Comments of the Union of Concerned Scientists

to the

Commission for Environmental Cooperation

In response to its "NAFTA Provisions and the Electricity Sector" Background Paper to its

October 22, 2001, Working Paper Entitled

"Environmental Challenges and Opportunities of the Evolving North American Electricity Market"

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January 31, 2002

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Introduction

Conserving the world's exhaustible resources while maintaining and increasing the quality of life has long challenged the world's policy makers. A recently developed policy, the "renewables portfolio standard" ("RPS"), seeks to promote this goal in a manner that relies on competitive markets. The RPS, briefly put, is an obligation on each retail seller of electricity to include in its resource portfolio a certain amount of electricity from a defined group of renewable energy resources. The policy often enables retailers to "trade" their obligation; that is, instead of maintaining renewable energy in their own energy portfolios, retailers are allowed to purchase tradable credits that demonstrate that someone else has generated the required amount of renewable energy.

U.S. state RPS laws have adapted effectively the prior practice of regulating utility resource acquisitions to the competitive electricity market (see, e.g., Maine PUC, 1998; NARUC, 2001). Because the historical practice, known as Integrated Resource Planning ("IRP"), was often considered incompatible with greater competition, the RPS enables the achievement of IRP goals in a market context.

Over the last five years, seven states in the United States have enacted statewide RPS statutes with a tradable feature and five other states have similar renewable energy standards. RPS proposals are pending in many other states and in Congress as well.

On October 22, 2001, the North American Commission for Environmental Cooperation (CEC) issued a Working Paper entitled "Environmental Challenges and Opportunities of the Evolving North American Electricity Market." The Working Paper discussed, among other things, concerns that U.S. state RPS laws might violate the North American Free Trade Agreement ("NAFTA"). As partial support for these concerns, the Working Paper cited a legal analysis it had commissioned (Horlick, 2001) ("hereinafter cited as the "Horlick paper").

The present paper responds to these concerns.

Part I describes the values of emphasizing renewable energy resources, and how those values are consistent with NAFTA.

Part II responds to specific concerns that RPS statutes might violate NAFTA.

Part III explains why one proposed resolution of the NAFTA concerns -- the imposition of an identical definition of RPS-eligible renewables throughout North America, would render RPS statutes ineffective.

I. RPS Statutes Promote Values Long Recognized in International Trade Law

A. Values of emphasizing renewable sources

Renewable energy resources benefit consumers and society. These values are cited in the preambles to a variety of state RPS statutes.[1] Prominent among these values are four:[2]

Environment: Renewable energy resources are recognized to have relatively low impacts on the environment. Compared with fossil fuel and nuclear plants, most renewable energy resources have modest environmental impacts in many or all of the following areas: air pollution, climate change, degradation of land and water, water use, wildlife impacts, and radioactive wastes. (See, e.g., CEC, 1999; Serchuck, 2000).

Conservation of exhaustible resources: The increased use of renewable resources necessarily reduces dependence on exhaustible resources. In the case of renewable energy resources, these exhaustible resources include finite stocks of fossil fuels, the finite ability of the Earth's atmosphere to absorb carbon dioxide (CO2) emissions while maintaining a stable climate, and finite clean air resources.

Resource diversity benefits: Conserving exhaustible resources by increasing the use of renewable energy resources increases the diversity of energy supplies. This diversity increases price stability, improves electrical system reliability, and promotes competition:

X Renewables contribute to price stability because of the tempering effect of fixed-cost resources in an electric system that relies heavily on variable-cost fuels.

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[1] See, e.g., Maine, Public Law 1999, ch. 398, sec. 3210 ("to ensure an adequate and reliable supply of electricity for Maine residents … to diversify electricity production on which residents of this State rely"); New Jersey, Subchapter 8, N.J.A.C. 14:4-8 ("encourage the development of renewable sources of electricity and new, cleaner generation technology; minimize the environmental impact of emissions from electric generation; reduce possible transport of emissions and minimize any adverse environmental impact from deregulation of energy generation"); Texas, Substantive Rule Section 25.173 ("reduce air pollution in Texas that is associated with the generation of electricity using fossil fuels; … respond to customer preferences that place a high value on environmental quality and reflect a willingness to pay a higher price for "clean" energy acquired from renewable resources"); California, Senate Bill 532 (2001, pending) ("Improves the resource diversity in the electricity market that serves the state, and increases the reliability of the state's electricity system.").

[2] This section draws from NARUC, 2001. See that report for further discussion on these points.

X Renewables improve system reliability by reducing the number of power plants that a single adverse event will affect similarly.

X Renewables promote competition among different types of fuels[3], and among retailers that utilize different types of fuels. For example, if some retailers have a significant fraction of renewable energy under contract at fixed prices, it will add competitive pressure on retailers who rely on gas and coal, and their fuel suppliers, to keep their prices down.

Technology advancement benefits: Promoting renewable resources simultaneously advances the associated technologies, lowering their costs and increasing their energy-conversion efficiencies. Technology advancement will, in the long run, allow society cost-effective access to new sources of energy on a large scale, and displace traditional resources and their associated environmental and economic risks.

B. Consistency of these values with international trade law

Both NAFTA and the General Agreement on Tariffs and Trade (GATT) establish the principle that nations should protect the environment and conserve resources. For example:

- GATT 1994, Article XX, allows exceptions to other GATT requirements for measures "necessary to protect human, animal or plant life or health" (Article XX(b)); and for nondiscriminatory measures "relating to the conservation of exhaustible natural resources" (Article XX(g)).

