** Active Water Heat, Photovoltaics, Wind
**Applicable Sectors:** Commercial, Residential, Local, Schools, Agricultural
**Summary:** Note: “Funding for solar water heating and solar electric systems has been completely reserved. Incentives are available only for wind projects at this time.”

Vermont's Solar and Small Wind Incentive Program was originally established in June 2003. The initial round of the program, which funded the installation of more than 200 renewable energy systems, was fully subscribed by summer 2004, with all installations completed by summer 2005. Approximately $840,000 in incentives was awarded during the first round of funding.

A second round of program funding, totaling about $800,000, was made available in September 2005. Approximately $460,000 in incentives will support qualifying small wind-energy systems for individuals, businesses, schools and municipalities. In addition, Central Vermont Public Service and Green Mountain Power are offering incentives totaling $270,000 to support qualifying solar electric (PV) systems and solar water-heating systems for customers in their service territories. Furthermore, money left over from projects that were not completed during the first round will support qualifying solar-electric systems and solar water-heating systems for customers in the rest of the state.

Funding available under the second round will support the installation of approximately 250 new renewable-energy systems over a two-year period. The program covers approximately 25% of the total installed cost of a system purchased and installed after September 9, 2005.

Owners of qualifying solar-electric systems will receive $2/watt, with a maximum incentive of $10,000.
Owners of qualifying solar water-heating systems will receive $2/hundred Btu/day, with a maximum incentive of $10,000. Individuals and businesses that install small wind-energy systems will receive $2/watt—and up to $3.50/watt for systems with Vermont-made components—with a maximum incentive of $10,000. Schools and municipalities that install wind-energy systems will receive $4/watt, with a maximum incentive of the lesser of $20,000 or 50% of the total installed cost. All systems must be installed by Vermont Solar and Wind Partners. (See <http://www.rerc-vt.org/incentives/faq.htm#21> for more information.)

Renewable energy systems must meet the following conditions in order to qualify:

Solar Electric Systems . Both grid-connected and off-grid solar-electric systems are eligible, although reservations for incentives for off-grid systems must be made by October 31, 2005. Upgrades to existing systems are eligible, but upgrades must include new modules with a rated output of at least 1 kilowatt (kW). New inverters must be UL-listed or listed by another nationally recognized testing laboratory. All inverters (existing and new) for grid-connected systems must be compliant with the requirements of IEEE 929 (including anti-islanding) and UL 1741.

Solar Water Heating Systems . These systems must be capable of serving domestic hot water loads. The thermal collectors used in the systems must have an OG-100 output rating from the Solar Rating Certification Corporation (SRCC) or an equivalent organization. Upgrades to existing solar water heating systems are also eligible, but upgrades must include new collectors with a rated output of at least 15 kBtu per day.

Small Wind Systems . Only grid-connected wind energy systems are eligible for incentives. Upgrades to existing systems are eligible, an upgraded systems must include a new turbine with a rated output of at least 1 kW. New inverters must be UL-listed or listed by another nationally recognized testing laboratory for their intended use. All inverters (existing and new) for grid-connected systems must be compliant with the requirements of IEEE 929 (including anti-islanding) and UL 1741.

There are no specific minimum or maximum sizes for new eligible systems. Program incentives will only support the first 5 kW of installed capacity for a solar electric system or wind system and the first
500,000 Btu/day rating for solar thermal collectors. Larger systems are eligible for program support, but will receive an incentive capped at $10,000. Incentives for wind systems installed by schools and
municipalities are limited to the lesser of $20,000 or 50% of the total installed cost of the system. Portable systems are not eligible for incentives.

All systems must be installed in accordance with manufacturer’s recommendations and all applicable local, state, and federal codes and permits. Systems interconnected to the electric utility grid must be
installed in accordance with the Vermont Interconnection Safety and Technological Requirements and the National Electric Code. All wind and solar electric systems that will operate as interconnected, net-metered power systems must obtain and provide a "Certificate of Public Good" pursuant to 30 V.S.A. § 248 from the Vermont Public Service Board for a net-metered system. The maximum size for net metering of small wind and solar-electric systems is 15 kW.

Participants are eligible for incentives for systems that include a combination of two or more eligible technologies. The maximum combined total incentive amount for hybrid systems is $10,000. Off-grid solar-electric systems are eligible for incentives of $1.00 per watt under the program, although incentive reservations for off-grid systems must be made by October 31, 2005.

The second round of incentives is expected to leverage approximately $3 million in private investment,
according to the Vermont Department of Public Service, and roughly 17,000 gallons/year of fuel oil (from off-set hot water heating) and 540 megawatt-hours (MWh) of electricity will be saved.

The Renewable Energy Resource Center (RERC), a project of the Vermont Energy Investment Corporation (VEIC), administers the program and provides consumer education and support services. The VEIC will track and report total system costs, estimated energy savings, avoided environmental emissions, and job activity within the solar and small wind delivery sector of Vermont's economy.

**Source:** http://www.dsireusa.org/

### *Interconnection Standards*

**Incentive Type:** Interconnection
**Policy Level:** State
**Province/Territory/State:** Vermont

**Eligible Renewable / Other Technologies:** Photovoltaics, Wind, Biomass, Fuel Cells

**Applicable Sectors:** Commercial, Residential, Agricultural
**Summary:** Vermont requires electric utilities to offer net metering to all customers with photovoltaic (PV), wind, fuel cell or biomass systems until the cumulative generating capacity of net-metered systems equals 1.0% of a utility's peak demand. The maximum system size is 15 kW for most systems; farm-based systems may have a maximum capacity of 150 kW. An application for a "Certificate of Public Good for Interconnected Net Metered Power Systems" can be downloaded from the web site shown above.

Net-metered PV systems must conform to applicable electrical safety, power quality and interconnection requirements established by the National Electrical Code, the Institute of Electrical and Electronic Engineers, and Underwriters Laboratories. The customer is responsible for installation, testing accuracy, and maintenance of net-metering equipment. A utility may not charge non-farm customer-generators additional standby, capacity or interconnection fees, or fees or charges other than the customary minimum monthly fee. However, a reasonable fee for interconnection, meter reading and accounting of on-farm net-metering arrangements is allowed.

The Vermont Public Service Board (PSB) has adopted additional electrical safety, power quality and interconnection requirements for wind, fuel cell and biomass systems (Docket 6181). The following key provisions apply:
– All systems up to 15 kW must have a utility-accessible, lockable disconnect switch. (A lockable disconnect plug unit is acceptable for small distributed generation units less than 500 watts if the customer files a proper application with the utility. The disconnect plug must be able to break load and must be utility-accessible.)
– Systems will be tested initially upon installation and once every two years to determine that anti-islanding controls are functioning correctly.
– Systems must be covered by an insurance policy with a minimum general liability of $100,000 for residential systems and $300,000 for farm and non-residential sites.

