Responsible ACTIONS

A Plan for Alberta's Oil Sands

Alberta

Message from the President of Treasury Board

In a world where demand for oil is expected to continue to rise, Alberta's oil sands provide a significant source of secure energy. In addition to supplying the energy that consumers need, development of this resource offers great potential for the prosperity of Alberta and all of Canada.

Responsible Actions: A Plan for Alberta's Oil Sands is the Alberta government's strategic plan for responsible development of this vast resource. It balances future energy development with respect for the environment, and it outlines how we will foster a high quality of life for Alberta families, while developing the economy.

This plan looks at a wide variety of aspects relating to management of the oil sands regions, from supporting community infrastructure to keeping our water and air clean. It sets a new direction that will guide our decision-making for oil sands development, and contains ambitious strategies to help us identify and address the economic, social, and environmental challenges and opportunities in the oil sands regions.

Guided by the *Provincial Energy Strategy* and closely connected to the *Land-use Framework,* it identifies strategies to meet the needs of today, and it looks ahead to 2029.

The government will work with stakeholders, including municipalities, Aboriginal communities, industry, researchers, and organizations to implement and achieve the strategies outlined in the plan. Alberta's technological knowledge and expertise will ensure the oil sands are developed in a way that allows Alberta and its people to prosper and succeed for future generations.

By acting responsibly and working together, we can ensure Alberta's oil sands remain a benefit for all Albertans for years to come.

HONOURABLE LLOYD SNELGROVE
President of Treasury Board

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Introduction

Alberta's energy resources are the cornerstone of the provincial economy. The energy sector has played an essential role in improving the living standards and prosperity of Albertans. Actions taken by the Government of Alberta today will ensure responsible management and sustained growth for the industry and our province over the long term.

The *Provincial Energy Strategy*[1] outlines the plan for Alberta's energy future. It builds on Alberta's strengths, addresses challenges, and charts a strategic path to ensure clean energy production, wise energy use, and sustained economic prosperity.

The *Provincial Energy Strategy* will achieve this through:

- addressing the environmental footprint of energy;
- investigating and leveraging ways in which we can add value to Alberta's energy industry;
- seeking to change energy consumption behaviour;
- improving our innovation including energy technology leadership and development of people;
- enhancing the capability of our electricity system;
- working to bolster knowledge and awareness of and appropriate education on energy issues; and
- working to ensure alignment with other initiatives, programs, policies, and regulations.

Conventional oil and gas resources have helped fuel the provincial economy for the past century. The *Provincial Energy Strategy* recognizes that in addition to conventional resources, renewable and alternative energy forms will play an increasing role in Alberta's energy future. The strategy also makes clear the significant role Alberta's oil sands reserves will play in meeting the world's demand for energy.

The oil sands are the second largest petroleum reserves in the world (see Figure 1: Comparative Oil Reserves). Alberta's oil sands deposits contain an estimated 1.71 trillion barrels of bitumen.[2] Today, about 173 billion barrels of bitumen, or 10 percent, can be recovered economically; technological advances are required to develop the resource to its full potential.

The Government of Alberta's long-term vision for the oil sands is that development occurs responsibly, sustains growth for industry and the province over the long term, and is done in a manner that enhances Albertans' quality of life. As such, *Responsible Actions: A Plan for Alberta's Oil Sands* provides a platform to balance development with environmental protection, social responsibility, and economic success. It outlines a strategic approach to responsible development of the oil sands resource.

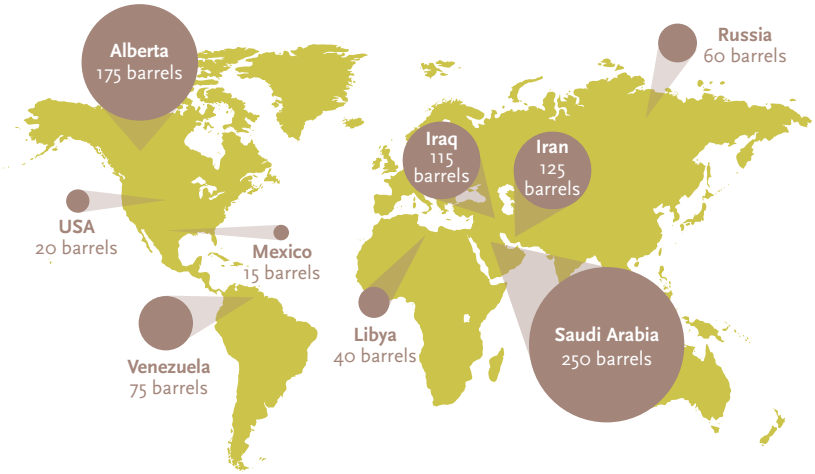
[1] http://www.energy.gov.ab.ca/Org/pdfs/AB_ProvincialEnergyStrategy.pdf

[2] Volume of "initial-in-place crude bitumen" is noted in table on page 3 of *Alberta's Energy Reserves 2007 and Supply/Demand Outlook 2008-2017*, http://www.ercb.ca/docs/products/STs/ST98-2008.pdf.

FIGURE 1

Comparative Oil Reserves (billions of barrels)

Source: *Oil & Gas Journal, 2007*



Second only to Saudi Arabia's reserves, Alberta's oil sands deposits were described by TIME Magazine as 'Canada's greatest buried energy treasure'[3]

This plan builds on the vision outlined in the *Provincial Energy Strategy* and provides specific long-term policy direction provincially as well as for the three oil sands regions and Alberta's Industrial Heartland (see Figure 2: Alberta Oil Sands Regions and Industrial Heartland). It reinforces the *Land-use Framework,*[4] which will help address the pressures on our landscape by providing a blueprint for decision-making. The *Land-use Framework* will help to manage growth and achieve a better balance with Albertans' economic, social, and environmental goals.

Responsible Actions: A Plan for Alberta's Oil Sands builds on best practices and extensive stakeholder consultations outlined in three reports released in 2007:

- *Investing in our Future: Responding to the Rapid Growth of Oil Sands Development*[5]
- *Oil Sands Consultations: Multi stakeholder Committee Final Report*[6]
- *Oil Sands Consultations: Aboriginal Consultation Final Report*[7]

Significant work has been done to take us to this point. *Responsible Actions: A Plan for Alberta's Oil Sands* will guide us into the future.

3 Myers, Rebecca. "The Price of Treasure: Oil Sands." *TIME International* 160.15 (Oct.21, 2002): 51. *General Reference Center Gold.*