- NAFTA Article 104 emphasizes the importance of pre-existing environmental agreements. NAFTA Articles 904:1 and 904:2 emphasize the importance of "protection of human, animal or plant life or health, the environment or consumers."

RPS statutes further these goals. As discussed in Part II below, existing international trade law precedent, as applied to RPS statutes, does not support the conclusion that in the area of RPS statutes, these principles must give way to exporters seeking to increase use of exhaustible resources.

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[3] A U.S. Energy Information Administration analysis found that "Lower use of natural gas in the electricity sector when a 20-percent RPS is assumed is projected to cause average wellhead prices for natural gas to be 7 percent lower in 2010 and 17 percent lower in 2020." (EIA, 2001)

II. International Trade Law Precedent Does not Support a Conclusion that RPS Statutes Violate NAFTA

Arguments have arisen that RPS statutes violate NAFTA. These arguments fall under three categories:

1. the "national treatment" requirement;

2. the unavailability of an exception to the "national treatment" requirement; and

3. standard-related measures.

In each of these three categories, existing precedents do not support a conclusion that the RPS statutes are invalid.

A. The "National Treatment" Requirement

1. Introduction

Article 301:1 of NAFTA imposes on the NAFTA signatories an obligation of "national treatment" as established by the General Agreement on Tariffs and Trade.[4]

This principle requires, as explained in NAFTA Article 301:2, that "with respect to a state or province, treatment no less favorable than the most favorable treatment accorded by such state or province to any like, directly competitive or substitutable goods, as the case may be, of the Party of which it forms a part."

Furthermore, Article III:1 of GATT (1994) provides:

> 1. The contracting parties recognize that internal taxes and other internal charges, and laws, regulations and requirements affecting the internal sale, offering for sale, purchase, transportation, distribution or use of products, and internal quantitative regulations requiring the mixture, processing or use of

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[4] Article 301: National Treatment

> 1. Each Party shall accord national treatment to the goods of another Party in accordance with Article III of the General Agreement on Tariffs and Trade (GATT), including its interpretative notes, and to this end Article III of the GATT and its interpretative notes, or any equivalent provision of a successor agreement to which all Parties are party, are incorporated into and made part of this Agreement.

> products in specified amounts or proportions, should not be applied to imported or domestic products so as to afford protection to domestic production.

And Article III:4 of GATT (1994) provides:

> 4. The products of the territory of any contracting party imported into the territory of any other contracting party shall be accorded treatment no less favourable than that accorded to like products of national origin in respect of all laws, regulations and requirements affecting their internal sale, offering for sale, purchase, transportation, distribution or use. The provisions of this paragraph shall not prevent the application of differential internal transportation charges which are based exclusively on the economic operation of the means of transport and not on the nationality of the product.

Finally Article 606 of NAFTA applies the "national treatment" principle to "energy regulatory measures."

This section addresses three arguments that RPS statutes violate this national treatment requirement.

2. The "like product" analysis and its relationship to "processes and production methods"

a. Overview

Some have argued that the RPS concept is a "processes and production methods" (PPM) trade measure and therefore vulnerable under NAFTA. The argument, as we understand it, goes as follows:

1. There are two types of PPM: "product-related PPM," in which the product harms the environment through its consumption or use; and "non-product-related PPM," in which the product harms the environment through its production but not through its consumption or use.

2. The RPS is a non-product-related PPM because it restricts use based on the manner in which the electricity is produced.

3. The RPS is a non-product-related PPM because "the fact that renewable resources were used in the process … is not a perceptible characteristic of the resulting end product" (Horlick paper at 9); and because all electricity, when consumed, has the same effect whether it originates from renewable or non-renewable sources.

4. Referring to the required treatment for "like … goods" (Article 301(2) of NAFTA) and "like products" (Article III:4 of GATT (1994)), because electricity from renewable and nonrenewable sources have the same effect, "imported electricity generated with a renewable resource not included in a State's renewable resources portfolio is 'like' electricity produced by a domestic producer within the renewables definition of the State….Domestic and imported electricity from renewable resources therefore need to be given the same treatment under Article 301 and 606 of NAFTA and Article III:4 of the GATT 1994." (Horlick paper at 9).

There are several problems with this reasoning, as discussed next.

b. The PPM Analysis incorrectly characterizes electricity as a commodity, focusing only on environmental damage and not on other RPS benefits

Underlying the foregoing reasoning is an unstated premise: all electricity is a commodity. As a commodity, there is a no difference to the customer, or to the RPS states, whether the product comes from renewable or non-renewable sources.

This premise is incorrect. In the minds of policy makers and consumers, renewable power is different from nonrenewable power, at the point of consumption, for at least the following reasons:

Fuel diversity as a means to reduce price volatility: Procuring electricity from different sources applies a "risk portfolio" approach to fuels price management, to avoid the volatility in the price of any one fuel source.

Fuel diversity as a means to increase reliability: A balanced mix of fuel sources reduces the risk that a single event, such as a fuel supply shortage, will affect a large portion of the portfolio serving customers.

Customer preference: There is clear evidence that some customers view renewable energy as a product distinct from nonrenewable energy. This evidence includes the branding by some electric suppliers of their power as renewable, and the willingness of some consumers to pay more for that product. (See, e.g., Farhar, 1999; Swezey and Bird, 2001; Wiser, Bolinger and Holt, 2000.) Customers are willing to pay more because they perceive renewably produced electricity to have positive economic, diversity, and environmental attributes.[5]

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[5] Recognizing that marketing the environmental benefits of electricity is a powerful advertising theme, the (U.S.) National Association of Attorneys General adopted environmental marketing guidelines for electricity (NAAG, 1999).