In June 2005, Vermont enacted S. 52, which required the PSB to establish interconnection standards by September 1, 2006, for generators with a capacity less than 50 MW. The standards will apply to renewable-energy systems, and to combined heat and power systems with an overall energy-conversion efficiency of at least 65%. The PSB will determine applicable fees required to cover the total cost of interconnection to be paid by generators. The safety rules, power-quality rules and interconnection requirements adopted by the PSB for net-metered systems will be utilized.

**Source:** http://www.dsireusa.org/

### *Fuel Source and Environmental Impact Disclosure*

**Incentive Type:** Generation Disclosure
**Policy Level:** State
**Province/Territory/State:** Vermont

**Eligible Renewable / Other Technologies:** Wind, Solar, Biomass, Hydro
**Applicable Sectors:** Utility
**Summary:** In 2002 Vermont enacted legislation (S.138) authorizing the state's Public Service Board (PSB) to develop standards for electricity suppliers to disclose information on fuel sources and the environmental impacts of electricity generation. (S.138 also expanded the state's net-metering law and sales tax exemption for renewables.)

Vermont's disclosure standards may address label forms and information related to retail and wholesale prices, terms and conditions of service, the fraction of generation resources in a seller's mix, the environmental effects of each energy source, and a description of other services, such as energy-efficiency opportunities. This information will be provided to retail customers once per year.

The law authorizes the PSB to develop standards regarding the substantiation and verification of any information disclosed, and any claims made by suppliers, along with enforcement procedures and penalties. The law also directs the PSB to weigh the costs and benefits of compliance when setting the standards.

In June 2005, Vermont enacted legislation (S.52) creating a renewable portfolio goal. Under this law, it is possible the Vermont Public Service Board will require utilities to disclose the types of generation they use, and whether the energy is Vermont-based. However, the language relevant to this provision is ambiguous.

**Source:** http://www.dsireusa.org/

### *Renewable Portfolio Goal*

**Incentive Type:** Renewables Portfolio Standard
**Policy Level:** State
**Province/Territory/State:** Vermont

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Landfill Gas, Hydro
**Applicable Sectors:** Retail_Suppliers
**Summary:** Vermont's renewable portfolio goal, enacted in June 2005, calls for the state's electric utilities to meet growth in electricity demand between 2005 and 2012 by using energy efficiency and renewable-energy resources. This law encourages each retail electricity provider to supply an amount of new renewable energy equal to its total incremental energy growth between January 1, 2005, and January 1, 2012. However, the amount of renewable energy that each utility is encouraged to supply is capped at 10% of its 2005 total retail electric sales. If this goal is not achieved by 2012, then the policy will become a mandatory renewable portfolio standard (RPS) in 2013.

By September 2006, the Vermont Public Service Board (PSB) will develop regulations and procedures necessary to implement, supervise and maintain the state's RPS.

"Renewable energy" is defined as "energy produced using a technology that relies on a resource that is being consumed at a harvest rate at or below its natural regeneration rate." The only renewable-energy resources explicitly included are hydropower (up to 200 MW), and methane from landfill gas, anaerobic digesters and sewage-treatment facilities. Municipal solid waste is explicitly excluded. The Vermont Public Service Board (PSB) will conduct administrative proceedings to determine which, if any, additional renewable resources qualify.

Renewable-energy facilities placed into service after December 31, 2004, count toward Vermont’s goal. Furthermore, additional energy from existing renewable-energy facilities retrofitted with advanced technologies, or otherwise modified or expanded to increase the kWh output, also may be eligible.

The renewable portfolio goal applies to all retail electricity providers, unless a utility demonstrates (and the PSB determines) that compliance with the standard would impair the utility's ability to meet the public's need for energy services after safety concerns have been addressed, at the lowest present value life-cycle cost, including environmental and economic costs.

Because of ambiguous language included in S. 52 (2005), it is unclear if the PSB must adopt a system for trading renewable-energy credits (RECs) prior to the possible implementation of an RPS. If the PSB does adopt a RECs-trading system, the system will be compatible with regional practices. It is also unclear if the PSB will require utilities to disclose the types of generation they use, and whether the energy is Vermont-based.

The PSB will begin a proceeding on or before January 1, 2012, to determine the amount of qualifying renewable-energy resources placed into service or projected to be operational between January 1, 2005, and January 1, 2013. If the PSB determines that the amount of qualifying renewable resources exceeds total statewide growth in demand between January 1, 2005, and January 1, 2012, or if the Board determines that the amount of these resources exceeds 10% of total statewide load for 2005, then the mandatory RPS will not come into force. Otherwise, the goal will become mandatory. The PSB will make this determination by July 1, 2012, and if necessary, a mandatory RPS would take effect one year following the Board's decision.

Utilities may meet the mandatory RPS by constructing or contracting for renewable-energy resources with credits still attached, by purchasing new renewable-energy credits, or by a combination of both. Instead of (or in addition to) purchasing credits, utilities may pay into a fund an amount per kilowatt-hour to be determined by the PSB. This fund will support the development of renewable energy and/or energy conservation.

**Source:** http://www.dsireusa.org/

### *Virginia - Net Metering*

**Incentive Type:** Net Metering Rules
**Policy Level:** State
**Province/Territory/State:** Virginia

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Hydro
**Applicable Sectors:** Commercial, Residential, Nonprofit, Local, Schools, Institutional, State_Sector
**Summary:** Virginia's net-metering law applies to residential systems up to 10 kilowatts (kW) in capacity and non-residential systems up to 500 kW in capacity. The maximum capacity for non-residential systems was raised from 25 kW to 500 kW by legislation in 2004 (SB 651); the state's net metering rules were revised by Virginia State Corporation Commission in April 2005 to implement this change and other modifications. Eligible technologies include solar, wind and hydropower systems intended primarily to offset part or all of a customer's requirements for electricity. Enrollment is open on a first-come, first-served basis until the rated generating capacity owned and operated by customer-generators in Virginia reaches 0.1% of each electric distribution company's peak load for the previous year.

Net-metered energy is measured by a meter capable of gauging (but not necessarily displaying) power flow in both directions. Monthly net excess generation (NEG) is carried forward to the next month. In Virginia's original net-metering rules, any excess at the end of a twelve-month period was granted to the utility. However, it was later decided that, while the month-to-month system should remain intact, NEG remaining in the 12th month of the annual period could be credited to the following month. This credit cannot exceed the amount of energy purchased during the previous annual period. For example, if a customer-generator bought 1,500 kilowatt-hours (kWh) from a utility during the first 11 months of the annual period, and then generated 2,000 kWh of excess electricity in the twelfth month, the customer could carry forward 1,500 kWh to the following month, and the remaining 500 kWh would be granted to the utility. Customer-generators that seek monetary compensation for NEG may attempt to enter into a power-purchase agreement with a utility.