4 http://www.landuse.alberta.ca/documents/Final_Land_use_Framework.pdf

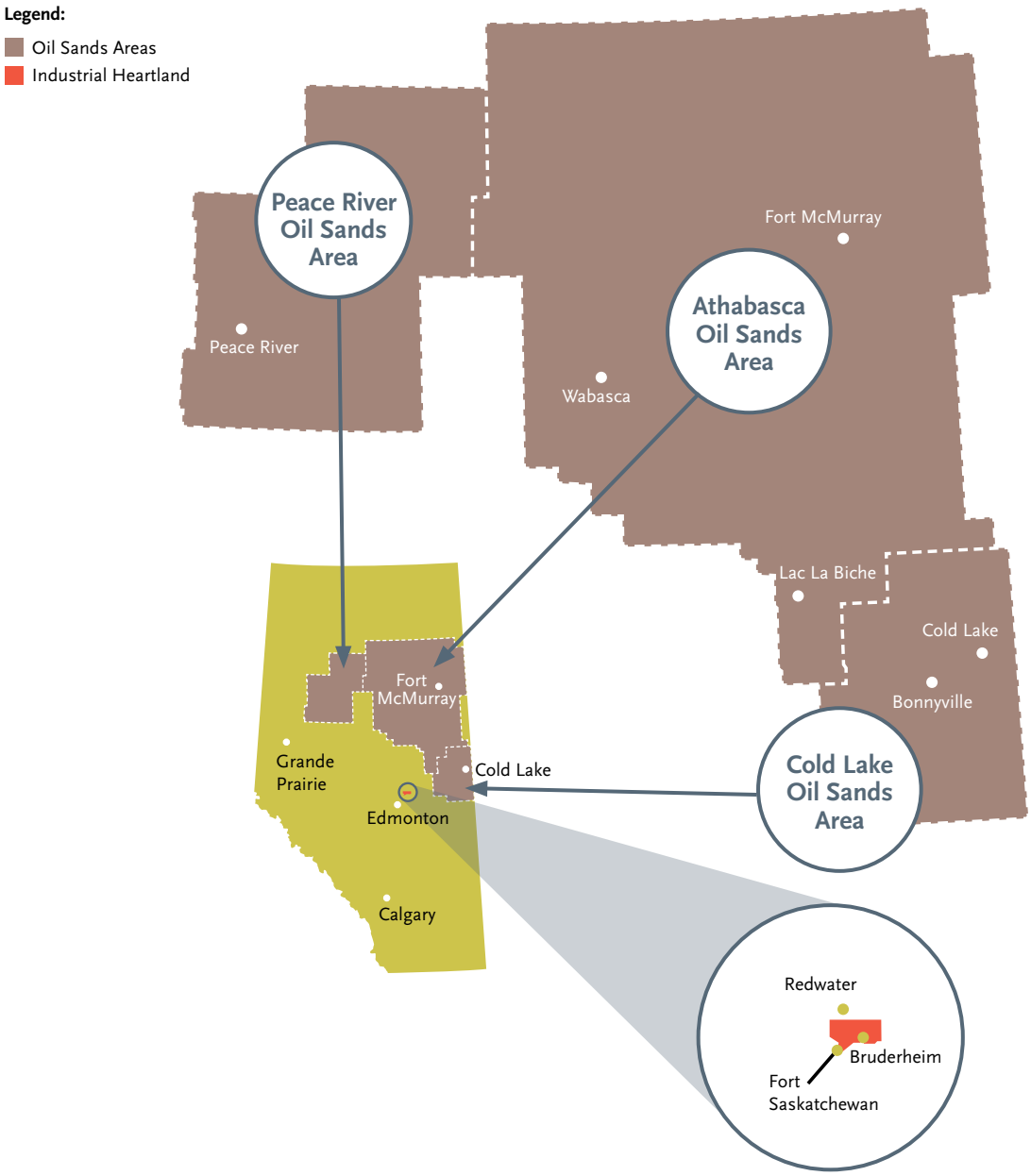
5 http://www.alberta.ca/home/395.cfm

6 http://www.oilsandsconsultations.gov.ab.ca/docs/FinalReport_MSCReport-lowres-july24.pdf

7 http://www.oilsandsconsultations.gov.ab.ca/docs/FinalReport_AboriginalReport-lowres-july4.pdf

FIGURE 2

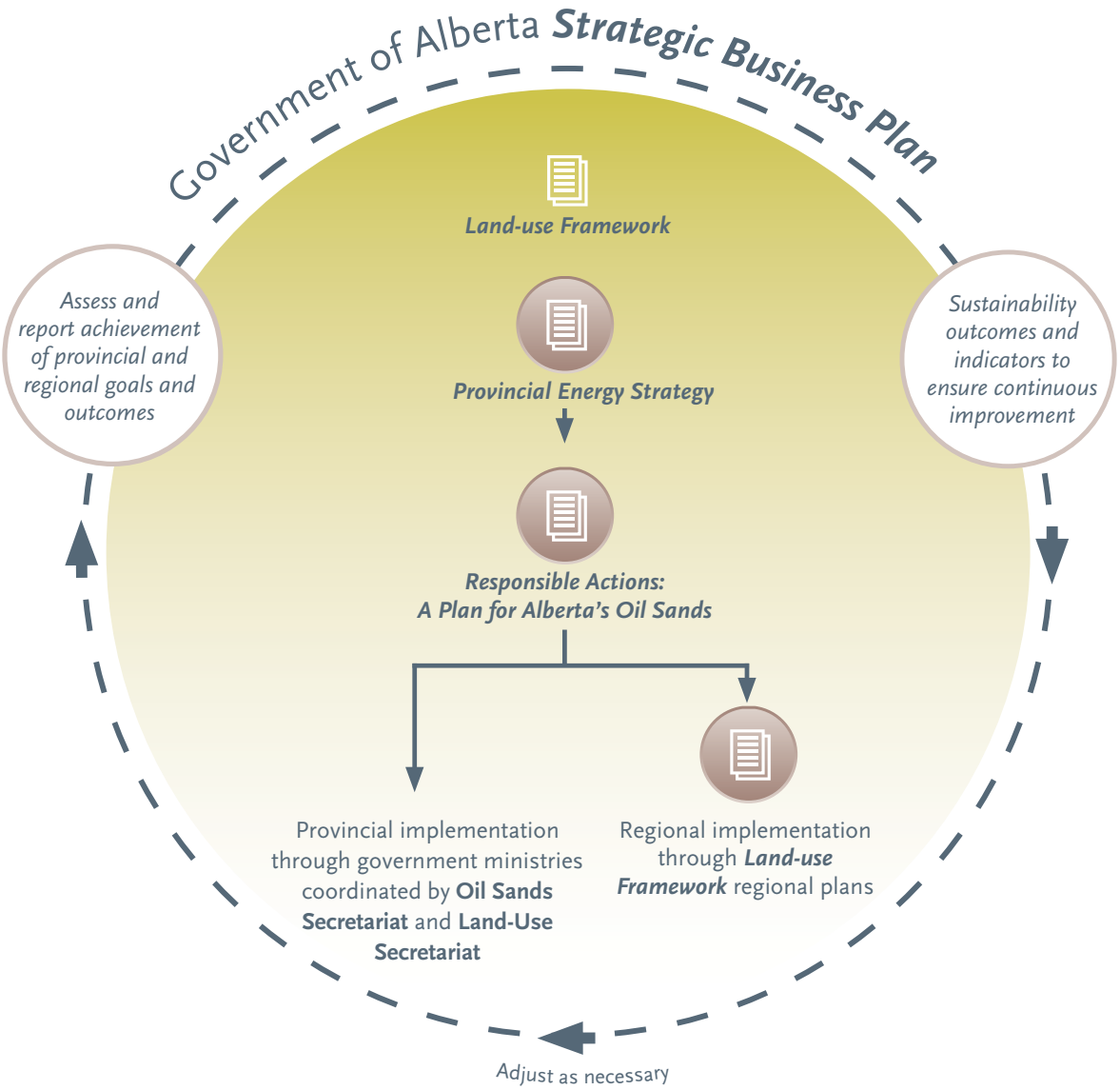
Alberta's Oil Sands Regions and Industrial Heartland



This diagram shows how the directions within this plan fit with other provincial and regional directions including the *Provincial Energy Strategy* and the *Land-use Framework*.

FIGURE 3

This Plan's Alignment with the *Land-use Framework* and *Provincial Energy Strategy*



Our Vision for the Future of the Oil Sands

Alberta's long-term vision for the oil sands forms the foundation for this strategic plan and is directly linked to the *Provincial Energy Strategy*:

> *Alberta is a global leader in the innovative, responsible, and collaborative development of oil sands. The benefits of development continue to support clean, healthy, and vibrant communities for Albertans and future generations. Communities and development reside together in a manner that balances progress with environmental stewardship.*

This vision will guide implementation of the strategies as well as ongoing decision-making for oil sands development today and in the future.

Our Guiding Principles

The following principles provided the foundation for the development of this strategic plan and will form the basis for implementation.

Healthy environment and communities

- Promote responsible stewardship of natural resources and the environment.
- Foster healthy communities by managing social impacts and improving the quality of life for present and future generations.

Balanced growth

- Maximize long-term value and benefits from Alberta's oil sands while considering the economic, environmental, and social factors of development.
- Build on our strengths in developing our energy resources, and further increase our competitiveness within integrated North American and global markets.

Collaboration

- Collaborate and encourage co-operation, participation, and partnership with key stakeholders.
- Honour the constitutionally protected rights of Aboriginal people and their communities.
- Seek intergovernmental co-operation that respects the constitutional division of powers when addressing issues of mutual concern.

Public interest and accountability

- Respectfully consider input from all interested parties and communicate actions clearly to stakeholders and the public.
- Support the effectiveness of the free market through clear and sound government policy and economically efficient regulatory structures that are within the public interest.