Because some customers view the products as nonsubstitutable, they should not be considered "like" for purposes of GATT.

These facts shield the RPS from the argument that electricity coming from renewable and nonrenewable sources "share[s] the same physical qualities." For example, the Horlick paper (at 9) states: "If an imported and domestic product share the same physical qualities, i.e., are 'like', the importing country cannot restrict or condition the internal offering for sale, purchase, transportation, distribution or use of imported products arguing that they must fulfill specific environmental standards."[6] The public's demand for renewables, as evidenced by the interest in diversity and the willingness to pay more for the product, demonstrates that the purchase decision has more dimensions than merely "physical" ones.

In short, the underlying error made by those applying the PPM analysis is to treat electric service as merely electric current. Doing so strips this product of all but its physical component, thereby channeling the "likeness" analysis into that one physical dimension. To the contrary: when customers buy electric service they do not think of themselves as buying electric current; they think of themselves as heating their showers and refrigerating their food at a stable, predictable price at a reasonable cost to the environment. This characteristic of electric service is evident among consumers but missed in a "physical-only" analysis.

Moreover, it appears that the emphasis on "physical qualities" is not consistent with the case law. The Asbestos decision cited above states as follows (emphasis added, footnotes omitted):

> 101.We turn to consideration of how a treaty interpreter should proceed in determining whether products are "like" under Article III:4 [of GATT 1994]. As in Article III:2, in this determination, "[n]o one approach will be appropriate for all cases." Rather, an assessment utilizing "an unavoidable element of individual, discretionary judgement" has to be made on a case-by-case basis. The Report of the Working Party on Border Tax Adjustments outlined an approach for analyzing "likeness" that has been followed and developed since by several panels and the Appellate Body. This approach has, in the main, consisted of employing four general criteria in analyzing "likeness": (i) the properties, nature and quality of the products; (ii) the end-uses of the products; (iii) consumers' tastes and habits - more comprehensively termed consumers' perceptions and behaviour - in respect of the products; and (iv) the tariff classification of the products. 74 We note that these four criteria comprise four categories of "characteristics" that the products involved might share: (i) the physical properties of the products; (ii) the extent to which the products are

[6] Horlick at 9, citing European Communities -- Measures Affecting Asbestos and Asbestos-Containing Products ("Asbestos"), WT/DS135/AB/R (adopted April 5, 2001)).

> capable of serving the same or similar end-uses; (iii) the extent to which consumers perceive and treat the products as alternative means of performing particular functions in order to satisfy a particular want or demand; and (iv) the international classification of the products for tariff purposes.

This passage makes clear that the "physical properties" of the products at issue is only one dimension of the "likeness" analysis. The passage also emphasizes that customer perception and treatment is of equal importance with physical features. If a customer perceives renewable energy as "performing particular functions" that nonrenewable energy does not perform, then this third member of the likeness quartet is not satisfied.[7] As explained in Part I.A above, customers and policymakers view renewable energy as playing a role distinct from nonrenewable energy in the areas of reliability and protection from price volatility. For example, a state ought to be able to prohibit its utilities from purchasing nuclear power, on the grounds that the future prices of such power is too uncertain. Otherwise a state could not protect its citizens, or itself, from high prices. The RPS plays a similar role, by reducing the volatility in the price of electric service coming to the state.

c. Where an RPS does not discriminate based on location, there is no vulnerability from the "like product" analysis under NAFTA or GATT.

While RPS statutes necessary distinguish among types of fuel used by the generator, they only rarely discriminate based on location of the generator.[8] The "national treatment" principle is concerned with the latter, not the former.

Thus the Asbestos case holds (emphasis added, footnotes omitted):

> 97. We have previously described the "general principle" articulated in Article III:1 [of GATT 1994] as follows:
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> > The broad and fundamental purpose of Article III is to avoid protectionism in the application of internal tax and regulatory measures. More specifically, the purpose of Article III "is to ensure that internal

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[7] The Horlick paper (at 9 n.28) states that the Asbestos opinion focused on the physical difference between the allowed and the banned products; e.g., the banned chrysotile asbestos fibers presented a health risk. That this particular case turned on physical difference does not eliminate the remaining three dimensions from the analysis.

[8] Some state RPS laws explicitly exclude renewable energy generated from out-of-state or non-U.S. sources. Such laws would likely violate the Commerce Clause of the U.S. Constitution, as well as NAFTA. This paper therefore addresses RPS laws that do not have this feature.

> measures 'not be applied to imported and domestic products so as to afford protection to domestic production'". Toward this end, Article III obliges Members of the WTO to provide equality of competitive conditions for imported products in relation to domestic products. Article III protects expectations not of any particular trade volume but rather of the equal competitive relationship between imported and domestic products. (quoting Appellate Body Report, Japan - Alcoholic Beverages (1996) at 109 and 110) (emphasis added).

98. As we have said, although this "general principle" is not explicitly invoked in Article III:4, nevertheless, it "informs" that provision. Therefore, the term "like product" in Article III:4 must be interpreted to give proper scope and meaning to this principle. In short, there must be consonance between the objective pursued by Article III, as enunciated in the "general principle" articulated in Article III:1, and the interpretation of the specific expression of this principle in the text of Article III:4. This interpretation must, therefore, reflect that, in endeavouring to ensure "equality of competitive conditions", the "general principle" in Article III seeks to prevent Members from applying internal taxes and regulations in a manner which affects the competitive relationship, in the marketplace, between the domestic and imported products involved, "so as to afford protection to domestic production."