Systems must comply with the National Electrical Code Article 690, Institute of Electrical and Electronic Engineers (IEEE) Standard 1547 (July 2003), and Underwriters Laboratories (UL) standards. Utilities may require (and usually do require) an external, lockable disconnect switch.

**Source:** http://www.dsireusa.org/

### *Local Option Property Tax Exemption for Solar*

**Incentive Type:** Property Tax Exemption
**Policy Level:** State
**Province/Territory/State:** Virginia

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Solar Thermal Electric, Photovoltaics
**Applicable Sectors:** Industrial, Commercial, Residential
**Summary:**
Virginia allows any county, city or town to exempt or partially exempt solar energy equipment or recycling equipment from local property taxes. Residential, commercial or industrial property is eligible. The statute broadly defines solar energy equipment as any "application which would otherwise require a conventional source of energy." Recycling equipment is defined as equipment which is "integral to the recycling process and for use primarily for the purpose of abating or preventing pollution of the atmosphere or waters." Cities and counties currently offering an exemption include:

Albemarle
Alexandria
Charlottesville
Chesterfield
Dinwiddie
Fairfax
Falls Church
Hampton
Hanover
Henrico
Isle of Wight
King and Queen
Loudoun
Lynchburg
Prince William
Pulaski
Richlands
Roanoke
Spotsylvania
Warren
Wise

**Source:** http://www.dsireusa.org/

### *Interconnection Standards*

**Incentive Type:** Interconnection
**Policy Level:** State
**Province/Territory/State:** Virginia

**Eligible Renewable / Other Technologies:** Photovoltaics, Wind, Hydro
**Applicable Sectors:** Industrial, Commercial, Residential, Fed_Govt, Nonprofit, Local, Schools, State_Sector
**Summary:** The Virginia State Corporation Commission (SCC) first developed simplified interconnection rules for systems eligible for net metering in 2000, and subsequently updated the rules in 2005 after the capacity limit for non-residential systems was raised from 25 kilowatts (kW) to 500 kW. Eligible technologies include solar, wind and hydropower systems intended primarily to offset part or all of a customer's requirements for electricity.

Enrollment is open on a first-come, first-served basis until the rated generating capacity owned and operated by customer-generators in the state reaches 0.1% of each electric distribution company's peak load for the previous year. This includes residential customers generating up to 10 kW and commercial systems of up to 500 kW. Utilities that have already enrolled 0.1% of their peak load for the previous year are not required to allow additional customers to interconnect.

Customer-generators with systems that meet the major national safety and equipment standards—National Electrical Code (NEC), Institute of Electrical and Electronic Engineers (IEEE) Standard 1547 (July 2003), and Underwriters Laboratories (UL)—are not required to install any additional safety equipment. However, a utility's net-metering tariff may require that customer-generators install a manual, external disconnect switch that complies with national safety requirements and is certified by a licensed electrician.

Customer-generators must notify the electric distribution company and the energy service provider prior to interconnecting; the minimum advance-notice requirement depends on system size. Customer-generators may be required to pay up to $50 for an inverter inspection for inverter-based systems. In addition, customer-generators with systems greater than 25 kW in capacity must reimburse the utility for its cost to modify any facilities needed to accommodate the interconnection with respect to power quality, voltage regulation and transformer loading.

Customer-generators with interconnected systems that do not exceed 10 kW in rated capacity must have at least $100,000 in liability insurance. Customer-generators with systems greater than 10 kW must have at least $300,000 in coverage.

**Source:** http://www.dsireusa.org/

### *Solar Easements*

**Incentive Type:** Solar Access Law/Guideline
**Policy Level:** State
**Province/Territory/State:** Virginia

**Eligible Renewable / Other Technologies:**
**Applicable Sectors:** Industrial, Commercial, Residential, Fed_Govt, Nonprofit, Local, Schools, State_Sector
**Summary:** In Virginia, solar easements must be created in writing and are subject to the same conveyancing and instrument recording requirements as other easements. Agreements should include:

(1) the vertical and horizontal angles, expressed in degrees, at which the solar easement extends over the real property subject to the solar easement;
(2) any terms or conditions under which the solar easement is granted or will be terminated, and
(3) any provisions for compensation of the owner of the property subject to the solar easement.

**Source:** http://www.dsireusa.org/

### *Solar Manufacturing Incentive Grant (SMIG) Program*

**Incentive Type:** Industry Recruitment
**Policy Level:** State
**Province/Territory/State:** Virginia

**Eligible Renewable / Other Technologies:** Photovoltaics
**Applicable Sectors:** Industrial, Commercial
**Summary:** Perhaps the most widely publicized industrial recruitment program in the renewable energy industry is Virginia's Solar Manufacturing Incentive Grant (SMIG) Program. Created in 1995 and administered jointly by the Virginia Department of Mines, Minerals and Energy, and the

Virginia Economic Development Partnership, this fund offers up to $4.5 million per year through 2007 to encourage the production of photovoltaic panels in Virginia. The incentive is paid at a rate of up to $0.75 per watt for panels sold in a calendar year, with a maximum of 6 MW.

Effective January 1, 2002, new manufacturers that meet certain expansion thresholds are eligible to receive annual incentive grants for six years. The amount will be awarded as follows:
– Years 1 and 2 - $0.75/watt
– Years 3 and 4 - $0.50/watt
– Years 5 and 6 - $0.25/watt

While some other states offer financial incentives for manufacturing renewable energy equipment, Virginia is the only state that bases benefits on actual sale levels.

Since the program's inception in 1995, two companies have located photovoltaic plants in Virginia. The first company to site a plant in Virginia as a result of this program was Atlantis Energy (formerly Solar Building Systems, an affiliate of Atlantis Energie of Bern, Switzerland), which began manufacturing modules in 1995. Atlantis is still in operation in Exmore. The second company to take advantage of the SMIG Program was BP Solar (formerly Solarex), which has since closed its facilities.

**Source:** http://www.dsireusa.org/

### *Fuel Mix and Emissions Disclosure*

**Incentive Type:** Generation Disclosure
**Policy Level:** State
**Province/Territory/State:** Virginia

**Eligible Renewable / Other Technologies:** Not specified
**Applicable Sectors:** Utility, Retail_Suppliers
**Summary:**
The Virginia State Corporation Commission (SCC) ruled on June 19, 2001, that electric service providers must report to their customers and file a report with the SCC disclosing—to the extent feasible—fuel mix and emissions data for the previous year. The information must be supplied by March 31 of each year. If such data are unavailable, providers must file a report with the SCC explaining why this is the case. Competitive service providers that make specific claims about products must maintain documentation supporting any such claims. This documentation must be available electronically, and utilities must provide a written explanation upon the request of any customer, prospective customer, competitive service provider, local distribution company, or the SCC.