Our Outcomes

This strategic plan is aligned with the three broad outcomes of the *Provincial Energy Strategy*: clean energy production, wise energy use, and sustained economic prosperity.

This plan also embarks on a path that will further increase economic revenue from the oil sands, while addressing environmental and social impacts. It outlines steps related to investment in infrastructure, people, innovation, and environmental protection, and identifies ways to improve planning and coordination. Through leadership, resourcefulness, innovation, and responsibility, the plan aims to achieve the following outcomes related to Alberta's oil sands:

- optimized economic growth;
- reduced environmental footprint; and
- increased quality of life for Albertans today and in the future.

Our Strategies

To achieve these specific outcomes, we will undertake a number of strategies:

1

We will develop Alberta's oil sands in an environmentally responsible way.

2

We will promote healthy communities and a quality of life that attracts and retains individuals, families, and businesses.

3

We will maximize long-term value for all Albertans through economic growth, stability, and resource optimization.

4

We will strengthen our proactive approach to Aboriginal consultation with a view to reconciling interests.

5

We will maximize research and innovation to support sustainable development and unlock the potential of Alberta's oil sands.

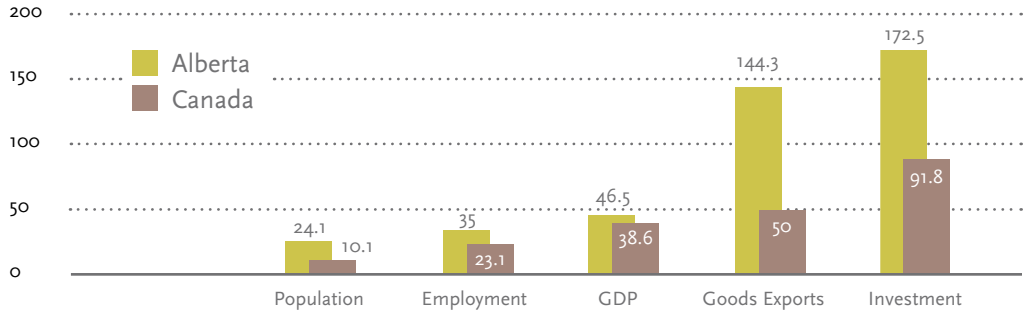
6

We will increase available information, develop measurement systems, and enhance accountability in the management of the oil sands.

A Context for Alberta's Oil Sands

The energy sector is a pillar of Alberta's economic strength, although it is not immune to the effects of fluctuating market conditions or other changes in the economy. Royalty revenues have helped build Alberta's strong infrastructure, health, and education systems. These revenues and spinoff economic activities continue to have a significant impact across the country (see Figure 4: Economic Highlights). In 2007, energy export revenue totalled $90 billion, which accounted for about 20 percent of all Canadian exports. "More than $86 billion has been invested in Alberta's oil sands since 2000, and another $10 billion is forecasted for 2009."[8] Industry also anticipates up to $15 billion annually for maintenance and operations. This underlines the growing importance of Alberta's oil sands, not just to the provincial economy, but to Canada's economic growth as well.

FIGURE 4
Economic Highlights
Growth in Selected Indicators: 1997–2007
Percent Change
Source: Statistics Canada and Alberta Finance and Enterprise



Of course, growth on this scale puts a strain on physical and social infrastructure. To address these pressures, the Government of Alberta has invested heavily in infrastructure and taken steps to address the environmental impacts through policies on climate change and cumulative effects management. Much has been done, and we will do even more. To develop actions for the future, we must begin with a careful and comprehensive assessment of Alberta's oil sands stewardship today, including a review of our strengths, challenges, and opportunities.

8 http://alberta.ca/home/NewsFrame.cfm?ReleaseID=/acn/200902/252314718B52B-901E-D692-C102BFDF66336756.html

1. Strengths

Alberta has a large and secure oil sands resource that belongs to present and future generations—a resource still in its early stages of development. The Government of Alberta is committed to achieving its vision for the oil sands and continuing to address issues that may arise along the way, including the factors needed to achieve social and environmental sustainability for the province. Modern infrastructure, a stable political environment, and technical knowledge provide the opportunity to manage oil sands development responsibly. Alberta's experience and expertise in energy and innovation provide a platform for future success.

2. Challenges

Increased global focus on the environment has put energy development—and Alberta's oil sands—under a spotlight. The *Provincial Energy Strategy* identifies the need for clean energy development, which is also critical for the oil sands. Fast-paced growth has presented unique challenges from rising project and living costs to the need for a coordinated and integrated response to address the complexity of issues facing Albertans today. At the same time, growth opportunities are constrained by social, economic, and infrastructure pressures. In addition, there are limitations in areas such as labour and technical research skills and knowledge, as well as differing stakeholder expectations for oil sands development.

3. Opportunities

In the coming years, no other activities in Alberta will have the scale or impact of energy development, much of which will be related to the oil sands. The province has a unique opportunity to be proactive in pursuing innovative energy development, and environmental protection, to yield a future with far-reaching benefits in Alberta and around the world.

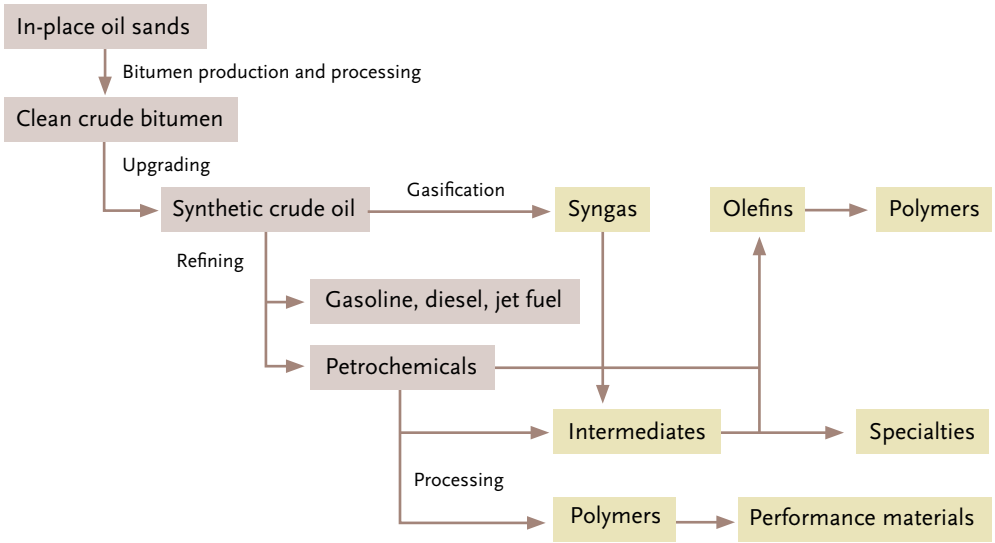
Our approach for the oil sands will maximize the value of the resource for all Albertans, and leverage Alberta's prosperity for long-term investment in physical and social infrastructure. It will also exemplify leadership in environmental management through the regional thresholds approach outlined in the *Land-use Framework* and through working with industry to find innovative ways to reduce our environmental footprint.

We can capitalize on benefits today and well into the future by growing our commodity production to a diverse slate of higher-value manufactured products (see Figure 5: Hydrocarbon Value Chain). In addition to responding to Albertans' and global environmental expectations, we have an opportunity to be leaders in research and technology. Initiatives such as carbon capture and storage, improved tailings management and production enhancements will further develop Alberta's energy resource and expertise. This is not only a benefit for Albertans, but for others around the world.

FIGURE 5

Hydrocarbon Value Chain

Source: *Launching Alberta's Energy Future: Provincial Energy Strategy*



From Vision to Action

As we move from vision to action, we will use this plan to enhance work already underway. It will help inform policy development and provide a common approach for all levels of government, industry, and other stakeholders to proactively address social, economic, and environmental issues and opportunities in oil sands development.

A number of factors are key to successfully achieving this plan:

- well-defined and stable regulatory structures;
- investment by governments and industry;
- increased collaboration and clear and responsive communication among stakeholders and all levels of government; and
- innovation fostered through research and technology.

Moving forward, we will build on our existing policy framework and the substantial work done to date. This strategic plan outlines actions based on what we know today. The following strategies, goals, and objectives will be converted into practical and actionable steps to help Alberta achieve its vision for the oil sands.