99. As products that are in a competitive relationship in the marketplace could be affected through treatment of imports "less favourable" than the treatment accorded to domestic products, it follows that the word "like" in Article III:4 is to be interpreted to apply to products that are in such a competitive relationship. …"

Thus the relevant comparison, in the "like" analysis, is not between renewable and nonrenewable products, but between domestic and imported products. There is no question that in the RPS concept, the distinctions among fuel types are just that: distinctions among fuel types, not distinctions between imported and domestic products. Excluded from the definition of renewables is U.S. coal along with Canadian and Mexican coal; U.S. nuclear along with Canadian and Mexican nuclear, U.S. large hydroelectric along with Canadian and Mexican large hydroelectricity, and so on. Consequently, under the Asbestos case there appears to be no GATT vulnerability:

> 100. … [A] Member may draw distinctions between products which have been found to be "like", without, for this reason alone, according to the group of "like" imported products "less favourable treatment" than that accorded to the group of "like" domestic products."

3. "De facto discrimination"

Some have argued that when a facially neutral statute falls differentially on different nations, the result is "de facto discrimination" which is inconsistent with the "national treatment" requirement of NAFTA and GATT (1994). Beginning with this legal premise, the argument then points to the RPS statutes' frequent exclusion of large hydroelectric plants, along with the large investment in such plants in Canada, and suggests that the RPS statutes violate NAFTA. The argument seems to be based on the following syllogism:

1. RPS statutes exclude large hydro.

2. Canada owns a lot of large hydro.

3. Therefore the RPS statutes discriminate against Canada.

This reasoning does not have a clear basis in law. [In fact, the Horlick paper's discussion of this point (from p.10 through the second paragraph on p.11) lacks any citation to any international trade legal authority.]

That a large percentage of Canadian hydro is excluded does not translate into de facto discrimination against Canada. It is hard to see how statutes that exclude coal, gas and nuclear power, which together make up over 80 percent of the United States' generation base, constitutes de facto discrimination against any other nation.[9] The purpose of GATT 1994 is not to protect expectations of particular trade volumes. Thus the correct question is whether the law discriminates against imports, not whether it has a differential effect on trade:

> [I]t is conceivable that a tax consistent with the national treatment principle (for instance, a high but non-discriminatory excise tax) has a more severe impact on the exports of other contracting parties than a tax that violates that principle (for instance a very low but discriminatory tax). The case before the panel illustrates this point: the United States could bring the tax on petroleum in conformity with Article III:2, first sentence, by raising the tax on domestic products, by lowering the tax on imported products or by fixing a new common tax rate for both imported and domestic products. Each of these solutions would have different trade results, and it is therefore logically not possible to determine the difference in trade impact between the present tax and one consistent with Article III:2, first sentence, and hence to determine the trade impact resulting from the non-observance of that provision.

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[9] Thus the statement in the Horlick paper at p.12 n.37, apparently describing RPS statutes as a scheme in which "the large majority of products discriminated against are foreign," lacks factual support.

United States - Taxes on Petroleum and Certain Imported Substances, BISD 34S/136, para. 5.1.9.

Assuming it were valid at all to base a national treatment discrimination argument on how the chips fall from a neutral statute, the appropriate approach would not be to single out a specific generating resource important to the complaining nation. The appropriate approach would be to determine, for both the enacting nation and the complaining nation, the ratio of excluded resources to total resources. If there was a serious difference in ratios, and that difference did not have its roots in a neutral and legitimate national policy, there would be a starting point for concern. Given the U.S.'s dependence on excluded sources, singling out large hydroelectricity is convenient, but it is not logical. Conversely, if the ratio of included resources to total resources for the complaining nation exceeds the similar ratio for the enacting jurisdiction, it would seem that a discrimination argument would have to fall short. The "resources" should include not only existing resources but also the technical potential to develop future resources economically.[10]

The "de facto" discrimination analysis thus heads down a slippery slope. Almost every statute or regulation will have a differential effect on different nations. To hold each nation's enactments to such a standard of neutral effect would lead to a permanent state of trade litigation, where every nation sought adjustments in the laws of other nations to wipe out the differential effect. Certainly one could imagine a statute that defines permitted products and excluded products so precisely, so strategically, as to constitute "arbitrary or unjustifiable discrimination" or "disguised restriction" forbidden by Article XX of GATT 1994. But U.S. statutes that exclude over 80 percent of the U.S.'s generation base hardly fit this mold.

A separate argument has been that excluding hydroelectric resources based on size will discourage U.S. electricity brokers from importing Canadian hydro because the brokers will "need to gather and administer information on the capacity of a plant." (Horlick paper at 11). These brokers will have to gather information on the size of U.S. plants as well. This U.S. information is readily available from the FERC Form Ones and other sources. There is no evidence that the information is not equally readily available in other countries. If other nations have chosen to keep generation size information secret, that fact is not reason to invalidate U.S. laws. Nor is there any evidence that, assuming there is a difference in fact-gathering costs, that such difference is competitively significant.

4. Licensing requirements

[10]Canada, for example, has excellent wind energy resources (wind is generally considered to be the least-cost of the non-hydro renewables). The technical potential for wind generation in Canada has been estimated at 37,000 TWh per year, more than 70 times its 1999 electricity consumption and more than double the US wind potential. Indeed, Quebec alone has about the same wind potential as the entire US, assuming moderate US siting restrictions. (Grubb and Meyer, 1993.)