**Source:** http://www.dsireusa.org/

### *Virginia Small Wind Incentives Program (VSWIP)*

**Incentive Type:** State Grant Program
**Policy Level:** State
**Province/Territory/State:** Virginia

**Eligible Renewable / Other Technologies:** Wind
**Applicable Sectors:** Industrial, Commercial, Residential, Nonprofit, Schools, Institutional, Agricultural
**Summary:** The Virginia Small Wind Incentives Program (VSWIP), administered by the James Madison University (JMU) Office of the Virginia Wind Energy Collaborative (VWEC), offers grants to Virginia landowners to purchase and install small wind energy systems. The program will provide financial support for up to 10 projects during three review periods—one in 2004 and two in 2005. The first round of VSWIP Grant Applicants were selected in May 2004 to receive

incentives. A second round of grants were selected in July of 2005. VWEC is currently accepting applications for a third and final round of grants to be offered in late 2005 or early 2006.

The maximum award will be the lower of $10,000 or 33% of installed costs. The program is supported by the Virginia Department of Mines, Minerals and Energy, and is administered by JMU faculty, staff and students who will review applications, conduct workshops and assist awardees. The goal of the VSWIP is to bridge the economic gap between energy derived from small wind turbines and that generated by conventional resources.

Grants will be awarded based on a landowner's (1) quality of wind resources, (2) financial commitment, (3) willingness to work with schools and students, (4) ability to interconnect with the grid and willingness to net meter the system, and (5) willingness to install the system in an area that easily accessible and visible. Turbines greater than 20 kW in capacity will be considered on a case-by-case basis.

**Source:** http://www.dsireusa.org/

### *Fuel Mix Disclosure*

**Incentive Type:** Generation Disclosure
**Policy Level:** State
**Province/Territory/State:** Washington

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Hydro, Geothermal Electric, Municipal Solid Waste
**Applicable Sectors:** Utility
**Summary:** Washington is one of several states that requires disclosure even though its electricity market has not been restructured. Beginning in May 2001, retail electricity suppliers in Washington must provide a disclosure label in a standard format to their retail customers at least semiannually. The disclosure label must be provided to new customers at the time service is established. Existing customers should receive the disclosure label as a bill insert or mailed publication. Small utilities and mutual light and power companies must provide the disclosure label annually unless they market a "specific electric product new to that utility."

Disclosure of fuel mix information must be in a two-column, tabular format showing the percentages of each category of fuel used, including categories for coal, hydroelectric, natural gas, nuclear, and other generation identified by percentage and adding up to 100%.

**Source:** http://www.dsireusa.org/

### *Washington Renewable Energy Production Incentives*

**Incentive Type:** Production Incentive
**Policy Level:** State
**Province/Territory/State:** Washington

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind
**Applicable Sectors:** Commercial, Residential, Local
**Summary:** In May 2005, Washington enacted Senate Bill 5101, establishing production incentives of 15 cents per kilowatt-hour (capped at $2,000 per year) for individuals, businesses, or local governments that generate electricity from solar power, wind power or anaerobic digesters. The incentive amount paid to the producer is adjusted according to how the electricity was generated by multiplying the incentive by the following factors:
– For electricity produced using solar modules manufactured in Washington state: 2.4
– For electricity produced using a solar or wind generator equipped with an inverter manufactured in Washington state: 1.2

– For electricity produced using an anaerobic digester, by other solar equipment, or using a wind generator equipped with blades manufactured in Washington state: 1.0
– For all other electricity produced by wind: 0.8.

Ownership of the renewable-energy credits (RECs) associated with generation remains with the customer-generator and does not transfer to the state or utility.

Initially, the incentive applies only to eligible systems that are not grid-connected, but will extend to grid-connected power sources once utilities serving 80% of the state's total customer load adopt uniform interconnection standards. In either case, the property must be served by a light and power business (i.e., off-grid properties are not eligible).

The state's utilities will pay the incentives and earn a tax credit equal to the cost of those payments. However, the credit may not exceed the greater of $25,000 or 0.025% of a utility's taxable power sales. The incentive amount may be uniformly reduced if requests for the incentive exceed the available funds.

The Washington Department of Revenue is responsible for submitting a report measuring the impacts of this legislation, including any change in the number of solar energy system manufacturing companies in Washington, and the effects on job creation, such as the number of jobs created for Washington residents.

The incentives apply to power generated as of July 1, 2005, and remain in effect through June 30, 2014. A utility may not claim any tax credits for incentive payments after June 30, 2016.

**Source:** http://www.dsireusa.org/

### *Tax Abatement for Solar Manufacturers*

**Incentive Type:** Industry Recruitment
**Policy Level:** State
**Province/Territory/State:** Washington

**Eligible Renewable / Other Technologies:** Photovoltaics
**Applicable Sectors:** Industrial
**Summary:** Senate Bill 5111, signed by Washington's governor in May 2005, created a reduced business and occupation (B&O) tax rate for Washington manufacturers and wholesale marketers of solar-electric (photovoltaic) modules or silicon components of those systems. The reduced B&O tax rate of 0.2904% is 40% lower than the standard B&O tax rate of 0.484%.

Businesses claiming the credit under this program are required to file annual reports with the Washington Department of Revenue (DOR), detailing employment, wages, and health and retirement benefits. The DOR must conduct a study from existing sources of data and report the impacts of this incentive to the Washington State Legislature by December 1, 2013.

**Source:** http://www.dsireusa.org/

### *Washington - Net Metering*

**Incentive Type:** Net Metering Rules
**Policy Level:** State
**Province/Territory/State:** Washington

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Hydro, Fuel Cells
**Applicable Sectors:** Industrial, Commercial, Residential

**Summary:** Washington's net metering law, enacted March 1998 (HB 2773), allows net metering for customers with solar, wind, and hydropower systems of 25 kW or less that are intended primarily to offset part or all of the customer's requirements for electricity. In 2000, EH 2334 added fuel cells to the list of eligible systems. All customer classes are eligible for enrollment. Enrollment is limited to a statewide installed generating capacity of 0.1% of the utility's 1996 peak demand.

Net excess generation is credited to the customer's next monthly bill. At the beginning of each calendar year, any remaining unused kilowatt-hour credit accumulated during the previous year must be granted to the utility, without any compensation to the customer.

Systems shall meet all of the requirements established by the National Electric Code, National Electrical Safety Code, Institute of Electrical and Electronic Engineers (IEEE) and Underwriters Laboratories.

Taking advantage of Washington's Renewable Energy Production Incentives (effective July 1, 2005) does not reduce or impact the savings achieved through net metering.

View this Q&A About Washington State's Net Metering Law for more information.