Our commitment to responsible energy development is clear. We recognize the continued need to be proactive and responsive in identifying and implementing innovative and timely solutions to issues as they arise.

Innovation will continue to transform the oil sands industry. The same resourcefulness that developed the oil sands into the industry that it is today will move us forward.

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Strategy One

Develop Alberta's oil sands in an environmentally responsible way.

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The *Provincial Energy Strategy* states the Alberta government's commitment to developing our energy resources in an environmentally responsible way. Through clean energy production and wise energy use, Alberta will remain a global leader.

Significant steps have been taken on these fronts—through strategies such as *Water for Life*[9] and the *Climate Change Strategy*[10]—and more can and will be done. Increasing the focus on cumulative effects will help manage and minimize impacts of development. The new regional planning focus of the *Land-use Framework* will further ensure that the environmental, social, and economic implications for each region are considered. There is an increased focus on oil sands extraction processes to use less energy and water, reduce tailing ponds, and improve land reclamation. Sound policy and legislation will further minimize the risks of development to wildlife and the environment.

Strategy one is intended to achieve ecological sustainability in oil sands development while considering impacts on quality of life. Implementation will allow for the further protection of human and ecosystem well-being as well as the modelling of environmental stewardship.

Related Government Strategies and Initiatives

Alberta's 2008 Climate Change Strategy
Biodiversity Action Plan (pending)
Fish Conservation Strategy for Alberta: 2006–2010
Land-use Framework
Launching Alberta's Energy Future: Provincial Energy Strategy
Water for Life: Alberta's Strategy for Sustainability

[9] http://www.waterforlife.alberta.ca

[10] http://www.environment.gov.ab.ca/info/library/7894.pdf

Goals and Objectives

1.1 Through implementation of the *Land-use Framework*, effectively manage the cumulative effects of oil sands development on the environment to protect air, land, water, biodiversity,[11] and human health.

1.1.1 Conduct regional assessments that include environmental, social, and economic impacts to establish outcomes and thresholds as part of regional planning and management of cumulative effects.

1.1.2 Protect human health and ecosystems by setting regional outcomes and thresholds for air, water, land, and biodiversity, and by providing public assurance through coordinated monitoring and compliance systems.

1.1.3 Require industry to use best available technology economically achievable (BATEA).[12]

1.1.4 Explore common methodologies for evaluating oil sands development that consider economic, social, and environmental impacts.

1.1.5 Maximize water conservation, efficiency, and productivity in the mineable oil sands sector to the lowest water use achievable, including but not limited to achieving *Water for Life* targets.

1.1.6 Identify the amount of fresh and saline groundwater available in the oil sands regions to ensure water supplies are managed sustainably for our communities, ecosystems, and economy.

1.2 Enhance reclamation[13] and increase enforcement to minimize Crown liability and protect environmental health.

1.2.1 Require reclamation of tailings[14] to occur at the same rate as (or faster than) the production of new tailings on a regional basis.

1.2.2 Require disturbed land to be reclaimed[15] and certified[16] in a timely manner across lease boundaries and the entire project footprint.

1.2.3 Require project reclamation requirements and milestones to be met as a condition of further oil sands development.

1.2.4 Enhance existing mining liability management programs to further protect Albertans from financial liabilities related to reclamation.

[11] Biodiversity refers to the variety of life on earth—the variety of genetic material in all living things, the variety of species on earth, and the different kinds of living communities and environments in which they occur.

[12] BATEA refers to technology that can achieve superior performance and has been demonstrated to be economically feasible through successful commercial application across a range of regions. (Government of Alberta's Oil Sands Consultations *Multistakeholder Committee Final Report,* http://www.oilsandsconsultations.gov.ab.ca/docs/FinalReport_MSCReport-lowres-july24.pdf)

[13] Reclamation is the process of converting disturbed land to a state where it is capable of supporting the same kinds of land uses as before the disturbance. Under the *Environmental Protection and Enhancement Act,* operators are required to conserve and reclaim specified land.

1.3 **Increase conservation and protected areas to maintain biodiversity in the oil sands regions.**

1.3.1 Establish a conservation offset program[17] to secure high-value conservation lands in the oil sands regions and throughout Alberta to support provincial biodiversity, wetland and environmental management objectives.

1.3.2 Review and establish protected areas in the oil sands regions to achieve biodiversity objectives, and allow for multiple uses such as traditional Aboriginal activities and recreation and tourism experiences.

1.3.3 Develop further measures to protect species at risk and maintain viable populations in Alberta.

1.4 **Meet or exceed Alberta's greenhouse gas reduction objectives.**

1.4.1 Slow the rate of growth in oil sands greenhouse gas emissions through leading-edge technologies as outlined in the *Provincial Energy Strategy* (e.g., carbon capture and storage through an integrated CO_2 network).

1.4.2 Recognize and account for the impacts of climate change when developing outcomes and thresholds for air, water, and land as reflected in Alberta's *Climate Change Strategy*.

1.5 **Strengthen organizations to collaboratively manage and monitor environmental performance.**

1.5.1 Strengthen the effectiveness of multi-stakeholder groups and associations to assist government with achieving environmental management outcomes across oil sands regions.

1.5.2 Strengthen government leadership and participation in multi-stakeholder groups and associations.

14 Tailings include fluid fine tailings that are composed of approximately 70 percent water. The rest is made of fine clays and bitumen left over from extraction after all coarse sands have been removed. These tailings settle over several years, forming mature fine tailings that release water that is recycled by companies for extraction.

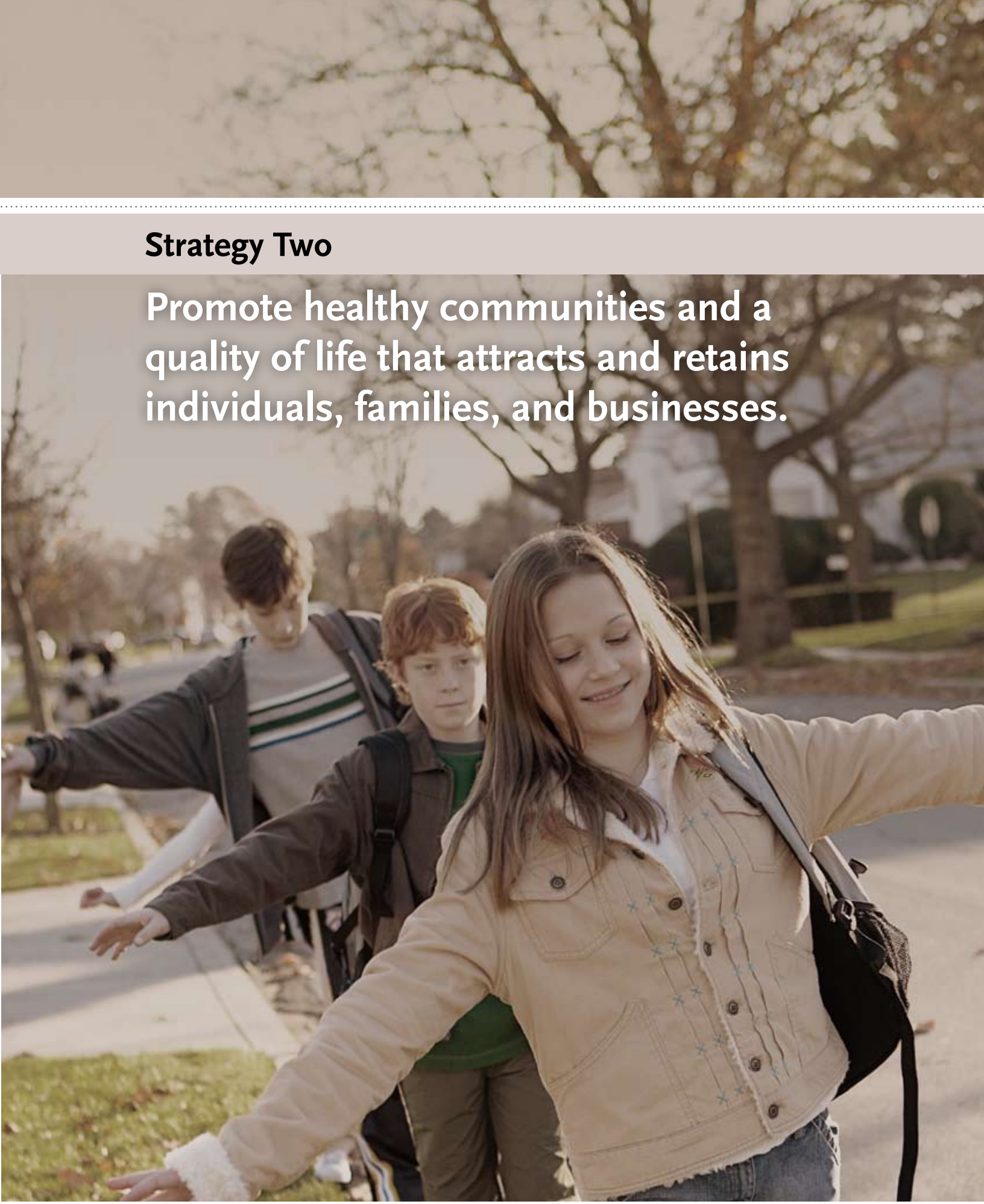
15 Progressive reclamation is the continuous and timely reclamation of disturbed lands as they become available after industrial use. The practice of progressive reclamation can reduce the active footprint (e.g., disturbed land) associated with industrial activities, reduce the amount of land requiring reclamation at the end of industrial operations, and provide for more rapid recovery of reclaimed lands to acceptable end land-use states.