Connecticut Law H.5005 requires that a hydro source, to qualify for the RPS, must have a license from FERC unless exempted, or must have been found by the Canadian Environmental Assessment Agency to be in compliance with that Agency's resource objectives. The Horlick paper (at 12) complains that such a state requirement could amount to de facto discrimination because "circumstances … may include that there are a limited number of large-scale hydropower producers in the State so that it would be certain that a Canadian producer intending to export would be mostly or exclusively subject to the licensing requirement."

Requiring a seller to demonstrate compliance with its governing laws is not discriminatory; it fulfills a common need: to protect the state's consumers from the risk of becoming dependent on a generating source which must shut down for lack of compliance.

Moreover, the suggestion that the requirement would somehow fall on Canadian sources only is not well-founded. Hydro projects in the U.S. generally need licenses from FERC.[11] If the Canadian licensing regime is somehow more extensive than the United States', that is cause to seek change in the Canadian regime, not eliminate Connecticut's scheme. The happenstance that there might be a limited number of licensed large-scale hydro sources in the state does not mean the state is discriminating against Canadian producers.

B. General Exceptions to the National Treatment Requirement

1. Introduction

[11] Generally, all non-federal hydro projects (i.e., private hydro projects as well as those owned or operated by states or municipalities) located within the United States must be licensed by the Federal Energy Regulatory Commission pursuant to Section 23(b) of the Federal Power Act, 16 U.S.C. sec. 817. Certain projects, i.e., small conduit hydro facilities smaller than 15 MW and small hydro projects smaller than 5 MW which otherwise must be licensed under Section 23(b) may apply for an exemption from FERC's licensing requirements under 16 U.S.C. 823a of the FPA and 18 C.F.R. sec. 4.90 (exemption of small conduit hydro facilities) and 18 C.F.R. sec. 4.103 (exemption of small hydro facilities). However, even those projects that qualify for an exemption remain subject to FERC's enforcement powers pursuant to Section 31 of the FPA, 16 U.S.C. sec. 823b.

In addition, there are a few categories of hydro projects to which the Section 23(b) FERC licensing requirements do not apply at all. For example, hydro projects constructed prior to 1935 and located on non-navigable waters do not need a FERC license; however, FERC's definition of navigability is so broad that as a practical matter only a handful of projects fall within this category. Moreover, as a practical matter these projects still remain subject to regulation by state and local environmental agencies. And Section 23(b) does not apply to federally owned hydro projects that do not require FERC licenses.

NAFTA Article 2101 provides that, with respect to trade in goods, Article XX of GATT applies. Article XX, General Exceptions, and subsection (g) thereof provide:

> "Subject to the requirement that such measures are not applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade, nothing in this Agreement shall be construed to prevent the adoption or enforcement by any contracting party of measures:
> …
> "(g) relating to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption;"

By requiring electricity sellers to substitute renewable for exhaustible resources, RPS laws "relat[e] to the conservation of exhaustible natural resources." This substitution of renewable for nonrenewable resources satisfies Article XX(g) for another reason: it conserves clean air, itself an "exhaustible natural resource." See United States - Standards for Reformulated and Conventional Gasoline WT/DS2/9 (20 May 1996) (adopting panel decision). Para. 6.37 of the panel decision states that "a policy to reduce the depletion of clean air was a policy to conserve a natural resource within the meaning of Article XX(g)."

The differentiation between renewable and nonrenewable resources, when applied evenhandedly without regard to the geographic origin of the resources, is neither "arbitrary or unjustifiable discrimination" nor a "disguised limitation on international trade." Where the same rules apply whether the producer is located inside or outside the state, it is "made effective in conjunction with restrictions on domestic production or consumption." Nonetheless, arguments have been made that should RPS violate the "national treatment" requirement (discussed in Part II.A above), the Article XX(g) exception would not be available. These arguments fall short.

2. Jurisdictional limitation

Some have argued that RPS states are acting extra-jurisdictionally, forcing citizens of other nations to alter their behavior when that behavior has no effect on the enacting states. There are two clear reasons why RPS laws do not violate a jurisdictional limit, if such a limit exists.

First, damage to air and water resources from the use of energy resources affects the RPS state. Air and water are exhaustible resources, and they are resources shared among nations. An RPS statute reduces reliance on energy products or processes that diminish

exhaustible air and water resources. Even where those energy products or process are located outside the state, a reduction in their use contributes to the improvement of air and water resources within the state.[12] As the Horlick paper points out (at 15), this reasoning has support in the Shrimp-Turtle decision. There the Appellate Body found that sea turtles are "highly migratory animals, passing in and out of waters subject to the rights of jurisdiction of various coastal states and the high seas." United States - Import Prohibition of Certain Shrimp and Shrimp Products, WT/DS58/AB/R, AB-1998-4, Para. 133. Furthermore, they "are known to occur in waters over which the United States exercises jurisdiction." Id. In "these specific circumstances," there was "sufficient nexus between the migratory and endangered marine populations involved and the United States for purposes of Article XX(g)." Id.

Second, to assert that limits on in-state use of exhaustible resources violates some jurisdictional limit misses the point of conservation, and the RPS' role therein. State RPS laws recognize the in-state effect from overuse of exhaustible resources. Few if any states are blessed with all the power resources they need within their states. Every state depends on resources produced elsewhere; and thus every state faces the risk that those out-of-state resources will be exhausted prematurely. RPS laws are aimed at conservation of resources; i.e., the saving of resources for a later date. The present depletion of resources located outside the state, which resources otherwise were expected to be available later within the state, is a direct concern of the state. The state, in addition, is not acting on out-of-state actors only; the state also is reducing the amount of exhaustible resources that its citizens may use.