**Source:** http://www.dsireusa.org/

### *Solar Easements*

**Incentive Type:** Solar Access Law/Guideline
**Policy Level:** State
**Province/Territory/State:** Washington

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics
**Applicable Sectors:** Industrial, Commercial, Residential, Fed_Govt, Nonprofit, Local, Schools, Institutional, State_Sector, Agricultural
**Summary:** Washington's solar easement provisions are similar to those in many other states. They do not create an automatic right to sunlight. Rather, they allow parties to voluntarily enter into solar easement contracts for the purpose of ensuring adequate exposure of a solar energy system.

**Source:** http://www.dsireusa.org/

### *Sales and Use Tax Exemption*

**Incentive Type:** Sales Tax Exemption
**Policy Level:** State
**Province/Territory/State:** Washington

**Eligible Renewable / Other Technologies:** Photovoltaics, Wind, Biomass, Landfill Gas, Fuel Cells
**Applicable Sectors:** Commercial, Residential, Government
**Summary:** In Washington State, tax does not apply to the sales of equipment used to generate electricity from wind, sun, or landfill gas, and with the passage of HB 1859 in 2001, fuel cells. The tax exemption applies to labor and services related to installation of the equipment, as well as to sales of equipment and machinery. Eligible systems are those with a generating capacity of at least 200 watts.

**Source:** http://www.dsireusa.org/

### *Interconnection Standards*

**Incentive Type:** Interconnection
**Policy Level:** State
**Province/Territory/State:** Washington

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Hydro, Fuel Cells
**Applicable Sectors:** Industrial, Commercial, Residential, Fed_Govt, Nonprofit, Local, Schools, State_Sector
**Summary:** "Note: The Washington Utilities and Transportation Commission (WUTC) is currently developing stronger interconnection standards for customer-owned distributed generation (DG) up to 25 kilowatts in capacity (Docket No. 051106). After standards for these smaller systems have been adopted, the WUTC will develop interconnection standards for larger DG. For additional information, see the WUTC's Rulemakings web page."

Washington's interconnection provisions for renewables are included in Chapter 80.60 of the Revised Code of Washington, which outlines the state's net metering rules. Solar, wind, hydropower and fuel-cell systems may connect to the utility grid if system generating capacity does not exceed 25 kW. Utilities are not required to provide net metering to customers beyond the total enrollment of 0.1% of each utility's peak demand in 1996.

Washington's interconnection requirements for small renewables are relatively simple and straightforward. Customer-generators must comply with all local, state and national interconnection requirements regarding safety, including the National Electrical Code (NEC), the Institute of Electrical and Electronic Engineers (IEEE), and Underwriters Laboratories (UL) recommendations. The specifics of the interconnection rules were clarified by state law in 2000. The 2000 amendments clarified the rules by:
– adding fuel cells to the list of technologies eligible for net metering;
– limiting the market penetration of fuel cells to no more than 50% of the state's limit on installed net metering generating capacity, which is 0.1% of each utility's peak demand;
– clarifying that net-metered facilities meeting national standards (IEEE, UL, and NEC) and any additional standards approved by the Washington Utilities and Transportation Commission (UTC) or a public utility's governing board, after providing opportunities for public participation and making necessary findings, cannot be required to meet additional requirements, perform additional tests or purchase additional liability insurance; and
– clarifying that utilities are not liable for property damages or personal injuries attributable to a net-metering system.

Each of the state's three large IOUs has filed a tariff with the UTC that addresses net metering:

Puget Sound Electric - Schedule 150
Pacific Power and Light - Schedule 135
Avista Power - Schedule 62

**Source:** http://www.dsireusa.org/

### *Mandatory Utility Green Power Option*

**Incentive Type:** Mandatory Utility Green Power Option
**Policy Level:** State
**Province/Territory/State:** Washington

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics, Wind, Biomass, Landfill Gas, Hydro, Geothermal Electric, Municipal Solid Waste
**Applicable Sectors:** IOU, Muni, Coop, PUD, Irrigation District, Mutual Corporation, all electric utilities serving more than 25,000 customers

**Summary:**
On May 8, 2001, the Governor of Washington signed EHB 2247, which requires each electric utility that serves more than 25,000 (including investor-owned and consumer-owned utilities) to offer customers the option to purchase power generated from renewable sources - defined as produced by wind, solar, geothermal, landfill gas, wave or tidal action, wastewater treatment gas, some biomass and "qualified hydropower" that is fish-friendly.

Beginning January 1, 2002, each electric utility in Washington must provide (four times a year) a voluntary option to its electricity customers to purchase renewable energy resources. The details of each utility's options must be approved and annual reports submitted from October 1, 2002 to October 1, 2012. A report summarizing the utility reports will be provided each year to the legislature.

The Washington Utilities and Transportation Commission oversees the investor-owned utilities. For information on the green power offerings of a particular utility, contact the utility directly.

**Source:** http://www.dsireusa.org/

### *Tax Exemption for Wind Energy Generation*

**Incentive Type:** Corporate Exemption
**Policy Level:** State
**Province/Territory/State:** West Virginia

**Eligible Renewable / Other Technologies:** Wind
**Applicable Sectors:** Utility
**Summary:** West Virginia enacted legislation in May 2001 lowering the Business and Operation Tax (B&O) on utilities using wind-power generation. For most types of electricity-generating units, the B&O tax is 40% of the generating capacity of the unit. However, the B&O tax on a wind turbine is 5% of the generating capacity of the turbine.

**Source:** http://www.dsireusa.org/

### *Special Assessment for Wind Energy Systems*

**Incentive Type:** Property Tax Assessment
**Policy Level:** State
**Province/Territory/State:** West Virginia

**Eligible Renewable / Other Technologies:** Wind
**Applicable Sectors:** Utility
**Summary:**
West Virginia enacted legislation in May 2001 lowering the property tax on utility-owned wind turbines from 100% to 5% of assessed value. This change took effect in July 2001.

**Source:** http://www.dsireusa.org/

### *Biobased Industry Opportunity (BIO) Grant Program*

**Incentive Type:** State Grant Program
**Policy Level:** State
**Province/Territory/State:** Wisconsin

**Eligible Renewable / Other Technologies:** Biomass, Renewable Transportation Fuels
**Applicable Sectors:** Commercial, Residential, Nonprofit, Agricultural
**Summary:** Wisconsin's Biobased Industry Opportunity (BIO) grant program offers funding to individuals, groups, businesses and organizations to support certain biomass projects, including

projects that generate energy or fuels by using biomass resources. This program took effect in December 2005.

The program will award a total of $700,000, a sum appropriated in 2005. The maximum project award is $150,000. A minimum cost share of 50% is required. Priority will be given to projects that can demonstrate near-term commercial production of energy or fuels, or that reduce reliance on non-renewable feedstocks.