16 Reclamation certification is the process of evaluating whether reclamation has met the regulatory and policy requirements in place over the period that a landform was constructed and reclaimed. Under the *Environmental Protection and Enhancement Act,* operators are required to obtain a reclamation certificate.

17 A conservation offset program includes conservation actions intended to compensate for the unavoidable residual harm to biodiversity caused by development projects.

Strategy Two

Promote healthy communities and a quality of life that attracts and retains individuals, families, and businesses.



Strategy Two

Promote healthy communities and a quality of life that attracts and retains individuals, families, and businesses.

Substantial growth in the oil sands industry relies on support for people and communities in Alberta. Fast-paced oil sands development has put pressure on infrastructure and essential services. Although the Government of Alberta has addressed all of the immediate priorities reflected in the report *Investing in our Future: Responding to the Rapid Growth of Oil Sands Development,* additional focus is required to sustain growth and plan for future development in Fort McMurray and other communities in the oil sands regions.

Communities need additional capacity to absorb growth and support the pace of development. As well, all levels of government, local authorities, communities, and industry must work together to address the pressures related to growth. Strategy two further supports the Government of Alberta's priorities by promoting the development of sustainable, healthy, safe, and vibrant communities through coordinated efforts to build community capacity, invest in social resources, and develop physical infrastructure.

Related Government Strategies and Initiatives

Alberta Children and Youth Initiative
Alberta Heritage Savings Trust Fund
Alberta's Safe Communities Secretariat
Alberta's 2008 Climate Change Strategy
First Nations Protocol Agreement on Government to Government Relations
Land-use Framework
Métis Settlements Long-Term Funding Agreement
Strengthening Relationships: The Government of Alberta's Aboriginal Policy Framework
Supporting Immigrants and Immigration to Alberta
The Spirit of Alberta: Alberta's Cultural Policy
The 20-Year Strategic Capital Plan to Address Alberta's Infrastructure Needs

Goals and Objectives

2.1 Support further planning and development of healthy communities in the oil sands regions.

2.1.1 Identify social and infrastructure needs associated with oil sands development.

2.1.2 Address the cultural needs specific to the oil sands regions through initiatives under *The Spirit of Alberta: Alberta's Cultural Policy*.[18]

2.1.3 Consider the shadow population in planning and funding allocations for physical and social infrastructure.

2.1.4 Develop additional community approaches for coordinating planning, reducing the environmental footprint, and building long-term community capacity[19] in the oil sands regions.

2.1.5 Explore financial models to help coordinate and address immediate infrastructure needs and cyclical growth variances in communities.

2.1.6 Investigate opportunities to regionalize municipal service delivery and financing to facilitate effective allocation of resources to high-growth areas.

[18] *The Spirit of Alberta: Alberta's Cultural Policy* reflects the importance of creating a better quality of life for all Albertans through increased access to cultural activities. (http://culture.alberta.ca/culturalpolicy/pdf/SpiritofAlberta.pdf)

[19] Community capacity is a collection of resources including skills, knowledge, human resources, and organizational structures which, when combined, improve the ability of a community to recognize and address key problems and realize their community's full potential. (http://www.health.nsw.gov.au/public-health/health-promotion/capacity-building/community/comm_cap_index.pdf)

2.2 **Improve public safety and security in the oil sands regions.**

2.2.1 Increase emergency preparedness in the oil sands regions through enhancing opportunities for industry and community involvement and providing additional transportation routes.

2.2.2 Establish partnerships to support the development of regional or local strategies that focus on law enforcement, traffic safety, and prevention and treatment initiatives to reduce crime at the community level.

2.2.3 Build on the provincial Occupational Health and Safety Program to help industry implement workplace safety training targeted at foreign labour, workers who are inexperienced, and workers with low literacy.

2.3 **Enhance timely investment in physical infrastructure in the oil sands regions.**

2.3.1 Work with industry in the oil sands regions to develop contribution strategies for public infrastructure.

2.3.2 Support communities in managing immediate growth pressures through expediting the release of Crown lands, promoting affordable housing options and utilizing alternative financing approaches where appropriate.

Strategy Three

Maximize long-term value for all Albertans through economic growth, stability, and resource optimization.

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The oil sands present many economic opportunities for Alberta. As outlined in the *Provincial Energy Strategy*, Alberta's energy future will only be realized by balancing economic opportunities with environmental, social, and infrastructure challenges. Through this responsible approach, Alberta will optimize oil sands development and the full economic value for all Albertans while also addressing environmental and social needs.

Both the *Provincial Energy Strategy* and *The New Royalty Framework*[20] recognize that to build a stable and prosperous future, the province must get the best possible economic return on the long-term development of its energy resources. Extending our role along the value chain through upgrading and refining bitumen to transportation fuels and other products will further expand our economy. The *Provincial Energy Strategy* identifies, as an aspirational goal of the Government of Alberta's Hydrocarbon Upgrading Task Force, an ultimate portfolio mix of one-third bitumen sales, one-third synthetic crude oil sales, and one-third sales of finished products and petrochemicals. Attracting and retaining a highly skilled and knowledgeable workforce is also a key element in sustaining a competitive advantage in our economy and ensuring future prosperity. This approach, along with diversifying our markets and selling more than products, will maximize the value of the resource for Albertans and mitigate potential risks posed by an economic downturn in any one region.

Following the direction outlined in the *Provincial Energy Strategy,* strategy three is intended to actively increase the economic return to Albertans from the oil sands and ensure long-term benefits of development through partnerships, regulations, appropriate royalty structures, and other means.

Related Government Strategies and Initiatives

Aboriginal Workforce Action Plan (pending)
Building and Educating Tomorrow's Workforce: Alberta's 10-Year Strategy
Building Confidence: Improving Accountability and Transparency in Alberta's Royalty System
Launching Alberta's Energy Future: Provincial Energy Strategy
Securing Tomorrow's Prosperity
The New Royalty Framework
The Premier's Council for Economic Strategy

[20] http://www.energy.gov.ab.ca/Org/Publications/royalty_Oct25.pdf

Goals and Objectives

3.1 Ensure that Albertans continue to receive appropriate economic benefit from extraction of oil sands.

3.1.1 As addressed in *The New Royalty Framework*, continue to ensure the oil sands royalty structure remains responsive to changing conditions and maintains investor certainty.

3.1.2 Use bitumen royalty-in-kind transactions to facilitate and expand an Alberta bitumen market.

3.1.3 Facilitate establishment of a transparent market for bitumen.

3.1.4 Establish a government-led organization to manage Alberta's bitumen royalty-in-kind volumes to maximize the long-term benefits for Albertans.

3.2 Optimize the economic benefit of the bitumen resource for Alberta through upgrading and value-added petrochemical development.