Thus the argument that granting a GATT Article XX exception would permit one nation to force another nation's producers to change their practices within their own territory,

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[12] Substantial cross-border environmental impacts are associated with the generation of electricity. These impacts are related to emissions of sulfur oxides (SOx), nitrogen oxides (NOx), mercury and carbon dioxide (CO2). Electricity generation represents more than 30 percent of North American CO2 emissions, and its contribution is growing. (CEC, 1999)

Though hydropower facilities have some environmental benefits relative to fossil and nuclear resources -- namely, they do not produce some of the air emissions or wastes associated with other conventional power plants, states may exclude these facilities from benefiting from their RPS statutes because they have many complex and profound negative impacts on the environment. These impacts often extend beyond the immediate site, and often extend across borders. They include: altered downstream flows affecting aquatic ecosystems and biodiversity; alteration of the natural flood cycle on downstream floodplains; upstream and downstream impacts on fisheries; and cumulative impacts from a series of dams on a river system. (WCD, 2000; CEC, 1999.) In addition, all large dams and natural lakes in both Northern and tropical regions that have been measured emit greenhouse gases (carbon dioxide, methane, or sometimes both) (WCD, 2000). Greenhouse gas values range from one-tenth those of thermal options to emissions greater than thermal options. (WCD, 2000.)

"when the impact of these practices is limited to their national territory" (Horlick Paper at 15), does not connect well with the facts. The loss of clean air breathed by citizens of the enacting state, and the reduction in exhaustible resources on which such citizens depend, shows the in-state impact necessary to establish jurisdiction.

Since the argument acknowledges the theoretical possibility of in-state damage, the argument seems to boil down to a demand for proof, on an importer-by-importer basis. But in Shrimp-Turtle, it was not necessary to prove that the specific turtles dying at the hands of non-U.S. fishers necessarily would have made it to U.S. waters, in order to show that the turtles were an "exhaustible resource" for purposes of Article XX(g). It was enough to show a common water area, including U.S.-jurisdictional areas, in which the turtles moved. (However, the Appellate Body explicitly did not reach the larger question of "whether there is an implied jurisdictional limitation in Article XX(g), and if so, the nature or extent of that limitation.") Id. at para. 133.

3. Differences among the state policies

The Horlick paper (at 16) suggests that differences among RPS policies would make the Article XX(g) exception unavailable. Such differences, the argument goes, could produce "arbitrary or unjustifiable discrimination between countries where the same conditions prevail," forbidden by the "chapeau" in Article XX.

The reasoning appears to be as follows:

1. Assume that State A excludes from its "renewables" definition certain renewable fuel types, whereas State B does not exclude any renewable fuels.

2. A producer from a complaining nation would face, in its own nation, the "same conditions" as those which prevail in State B.

3. Since these "same conditions" prevail in part of the United States, we must impute these "same conditions" to the entire United States because the entire nation is a party to NAFTA and GATT.

4. But because the complaining nation faces exclusion of certain exports from State B, it therefore faces discrimination within the nation as a whole, on the grounds that differences within a nation, even if originating in different states, are imputed to the nation as a whole.

5. This discrimination is "arbitrary," in violation of the Article XX chapeau, because there is no rationale, other than differences in state policies, for the difference in treatment.

6. To avoid this status as "arbitrary," the differing states would have show that the "same conditions [did not] prevail," between the enacting states and the complaining nation, by taking into account not merely differences in commercial conditions but also ecological or environmental conditions, including "the state of diverse ecosystems, topographical factors, biodiversity, past and present pollution damages, changes in forest cover, changes in forest quality, land use change and myriad of other conditions." Id. at 17.

This reasoning does not seem to be supported by the language of Article 301:2 of NAFTA, which provides (emphasis added):

> 2. The provisions of paragraph 1 regarding national treatment shall mean, with respect to a state or province, treatment no less favorable than the most favorable treatment accorded by such state or province to any like, directly competitive or substitutable goods, as the case may be, of the Party of which it forms a part.

This language seems to anticipate, and authorize, differences in policies between states, provided there is no arbitrary discrimination in policies within each state. It thus argues directly against the imputation of inter-state differences to the United States as a whole.

Article XXIV.12 of GATT 1994, cited in the Horlick paper at 16, does not undermine this argument. That provision states (emphasis added):

> 12. Each contracting party shall take such reasonable measures as may be available to it to ensure observance of the provisions of this Agreement by the regional and local governments and authorities within its territories.

This language is very different from that of NAFTA 105, which states: "The Parties shall ensure that all necessary measures are taken in order to give effect to the provisions of this Agreement, including their observance, except as otherwise provided in this Agreement, by state and provincial governments." (emphasis added)

The difference is between "such reasonable measures as may be available" and "all necessary measures." For the United States to avoid any inter-state difference in RPS statutes would require the U.S. Congress to preempt all such state statutes. This action would not be a "reasonable measure," in light of the states' historic role in assuring electric reliability and protecting their retail electricity customers from excess electric prices.[13]

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[13] Arkansas Elec. Coop. Corp. v. Arkansas Public Serv. Comm'n, 461 U.S. 375, 377 (1983)(stating that "the regulation of utilities is one of the most important of the functions traditionally associated with the police power of the States").

4. Standard-related measures

Some have argued that if RPS statutes can be characterized as "standards-related measures" subject to Chapter 9 of NAFTA, they would have to meet a stricter standard than the nondiscrimination principles discussed above. The reasoning appears to be as follows:

1. Article 904:4 of NAFTA provides:

> 4. No Party may prepare, adopt, maintain or apply any standards-related measure with a view to or with the effect of creating an unnecessary obstacle to trade between the Parties. An unnecessary obstacle to trade shall not be deemed to be created where:
>
> (a) the demonstrable purpose of the measure is to achieve a legitimate objective; and
>
> (b) the measure does not operate to exclude goods of another Party that meet that legitimate objective.