Examples of eligible projects include the development of:
– New ways to generate usable forms of energy or fuels;
– New biobased products, including new fibers and other biobased materials;
– New technologies that enhance commercial viability of biobased business; or
– New systems that transform waste streams into energy or biobased products.

The request for proposals (RFP) is available on the program web site. Proposals must be received by the Wisconsin Division of Agricultural Development by 5:00 p.m. on March 1, 2006. The target date for award announcements is June 1, 2006.

**Source:** http://www.dsireusa.org/

### *Solar and Wind Access Laws*

**Incentive Type:** Solar and Wind Access Law
**Policy Level:** State
**Province/Territory/State:** Wisconsin

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics, Wind
**Applicable Sectors:** Industrial, Commercial, Residential, Fed_Govt, Nonprofit, Local, Schools, State_Sector
**Summary:** Wisconsin allows property owners with wind-energy systems or solar-energy systems to apply for permits guaranteeing unobstructed access to wind or solar resources. A permit may not be granted if an obstruction already exists or if the construction of such an obstruction is already well into the planning stages. In addition, any restrictions on platted land that prevent or unduly restrict the construction and operation of solar-energy systems or wind-energy systems are voided and prohibited.

**Source:** http://www.dsireusa.org/

### *Wisconsin - Net Metering*

**Incentive Type:** Net Metering Rules
**Policy Level:** State
**Province/Territory/State:** Wisconsin

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Hydro, Geothermal Electric, Municipal Solid Waste, Cogeneration
**Applicable Sectors:** Industrial, Commercial, Residential
**Summary:** The Wisconsin Public Service Commission of Wisconsin (PSC) authorized net metering for customer-owned systems with a maximum capacity of 20 kilowatts (kW) under terms of Order 6690-UR-107, issued December 29, 1992, and effective January 1, 1993. The order applies to all utilities under the jurisdiction of PSC. All distributed-generation systems, including renewables and combined heat and power (CHP), are eligible. There is no limit on total enrollment.

Utilities pay customer-generators the retail rate for net excess generation (NEG) from renewable-energy facilities. Customer-generators producing energy from non-renewable resources receive the avoided-cost rate for NEG.

**Source:** http://www.dsireusa.org/

### *Public Benefits Fund*

**Incentive Type:** Public Benefits Fund
**Policy Level:** State
**Province/Territory/State:** Wisconsin

**Eligible Renewable / Other Technologies:** Active Water Heat, Photovoltaics, Wind, Biomass
**Applicable Sectors:** Government
**Summary:** In October 1999 Wisconsin became the second state to establish a public benefits fund without deregulating its electric utility industry. (The only other state to create an explicit public benefits fund prior to restructuring is Vermont.) Wisconsin's public benefits fund supports grants for low-income programs, energy-efficiency services and renewable-energy projects.

The fund is administered by the Wisconsin Department of Administration (DOA) and encompasses two distinct delivery areas: the Focus on Energy program and the Home Energy Plus program. The Focus on Energy program provides energy efficiency and renewable-energy information, technical assistance and other services to residents, businesses, institutions and local governments. The Home Energy Plus program provides weatherization and bill-payment assistance to households with incomes at or below 150% of the federal poverty level.

These programs are supported by (1) funds that investor-owned utilities collect through rates established by the Wisconsin Public Service Commission, (2) a fee added to electric bills beginning in October 2000 that participating utilities collect and remit to the state, (3) funds contributed by participating municipal utilities and electric cooperatives, (4) federal funds for low-income energy assistance and weatherization programs, and (5) voluntary contributions.

In Fiscal Year 2005, Wisconsin's public benefits fund received $121 million in ratepayer funds, voluntary contributions and interest earned. Of this total, $62.8 million was collected for energy-efficiency programs and $58.2 million was collected for home energy-assistance programs. (However, approximately $29.5 million of the energy-efficiency allocation was redirected toward shared revenue and tax relief.) Funding for renewable energy is set by statute at 4.5% of annual public benefits energy efficiency revenue.

Focus on Energy offers funding for renewables in the form of grants, rebates and loans. In Fiscal Year 2005, the program was administered by the Wisconsin Energy Conservation Corporation and operated with assistance from the Wisconsin Renewable Energy Network. Wisconsin's PBF supports photovoltaics (solar-electric systems), commercial solar water-heating systems, wind energy (mostly commercial), on-farm biogas-energy systems and commercial biomass heating.

**Source:** http://www.dsireusa.org/

### *Focus on Energy - Cash-Back Reward*

**Incentive Type:** State Rebate Program
**Policy Level:** State
**Province/Territory/State:** Wisconsin

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Photovoltaics, Wind
**Applicable Sectors:** Industrial, Commercial, Residential, Nonprofit, Local, Schools, Tribal_Govt

**Summary:** Focus on Energy offers Cash-Back Rewards for installing or expanding renewable-energy systems on businesses and homes. Payments are based on the estimated amount of electricity or thermal energy produced annually by an eligible system. Eligible non-residential projects include wind, photovoltaics (PV), solar hot water and solar space heating.* Eligible residential systems include wind, PV and solar hot water. The following “maximum” incentives and system capacities apply:

Non-Residential
– Wind-energy systems (20 kW or less): 25% of project cost or $35,000.
– PV systems (minimum system size of 500 watts; maximum 20 kW): 35% of project cost or $35,000. “(Awards are higher for systems installed by NABCEP-certified installers.)”
– Solar hot water systems and solar space-heating systems (5,000 or fewer therms per year): 25% of project cost or $35,000.*

Residential
– Wind energy systems (20 kW or less): 25% of project cost or $35,000.
– PV systems (minimum system size of 500 watts; maximum 20 kW): 25% of project cost or $35,000. “(Awards are higher for systems installed by NABCEP-certified installers as compared to systems installed by individuals or non-NABCEP-certified installers.)”
– Solar hot-water systems: 30% of project cost or $3,000 for single-family homes; 30% or $30,000 for multi-family buildings with four or more units.

Customers must be located in the service territory of a participating electric provider or natural gas provider. Renewable-energy systems must be installed on the property of an eligible customer. Use the following links for applications for Cash-Back Rewards:
– Non-residential systems application
– Residential systems application

Focus on Energy also offers a site-assessment program for residents and businesses. This program provides prospective renewable-energy system owners with site-specific information on how a solar-energy or wind-energy system could meet the owner's energy needs. A site assessment is encouraged for projects seeking Cash-Back Rewards; it is required when applying for a reward for wind-energy systems. A residential renewable-energy site assessment typically costs $300 to $400. Homeowners located in the Focus on Energy territory can receive this service for only 25% of the cost, while Focus on Energy pays the remaining 75%. Likewise, Focus on Energy will pay up to $300 for a business renewable-energy site assessment, which typically costs $500-$600.