3.2.1 Leverage bitumen royalty-in-kind volumes to develop value-added oil sands products.[21]

3.2.2 Use regulatory and fiscal approaches to foster and encourage value-added development to achieve the value chain's full potential.

3.2.3 Promote heavy oil tolls that accurately reflect the costs of shipment.

3.3 Diversify Alberta's oil sands-related products and services into other international markets.

3.3.1 Internationally market and promote Alberta's energy and environmental expertise to realize a knowledge-based economy.

3.3.2 Identify and target key global markets that offer attractive opportunities for Alberta's oil sands products to achieve a more diverse and resilient customer base.

3.3.3 Encourage the development of outbound pipeline systems to open new markets for Alberta's oil sands products.

[21] Value-added processing of bitumen refers to the production of refined petroleum products such as gasoline and diesel as well as petrochemical products.

3.4 Maximize industrial infrastructure and address workforce needs to support economic development of the oil sands.

3.4.1 Encourage the creation of new products through integration and cluster development approaches.[22]

3.4.2 Expedite development of integrated transportation and utility corridor plans for the oil sands regions and Alberta's Industrial Heartland to appropriately facilitate growth and minimize the environmental impact.

3.4.3 Establish innovative partnerships with industry, the federal government, and municipalities to facilitate timely investment in infrastructure.

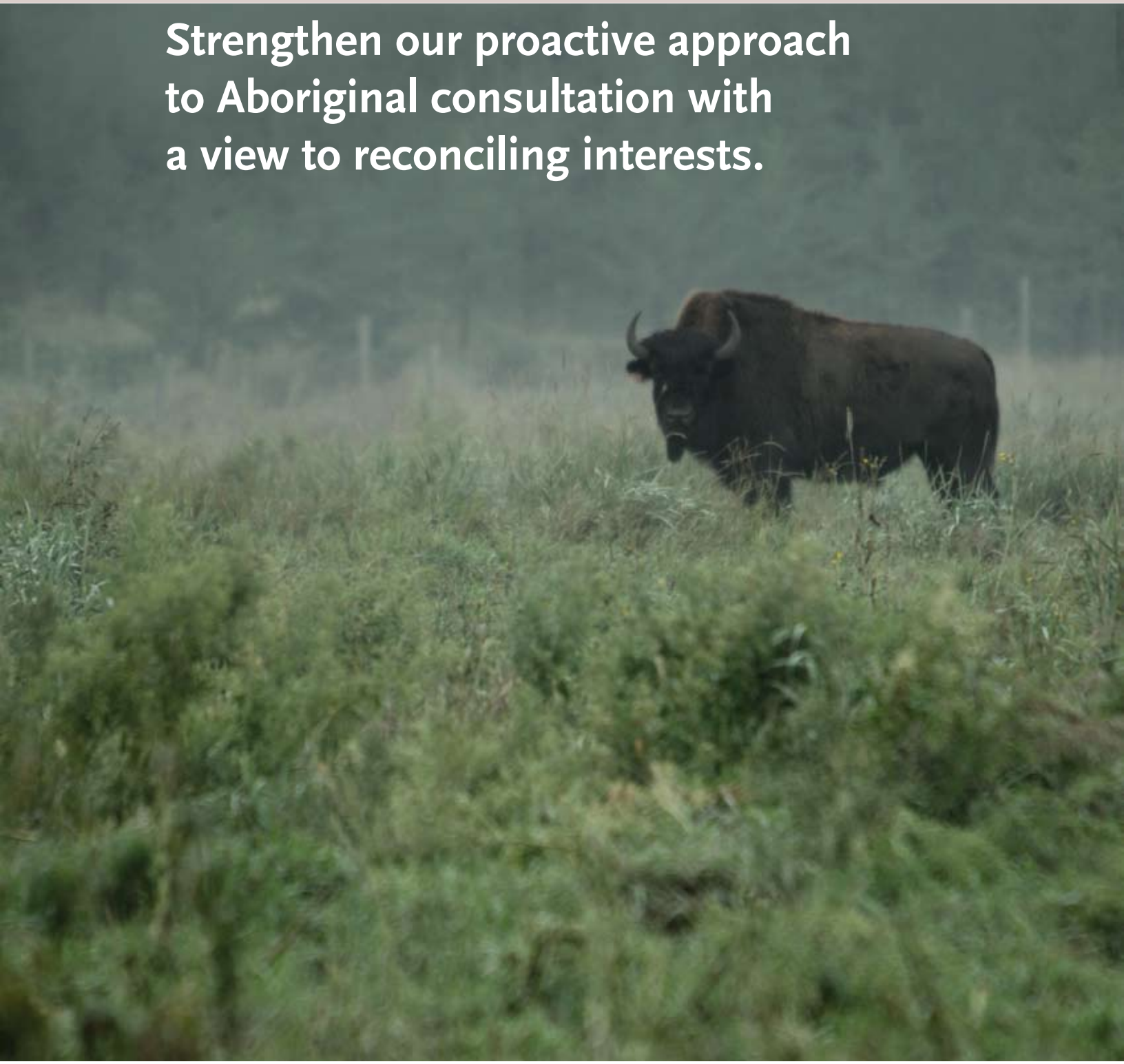
3.4.4 Work toward meeting labour demands, enhancing productivity, and building expertise through removing barriers to workforce participation and enhancing educational opportunities in partnership with employers and educational organizations.

3.4.5 Increase the participation of Aboriginal communities and individuals in all areas of the workforce and support their participation in economic development of the oil sands.

[22] Integration refers to the combination of bitumen upgrading, refining, and petrochemical facilities in a single plant complex to reduce costs and the environmental footprint. Cluster refers to the attraction of specialized service firms and by-product users where one company's waste stream becomes another company's feedstock, in order to maximize efficiency in raw materials usage.

Strategy Four

Strengthen our proactive approach to Aboriginal consultation with a view to reconciling interests.



Strategy Four

Strengthen our proactive approach to Aboriginal consultation with a view to reconciling interests.

Building relationships and sharing knowledge and experiences through dialogue will enable Aboriginal communities, industry, government, and other stakeholders to make informed decisions that will further support sustainable growth in their communities. Consulting Aboriginal communities on oil sands development, particularly those aspects that have the potential to adversely impact their constitutionally protected rights, and reconciling interests are essential to achieving the provincial vision for the oil sands.

Strategy four is intended to lead a proactive approach to managing development, in order to further strengthen and build understanding and relationships between all levels of government and Aboriginal communities.

Related Government Strategies and Initiatives

Alberta's First Nations Consultation Guidelines on Land Management and Resource Development

First Nations Protocol Agreement on Government to Government Relations

Strengthening Relationships: The Government of Alberta's Aboriginal Policy Framework

The Government of Alberta's First Nations Consultation Policy on Land Management and Resource Development

Goals and Objectives

4.1 Promote clarity and consistency in consultation processes with First Nations.

4.1.1 Work with First Nations to understand the potential cumulative environmental impacts on rights and traditional uses in order to inform regional planning and consultation approaches.

4.1.2 In collaboration with industry, the federal government, and First Nations, assess and strengthen First Nations' capacity to engage in consultation.

4.1.3 Continue to meet Alberta's legal duty to consult Aboriginal communities whose constitutionally protected rights, under section 35 of *The Constitution Act, 1982 (Canada)*, may be adversely impacted by development in the oil sands regions.

4.1.4 Continuously improve and adapt existing consultation processes to promote mutually acceptable mechanisms for resolving disputes, sharing data, and implementing consultation guidelines appropriate to the oil sands regions.

4.2 Enhance collaborative government-to-government relationships.

4.2.1 Establish a memorandum of understanding with the federal government to coordinate consultation on projects that may adversely impact the constitutionally protected rights of Aboriginal people.

4.2.2 Continue to strengthen government-to-government relationships through developing and maintaining appropriate agreements.

4.2.3 Strengthen communication and education to increase understanding among Aboriginal people, the Government of Alberta, and the federal government.