2. Article 904:4 of NAFTA resembles Article 2:2 of the WTO Agreement on Technical Barriers to Trade ("the TBT Agreement"). The TBT Agreement provides, in turn, that "Members shall ensure that technical regulations are not prepared, adopted or applied with a view to or with the effect of creating unnecessary obstacles to international trade"; and that "technical regulations shall not be more trade restrictive than necessary to fulfill a legitimate objective."

3. Although the protection of the environment and the preservation of exhaustible resources may be "legitimate objective[s]," and although RPS laws do not exclude non-U.S. electricity meeting the objectives, the RPS laws might not be "necessary" because they are not the "least trade restrictive."

4. Evidence of the non-necessity of RPS laws is their variation among the states. Laws cannot be deemed to be necessary if they vary from each other.

For purposes of this discussion, we will assume, arguendo, that the "least restrictive" standard of the TBT Agreement would apply, without necessarily accepting this premise as correct.

The argument that variations among the RPS laws demonstrate their non-necessity is not logical, for several reasons. First, while the RPS laws have their differences, they have a

significant commonality: the establishment of an obligation to substitute renewable for exhaustible sources for a percentage of sales. This market-based approach is more efficient and more effective than subsidies. It is this common feature that satisfies the necessity tests.

Second, that some state RPS laws fall short of the ideal by, for example, including in the "renewable" category some sources that do cause environmental damage and do use exhaustible resources, does not negate the effectiveness of the aforedescribed common feature. To argue that necessity requires uniformity -- or, put another way, that weaknesses in some states' laws establish the non-necessity of other states' laws -- is to render all U.S. state RPS laws invalid on the simple grounds that some U.S. states have no RPS laws at all.

Third, imposing the type of uniformity sought by supporters of large hydroelectric facilities will render RPS laws ineffective. This result is explained in detail in Part III below.

III. Imposing on North America an Identical Definition of RPS-Eligible Renewables Would Render RPS Statutes Ineffective

The CEC's Working Paper suggests that "harmonizing" the definition of renewable energy in RPS measures would reduce the potential for a legal dispute under NAFTA (CEC, 2001, at p. 57). "Harmonization" is, in effect, the imposition of a fixed standard in each state and nation.

If RPS laws are challenged under NAFTA, one likely challenger will be a party or parties endowed with large-scale hydropower resources. (See, e.g., Hydro Quebec, 2000, at 7.) Therefore, if large hydro is not included in the new definition, RPS laws will remain vulnerable to challenge. On the other side are U.S. states and Canadian provinces that have carefully crafted their RPS laws and proposals to achieve their policy goals effectively and affordably.[14] This Part III explains why federal and sub-federal governments cannot craft effective, efficient RPS laws if they must include all hydropower resources, as well as all other categories of renewable energy resources.

A. Each State has Defined "Eligible Resources" to Achieve the RPS' Environmental, Conservation and Diversification Objectives Without Unnecessary Cost

No RPS law or proposal of which we are aware contains a definition of eligible renewable energy resources that includes the entire universe of such resources -- i.e., every

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[14] See, e.g., the January 21, 2002, RPS proposal of the Independent Power Producers' Society of Ontario, which would exclude most existing U.S. and Canadian hydropower, among other exclusions.

fuel and technology type, every existing renewable energy generator, and generators in every location. Rather, governments reduce the universe of available renewable resources to those resources that can help achieve their policy goals without unnecessary cost.

In this Part III.A, we discuss the various factors that play into RPS eligibility requirements. These factors include discerning between competitive and noncompetitive resources, and between generators that provide the desired benefits and those that do not.[15] Then in Part III.B, we explain how the imposition of a fixed, common definition of renewables would render these statutes unable to achieve the goals underlying these eligibility requirements.

1. Competitive vs. noncompetitive resources

In adopting RPS laws, states seek to create a market for resources that require financial support beyond that which is available in the general market. To allow entry to that market by resources that do not require such support, either to maintain or commence production, would provide no benefits while increasing costs. Seeking to maximize benefits and minimize costs, states have determined which resources require RPS support. The determination considers whether a facility is existing or new, and whether it is receiving financial support already.

Existing vs. New. Frequently, not every existing facility of a particular resource or technology type needs support to continue operating. In this situation, states can make eligibility decisions on a plant-by-plant basis, or exclude the entire group from eligibility.

Excluding from RPS eligibility an entire category of existing resources makes economic sense if the entire group (or most of it) does not require support to operate profitably over the long term. But if only a subset of existing facilities requires support, states determine whether the cost of including the entire group of existing facilities -- and raising the RPS percentage requirement to accommodate it -- would outweigh the benefits gained. Costs may outweigh benefits even when the at-risk subset is less costly than the new facilities that would replace them if they are not protected under the RPS.

Other forms of support. States also have looked at the types of support that particular projects already have. When existing resources are already receiving sufficient payments under existing utility contracts entered into under PURPA or under ratemaking policies, they do not require the support of an RPS. Likewise, new facilities whose above-market costs are being recovered through other policies of the state, neighboring states, or the federal government do not require additional support from the state's RPS.

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[15] This section draws from NARUC 2001. See that report for further discussion on these points.