Call Focus on Energy at (800) 762-7077 for information regarding installation contractors, site assessments, application forms and other issues related to Cash-Back Rewards.

Focus on Energy is a public-private partnership offering energy information and services to residential, business, and industrial customers throughout Wisconsin. These services are delivered by a group of firms contracted by the Wisconsin Department of Administration's Division of Energy. The goals of this program are to encourage energy efficiency and use of renewable energy, enhance the environment, and ensure the future supply of energy for Wisconsin.

* Solar space-heating systems are eligible only if the system also heats water.

**Source:** http://www.dsireusa.org/

### *Focus on Energy - Zero-Interest Loans*

**Incentive Type:** State Loan Program
**Policy Level:** State

**Province/Territory/State:** Wisconsin

**Eligible Renewable / Other Technologies:** Active Water Heat, Photovoltaics, Wind
**Applicable Sectors:** Residential
**Summary:** Focus on Energy offers zero-interest loans to finance renewable-energy projects at existing owner-occupied single-family and duplex homes. Eligible technologies include photovoltaics (PV), solar hot-water systems and wind-energy systems. Homeowners may borrow $2,500 - $20,000 at 0% interest for up to 10 years. Applicants may be asked to verify income when loans exceed $4,000. Systems must be installed by a participating contractor.

Applications for 0% loans are available on the program web site. Renewable-energy systems must be installed on the property of an eligible customer, and the property must be located in the service territory of a participating electric or natural gas provider. Funds are limited and will be available only on a first-come, first-served basis.

Focus on Energy is a public-private partnership offering energy information and services to residential, business and industrial customers throughout Wisconsin. These services are delivered by a group of firms contracted by the Wisconsin Department of Administration's Division of Energy. This program seeks to encourage energy efficiency and the use of renewable energy, enhance the environment and ensure the future supply of energy for Wisconsin.

**Source:** http://www.dsireusa.org/

### *Solar and Wind Energy Equipment Exemption*

**Incentive Type:** Property Tax Exemption
**Policy Level:** State
**Province/Territory/State:** Wisconsin

**Eligible Renewable / Other Technologies:** Passive Solar, Active Space Heat, Active Water Heat, Solar Thermal Electric, Photovoltaics, Wind
**Applicable Sectors:** Industrial, Commercial, Residential
**Summary:** In Wisconsin, any value added by a solar-energy system or a wind-energy system is exempt from general property taxes. A solar-energy system is defined as "equipment which directly converts and then transfers or stores solar energy into usable forms of thermal or electrical energy, but does not include equipment or components that would be present as part of a conventional energy system or a system that operates without mechanical means." A wind-energy system is defined as "equipment which converts and then transfers or stores energy from the wind into usable forms of energy, but does not include equipment or components that would be present as part of a conventional energy system."

**Source:** http://www.dsireusa.org/

### *Renewable Portfolio Standard*

**Incentive Type:** Renewables Portfolio Standard
**Policy Level:** State
**Province/Territory/State:** Wisconsin

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Landfill Gas, Hydro, Geothermal Electric
**Applicable Sectors:** IOU, Coop
**Summary:** In October 1999, Wisconsin became the first state to enact a renewable portfolio standard (RPS) before restructuring its electric-utility industry. The schedule of the percentage of renewables required and compliance dates is as follows:
– 0.50% by 12/31/2001
– 0.85% by 12/31/2003

– 1.20% by 12/31/2005
– 1.55% by 12/31/2007
– 1.90% by 12/31/2009
– 2.20% by 12/31/2011

Qualifying renewables include fuel cells that use renewable fuels, tidal or wave action, solar thermal-electric and photovoltaics, wind power, geothermal-electric, biomass (including landfill gas), and hydropower (less than 60 megawatts). The standard applies to investor-owned utilities and rural electric cooperatives.

A credit-trading program for renewable energy has been established, enabling utilities to buy and sell from one another "renewable resource credits" (RRCs)* for any electricity generated in excess of the percentage specified for a given year. Credits also may be used in subsequent years. The credit-trading system is administered by the Wisconsin Public Service Commission (PSC); the rules are stated in Chapter 118 of the Wisconsin Administrative Code. Violation of the RPS or misleading certification of renewable resources may result in penalties of up to $500,000.

* These credits are known as "renewable energy credits" (RECs) in most other states.

**Source:** http://www.dsireusa.org/

### *Interconnection Standards*

**Incentive Type:** Interconnection
**Policy Level:** State
**Province/Territory/State:** Wisconsin

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Other DG, Biomass, Landfill Gas, Hydro, Geothermal Electric, Municipal Solid Waste, Cogeneration, Fuel Cells
**Applicable Sectors:** Industrial, Commercial, Residential, Fed_Govt, Nonprofit, Local, Schools, State_Sector
**Summary:** Wisconsin's interconnection standards, which cover all distributed generation (DG) facilities 15 MW and under, became law in February 2004. A collaborative group headed by RENEW Wisconsin worked with the Wisconsin Public Service Commission (PSC) to develop these rules (PSC 119), along with a set of accompanying interconnection guidelines. These rules categorize DG systems by capacity as follows:
– Category 1: 20 kW or less
– Category 2: Greater than 20 kW to 200 kW
– Category 3: Greater than 200 kW to 1 MW
– Category 4: Greater than 1 MW to 15 MW

Generally speaking, Wisconsin's interconnection requirements become more stringent as the system size increases. The new rules apply to all public utilities. The 20 kW dividing line between Category 1 and Category 2 installations corresponds to the maximum individual system capacity allowed under the state's net-metering rules. Systems that qualify for net metering are not considered commercial ventures that require commercial liability insurance.

Additionally, the PSC has published standardized application forms for interconnection. The two forms—PSC Form 6027 for Category 1 facilities, and PSC Form 6028 for Category 2, 3 and 4 facilities—are available at <http://www.wisconsindr.org/>. Interconnection application fees and insurance requirements vary by category.

Significantly, Wisconsin is the first state with interconnection rules that specifically list among acceptable system installers those who are certified by the North American Board of Certified Energy Practitioners (NABCEP).

**Source:** http://www.dsireusa.org/

### *Focus on Energy - Grant Programs*

**Incentive Type:** State Grant Program
**Policy Level:** State
**Province/Territory/State:** Wisconsin

**Eligible Renewable / Other Technologies:** Active Space Heat, Active Water Heat, Photovoltaics, Wind, Biomass, Landfill Gas, Hydro
**Applicable Sectors:** Industrial, Commercial, Residential, Nonprofit, Local, Tribal_Govt, Institutional
**Summary:** Wisconsin Focus on Energy offers several grant programs to support the development of renewable energy. Grant recipients and projects must be located in a participating utility's service territory. Projects should be completed within one year. Collaboration or partnerships with non-eligible entities are allowed, but the grant must be paid to an eligible entity. Grants may support off-grid renewable-energy systems. The following types of grants are currently available:

Business & Marketing Grants
Business & Marketing Grants provide financial support for developing business skills and marketing materials for organizations and businesses that provide renewable-energy services. Grants will be awarded to help renewable-energy businesses and organizations develop business plans, gain market recognition, understand their market better, train employees, gain certification and perform other related activities. Up to 50% of project costs will be funded, with a maximum grant of $10,000.