4.3 Continue to work with the Métis Settlements in the oil sands regions[23] on matters affecting Settlement lands.

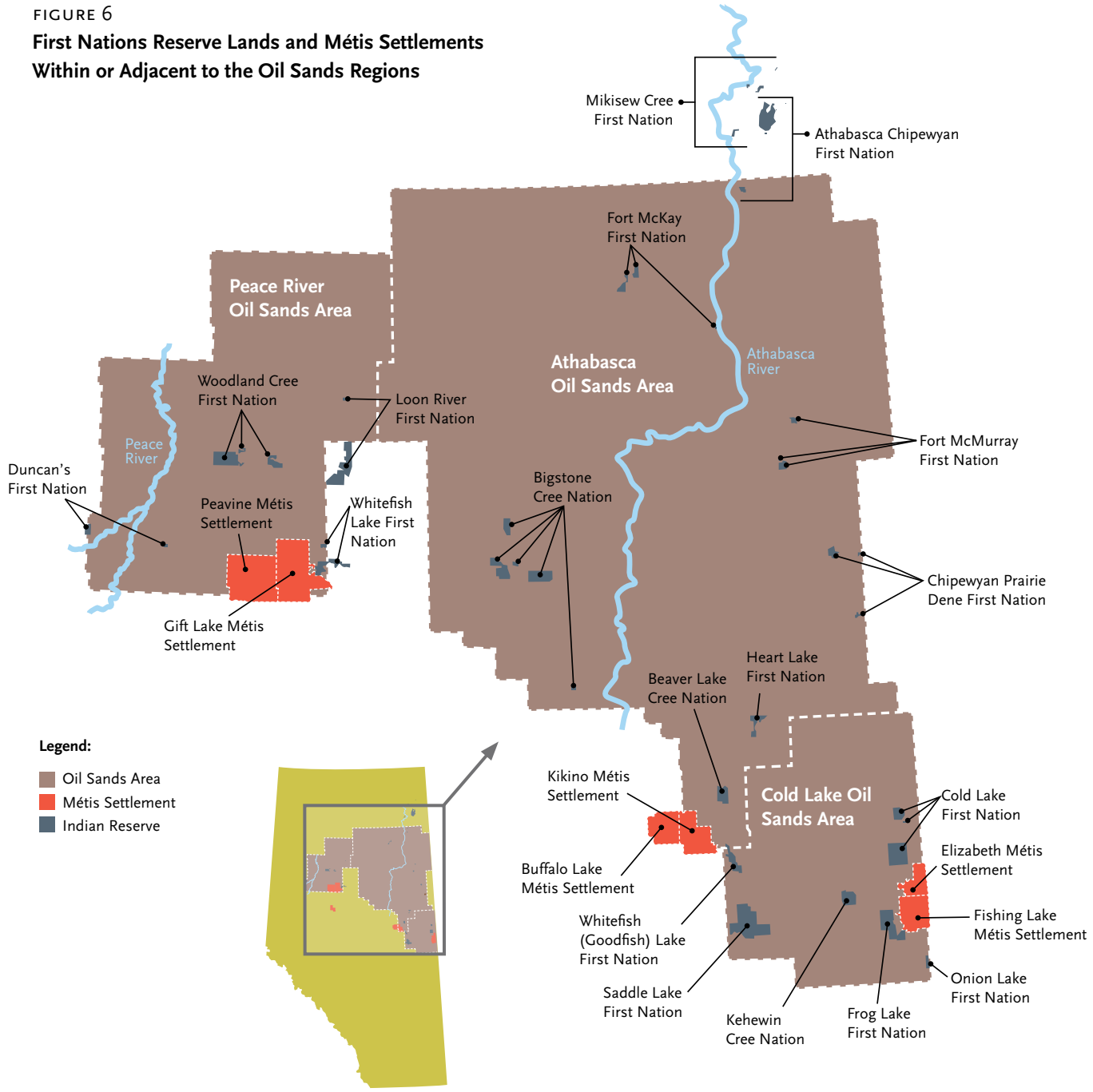
4.3.1 Collaborate with the Métis Settlements in the oil sands regions on a pilot project to obtain baseline data to measure how cumulative impacts of development may impact Settlement lands.

4.3.2 Promote consistency and clarity in communications and engagement with the Métis Settlements in the oil sands regions.

[23] There are six Métis Settlements within or directly adjacent to the oil sands regions: Buffalo, Kikino, Gift Lake, Peavine, Elizabeth, and Fishing Lake.

FIGURE 6

First Nations Reserve Lands and Métis Settlements Within or Adjacent to the Oil Sands Regions



Strategy Five

Maximize research and innovation to further support sustainable development and unlock the deposit's potential.

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As outlined in the *Provincial Energy Strategy,* research and innovation are key to Alberta's clean-energy future. That document lays out a strategy for the province to engage in concerted efforts to address the full curve of technology development, from conception to commercial deployment including investment in long-term innovations. The *Provincial Energy Strategy* acknowledges that research and development efforts need to be focused and coordinated on key areas, enabling Alberta to become a leader on those fronts.

Further advancements in research and technology are critical to minimizing the environmental impacts of oil sands development, improving access to the deposit, and further driving down the costs of development. Innovation and collaboration among stakeholders will contribute directly to Alberta's leadership role in research and capitalize on opportunities.

Strategy five is intended to increase long-term and stable investments in research, promote world-class innovation, leverage technology to address development of the resource, and proactively address environmental challenges.

Related Government Strategies and Initiatives

Alberta Access Planning Framework – A Context for Access and Demand
Alberta Energy Research Strategy
Alberta Heritage Fund for Science and Engineering
Alberta's Action Plan: Bringing Technology to Market
Alberta's 2008 Climate Change Strategy
Roles and Mandates Framework for Alberta's Provincially Funded Research and Innovation System (pending)
Roles and Mandates Policy Framework for Alberta's Publicly Funded Advanced Education System

Goals and Objectives

5.1 Further develop Alberta as a world-class centre of clean-energy research excellence.

5.1.1 Evaluate current research structures and mechanisms to identify gaps and optimize an integrated, efficient, and coordinated approach to oil sands development.

5.1.2 Strengthen and intensify research and innovation in Alberta's strategic priority areas through coordinated funding for demonstration projects and laboratory facilities and to attract worldwide expertise and recruit highly qualified science and engineering researchers into applied learning programs.

5.1.3 Create networks of inventors, entrepreneurs, experts, fabricating shops, and service providers to promote Alberta's grassroots culture of innovation.

5.2 Develop policy and regulatory tools to encourage, motivate, or require industry to invest in sustainable development and use of technologies.

5.2.1 Develop additional government/industry partnerships to leverage and encourage increased investments by industry to support research and innovation.

5.2.2 Develop and demonstrate breakthrough and next-generation innovations[24] for commercial readiness through government/industry partnerships.

5.2.3 Provide incentives for technology acquisition, development, and implementation related to oil sands extraction and processing while minimizing air, water, and land impacts.

5.2.4 Require research agencies to share government-funded research findings with provincial departments and agencies and to publicize research objectives and achievements.

[24] Breakthrough describes an abrupt change in preference from one technology to another. Next-generation describes a family of breakthrough technologies that change the whole industry.