2. Generators that provide the desired benefits vs. those that do not

As discussed in Part I above, renewable resources offer many benefits: various types of environmental benefits, conservation of exhaustible resources, greater electricity fuel source diversity, and technology advancement. In deciding which renewables will be eligible to satisfy the RPS, policy makers match their particular policy goals with the characteristics of different renewable resources, including their environmental characteristics, and whether the generator provides benefits to the population that will pay for the RPS policy.

Environmental benefits. If policy makers seek clean air benefits, they might exclude some types of waste incinerators based on evidence that such generators produce hazardous air emissions. Likewise, if they are seeking to reduce carbon dioxide emissions or improve river habitats, they may exclude some or all types of hydroelectric facilities.

Population-benefit nexus. Policy makers usually also impose eligibility requirements on renewable energy generators to ensure a connection between the population of the state and the environmental, fuel diversity, and other benefits that are produced by the generators seeking the benefits of the state's RPS. Some types of nexus requirements, such as in-state location requirements, raise U.S. Constitutional issues and might also create legitimate grounds for a dispute under NAFTA.[16]

But states can also impose nexus requirements that differentiate among resources in a way that is far less vulnerable to legal challenge. Namely, they can restrict eligibility to renewable generators, wherever located, that produce the desired benefits for the RPS state. Under this approach, the state would, for example, condition the eligibility of renewable energy generators upon a showing that the generator provides the desired environmental and fuel diversity benefits to the state.

Absent such a nexus restriction on renewable generators, there could be a mismatch between costs and benefits: the costs of the RPS are imposed within the state but some or all of the benefits flow to other states, which become free-riders on the first state's investment. For example, a retail seller in Maine might purchase renewable energy from a generator in California, producing few benefits for Maine while increasing the cost of retail service in Maine. A rational political actor representing rational voters will not support such a mismatch (See Engel, 1999, at 270-71).

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[16] For further discussion of the U.S. Constitutional issues, see NARUC 2001, Chapter Three.

In short, a state's exclusion of specific resources, such as hydro, or large hydro, or coal, gas or nuclear, would not be based on any protectionist intent, but on a view that such technologies do not provide as much benefit as other technologies in meeting RPS objectives.

B. A Single, Hemisphere-Wide Definition of "Eligible Resources" Would Leave the States Unable to Achieve Their Objectives at Reasonable Cost

The state's definition of eligibility, and the state's RPS percentage obligation, work together to produce the state's intended benefits at the state's intended cost. Tampering with the eligibility definition would, at best, require states to adjust their percentage obligations and, at worst, render the RPS ineffective. Forcing the inclusion of large hydropower resources into the definition of eligible resources would fall in the "at worst" category. We present an illustrative example.

Example

Consider a state that receives one percent of its power from aging hydropower facilities and one percent of its power from a biomass power plant, all of which are at risk of being supplanted in the market by resources with lower (direct) costs. In addition, a considerable quantity of hydro capacity exists that (a) is not at-risk and (b) is not currently serving the state but could be redirected to do so. The state wishes to protect its existing resources and add an additional five percent of new renewable resources. But the state realizes that, if it includes all existing resources in its definition of RPS-eligible resources, the hydro capacity that is not at-risk would fulfill a substantial portion or all of the seven-percent demand that would be created. The state therefore excludes hydropower from its definition of RPS-eligible resources and reduces the RPS obligation to six percent because, otherwise, it would incur policy costs without reaping any benefits.

If the state were forced to make hydropower eligible for its RPS, it would, at a minimum, incur policy administration costs. In the event that there were more than enough low-cost hydropower to fulfill the entire six-percent demand created by the state's RPS, the available quantity of hydropower should fail to produce a price premium in the RPS market (absent market power), and therefore the only costs that the state would incur would be policy administration costs. But this result would also fail to achieve the state's goals of supporting its at-risk facilities or of supporting the development of additional renewable resources.

In the event that there were insufficient low-cost hydro resources to fulfill the six-percent demand, the state will be forced to pay the market-clearing price in the RPS market for the low-cost hydro resources that do not need additional support. (In the present example, the market-clearing price in the market for tradable RPS credits will be determined by the last, highest-cost resource that is needed to satisfy the RPS obligation. The lower-cost hydro will receive this price.) The state would also have failed to add the full five percent of additional renewable resources.

In both of these cases, the state would more rationally abandon its RPS policy.

Similar problems would arise at the U.S. federal level due to large existing quantities of U.S. and Canadian hydropower resources, most of which have relatively low operating costs.

Conclusion

This paper has explained that state RPS policies need not violate the free trade principles of NAFTA and GATT. The policy justifications for RPS, coupled with their nondiscriminatory intent and effect, assure that the excluded and included resources are located inside and outside the United States.

Because there is no inconsistency with NAFTA, there is no need to harmonize the definition of renewables. Moreover, for the policy and practical reasons explained above, if hydropower -- and all other renewable energy resources, existing or new -- are forced into state and provincial RPS requirements, it would render useless these state policies. In so doing, harmonization would strike down a means of sustaining exhaustible resources that is effective, efficient, and wholly consistent and compatible with competitive electricity markets.

From the perspective of the U.S., effectively nullifying RPS laws would eliminate a tool that promises to rehabilitate renewable energy development after a decade of stagnation as competitive markets were being developed. The RPS policies in effect have already added several hundred megawatts of new renewables capacity. These policies are expected to support the development of over 3,800 megawatts of new renewable energy capacity over the next decade in addition to helping maintain another 3,600 megawatts of existing capacity that might otherwise go off line (see Wiser, Porter and Clemmer 2000. Additional RPSs have been adopted since this analysis was completed).

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