Feasibility Study Grants
Feasibility Study Grants provide financial support for assessing the feasibility of using complex, customer-sited renewable-energy systems. These grants are designed to increase the ability of businesses and organizations to make informed decisions about using renewable-energy systems by understanding and solving technical uncertainties. Up to 50% of project costs will be funded, with a maximum grant of $10,000.

Implementation Grants
Implementation Grants provide financial support for large renewable-energy projects (greater than 20 kilowatts or 5,000 therms per year). Wind-energy systems and biomass-electric systems are eligible for grants of up to 35% of project costs, with a maximum grant of $45,000. Nonresidential wood-burning systems, photovoltaic systems, solar water-heating systems and solar space-heating systems are eligible for grants of up to 25% of project costs, with a maximum award of $35,000. (Solar space-heating systems are eligible only if the system also heats water.) Implementation Grants for bioenergy systems that produce both electricity and utilized thermal energy (non-parasitic energy) could receive up to 30% of project costs, with a maximum grant of $80,000. (Biomass systems must meet specific environmental standards.) Grant amounts are based on an estimate of the annual number of kilowatt-hours generated, or thermal energy saved or utilized.

Special Equipment Grants for Nonprofits
Educational nonprofits are eligible for grants of up to 50% of project costs, with a maximum grant of $65,000, to install wind turbines with a capacity greater than one kilowatt. Grant amounts are based on an estimate of the annual number of kilowatt-hours generated.

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of Energy. The goals of this program are to encourage energy efficiency and the use of renewable energy, enhance the environment, and ensure the future supply of energy for Wisconsin.

**Source:** http://www.dsireusa.org/

### *Photovoltaic Incentive Program*

**Incentive Type:** State Rebate Program
**Policy Level:** State
**Province/Territory/State:** Wyoming

**Eligible Renewable / Other Technologies:** Photovoltaics, Photovoltaics as part of a hybrid system
**Applicable Sectors:** Residential
**Summary:** Wyoming's Photovoltaic Incentive Program offers grants of $3,000 or 50%, whichever is less, to residents who install photovoltaic or photovoltaic hybrid systems on their homes. As of June 2005, approximately 115 systems have been installed through the program, which began in July 1996. The program is administered by the Energy Section of the Energy, Minerals and Transportation Division of the Wyoming Business Council (WBC). The WBC funds the program with DOE formula grant money (renewed annually). In 2004, the addition of Stripper Well monies increased the number of participants the program could serve. Expecting to maintain the annual program budget of $75,000, the WBC now provides incentives to 25 PV installations each year.

Both grid-connected and off-grid systems are eligible. Program requirements include an application, a copy of the equipment invoice, pictures of the installation, and quarterly reports on the system during the first year of operation.

**Source:** http://www.dsireusa.org/

### *Interconnection Standards*

**Incentive Type:** Interconnection
**Policy Level:** State
**Province/Territory/State:** Wyoming

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Hydro
**Applicable Sectors:** Industrial, Commercial, Residential
**Summary:** Wyoming's net metering law includes basic interconnection requirements for systems generating up to 25 kW of solar, wind, or hydropower, but the Wyoming Public Service Commission has not established separate interconnection rules, per se. There is no limit on overall enrollment specified within the law. Systems must comply with the National Electrical Code (NEC), Institute of Electrical and Electronic Engineers (IEEE), and Underwriters Laboratories (UL) safety and equipment standards. Customers must install an external disconnect switch at their own expense. Wyoming's Public Service Commission may make additional control and testing requirements. Additional liability insurance is not required.

PacifiCorp (Pacific Power and Light) has developed a two-page interconnection agreement for net metering customers. Click here for PacifiCorp's net metering tariff, schedule 135.

Wyoming's Public Service Commission staff is discussing the development of standard interconnection rules for larger distributed generation systems.

**Source:** http://www.dsireusa.org/

### *Wyoming - Net Metering*

**Incentive Type:** Net Metering Rules
**Policy Level:** State
**Province/Territory/State:** Wyoming

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Hydro
**Applicable Sectors:** Industrial, Commercial, Residential
**Summary:** House Bill 195, signed into law on February 22, 2001, established statewide net metering effective July 1, 2001. The rule applies to investor-owned utilities and rural electric cooperatives, and with the passage of Senate File 106 in 2003, to municipal utilities. Eligible technologies under the 2001 legislation include solar, wind and hydropower systems up to 25 kW, with the addition of biomass in 2003.

System owners must install a manual, lockable external disconnect switch. Systems must meet IEEE and UL standards and may not be subject to additional interconnection requirements. Net excess generation is credited to the following month. When an annual period ends, a utility will purchase unused credits at the utility's avoided-cost rate.

PacifiCorp (Pacific Power and Light) has developed a two-page interconnection agreement for net metering customers. Click here for PacifiCorp's net metering tariff, schedule 135.

**Source:** http://www.dsireusa.org/

### *Renewable Energy Sales Tax Exemption*

**Incentive Type:** Sales Tax Exemption
**Policy Level:** State
**Province/Territory/State:** Wyoming

**Eligible Renewable / Other Technologies:** Solar Thermal Electric, Photovoltaics, Wind, Biomass, Landfill Gas, Hydro, Geothermal Electric
**Applicable Sectors:** Industrial, Commercial, Utility, Projects Tied to an Existing Transmission Grid
**Summary:**
In 2003, under HB 188, the Wyoming legislature added sales of equipment used to generate electricity from renewable resources to the list of types of sales or leases which are exempt from the state excise tax. The exemption is limited to the acquisition of equipment used in a project to make it operational up to the point of interconnection with an existing transmission grid. Equipment eligible for the exemption includes wind turbines, generating equipment, control and monitoring systems, power lines, substation equipment, lighting, fencing, pipes and other equipment for locating power lines and poles. Equipment not eligible for the exemption includes tools and other equipment used in construction of a new facility, contracted services required for construction and routine maintenance activities and equipment utilized or acquired after the project is operational. This exemption will be repealed on June 30, 2008.

Wyoming interprets its sales tax exemption statutes narrowly. If there are questions as to whether equipment qualifies for exemption, written inquiries for determinations are encouraged.

**Source:** http://www.dsireusa.org/