5.3 Facilitate long-term and responsive investment in a balanced research and innovation portfolio.

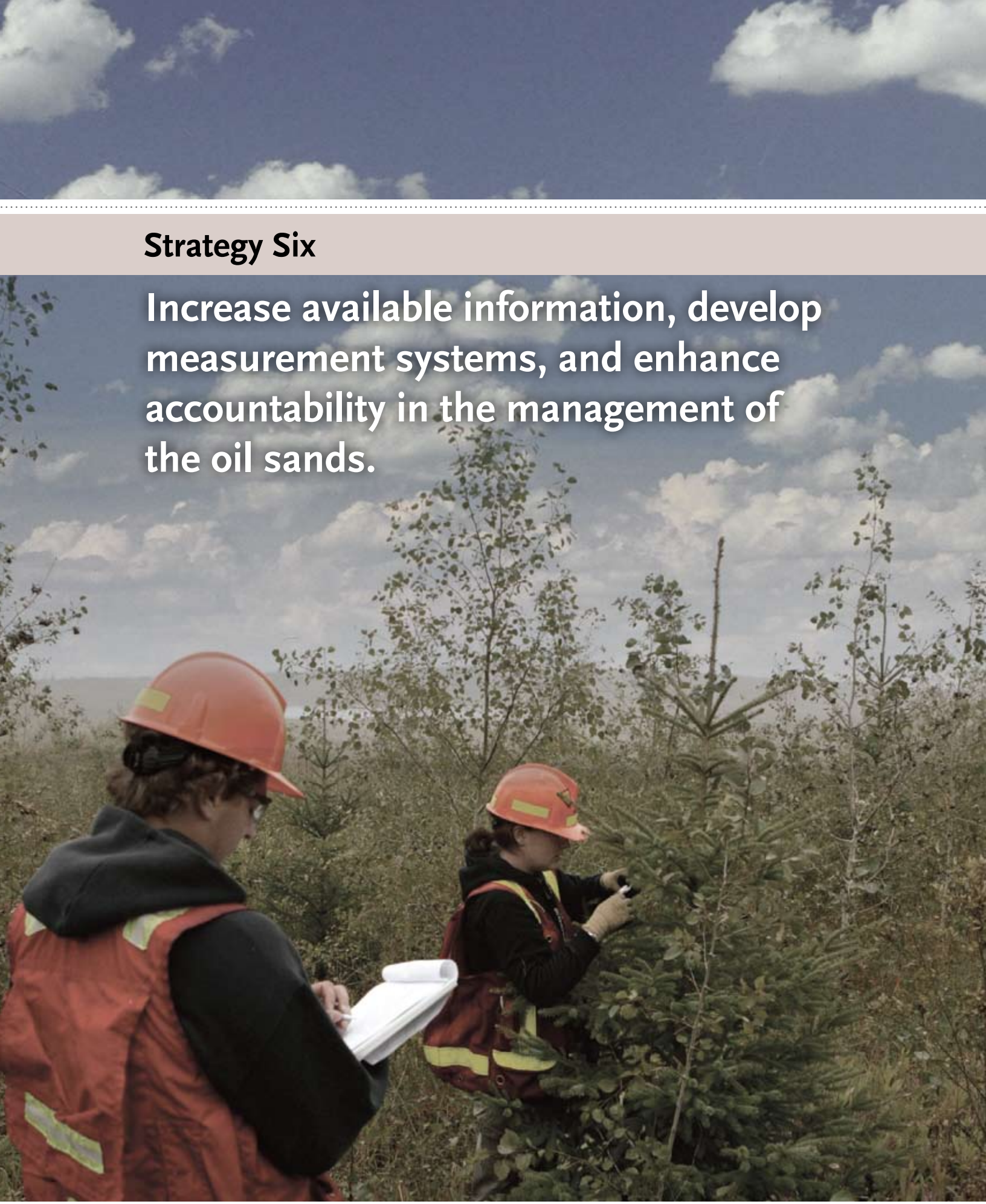
5.3.1 Establish mechanisms for coordinated, long-term, and responsive investment in research and innovation.

5.3.2 Develop comprehensive mechanisms for monitoring research and innovation in relation to specific outcomes.

5.3.3 Further support research efforts that improve cumulative effects management and achievement of environmental outcomes.

Strategy Six

Increase available information, develop measurement systems, and enhance accountability in the management of the oil sands.



Strategy Six

Increase available information, develop measurement systems, and enhance accountability in the management of the oil sands.

Significant efforts are being made to balance protection of the environment with oil sands development. Improved communication processes, transparent accountability systems, and consistent measurement and monitoring are all important components of the current policy and regulatory framework. The regional planning process under the *Land-use Framework* will further strengthen this framework and promote more regional measures and reports.

In addition to contributing to an annual report card, as outlined in the *Provincial Energy Strategy*, sustainability reporting will be a valuable tool for conveying information and engaging stakeholders. Universal benchmarking, monitoring, and reporting will also allow for accurate and effective planning, decision-making, and funding.

Strategy six is intended to address challenges in relaying information on oil sands development to the public and ensuring accountability for the successful, long-term management of this resource.

Related Government Strategies and Initiatives

Land-use Framework

Office of Statistics and Information

Sustainable Resource and Environmental Management Information-Sharing Initiative (pending)

Goals and Objectives

6.1 Develop transparent and effective performance measurement systems that foster continuous improvement to achieve outcomes.

6.1.1 Develop sustainability indicators at the community, regional, and provincial level to measure social, economic, and environmental performance, and report to the public annually to ensure continuous improvement.

6.1.2 Develop and issue performance reports reflecting the performance of individual companies and partnerships based on social, economic, and environmental outcomes.

6.1.3 Increase available information to improve stewardship and accountability and to facilitate and support research and innovation.

6.2 Create effective data-management systems to facilitate consistent and uniform planning in the oil sands regions.

6.2.1 Strengthen processes to enable the Government of Alberta and its partners to use official government statistics, particularly population metrics, for planning, forecasting, and budgeting purposes.

6.2.2 Develop data-sharing protocols for the oil sands regions with industry, all levels of government, Aboriginal communities, and other stakeholders.

Key Success Factors

A number of factors are critical for successful implementation of this plan's strategies, goals, and objectives. The following four key success factors provide the necessary underpinnings to fully manage the issues and realize the opportunities of oil sands development.

1. Well-defined and stable regulatory structures

Forward-looking and adaptive regulatory structures and processes are essential to support responsible development of the oil sands. Key components include:

- increased coordination of roles and responsibilities among regulatory bodies including the Energy Resources Conservation Board (ERCB) and Government of Alberta ministries;
- increased coordination across government in the review of environmental impact assessments;
- clear and consistent processes to enable incentives for compliance and penalties for non-compliance; and
- clear rules regarding transitions to new guidelines, technology applications, and program changes.

2. Investment by governments and industry

Oil sands development requires a long-term investment commitment by both industry and government. Development relies on investment in both capital and operating costs by industry. This investment must be encouraged by the Government of Alberta. To manage development effectively, the Government of Alberta must also invest in technical, regulatory, and planning functions.

3. Increased collaboration and clear and responsive communication among stakeholders and all levels of government

The scale and complexity of oil sands projects creates many interdependencies. Successful development requires the collaboration of stakeholders and all levels of government. It also requires high levels of cross-ministry coordination and seamless and timely communication within the provincial government. In addition, an increased emphasis on intergovernmental collaboration with neighbouring provinces and territories and the federal government will help address oil sands issues and opportunities.

Enablers of effective collaboration include:

- a clear understanding of roles and accountabilities by all interested parties;
- inclusion among all levels of government and stakeholders; and
- effective communication processes for engagement and information-sharing.

4. Innovation fostered through research and technology

All levels of government and industry need to share the responsibility for supporting the development and use of technology to address the challenges of the oil sands. As technology improves, the value of oil sands resources will continue to rise. As a result, the amount of resources recoverable from the oil sands will increase, while minimizing the environmental impact.

Next Steps

Oil sands development will play a significant role in the future of Alberta's and Canada's economies and in meeting the energy needs of North Americans. Responsible development of the oil sands will require coordinated and integrated approaches among all levels of government and a broad base of stakeholders.

Responsible Actions: A Plan for Alberta's Oil Sands establishes a clear direction for Alberta that involves identifying, addressing, and responding to the social, economic, and environmental issues and opportunities in the development of the oil sands. The plan provides a focus for activity within the Athabasca, Cold Lake, and Peace River regions and in the Industrial Heartland.

Successful implementation will involve extensive collaboration and engagement with key stakeholders including industry, associations, Aboriginal communities, and all levels of government.

An overarching implementation plan is under development to ensure priority items are acted upon immediately and that effective planning is undertaken for longer-term actions. Strategies, goals, and objectives will be incorporated into ministry business plans. In addition, the plan will be coordinated with provincial and regional initiatives, including the *Provincial Energy Strategy,* to ensure consistency in approach and to avoid overlap and duplication. The plan will also provide guidance to the Government of Alberta's Land-Use Secretariat in leading the development of future-focused and adaptive regional plans for the oil sands areas.

Many areas requiring integrated solutions through cross-ministry approaches will be led or coordinated by the Oil Sands Sustainable Development Secretariat of Alberta Treasury Board,[25] in collaboration and partnership with Government of Alberta ministries and stakeholders. As *Responsible Actions: A Plan for Alberta's Oil Sands* is implemented, the Government of Alberta will report on progress and monitor and revise the plan as required to support continuous improvement and achievement of the strategies.

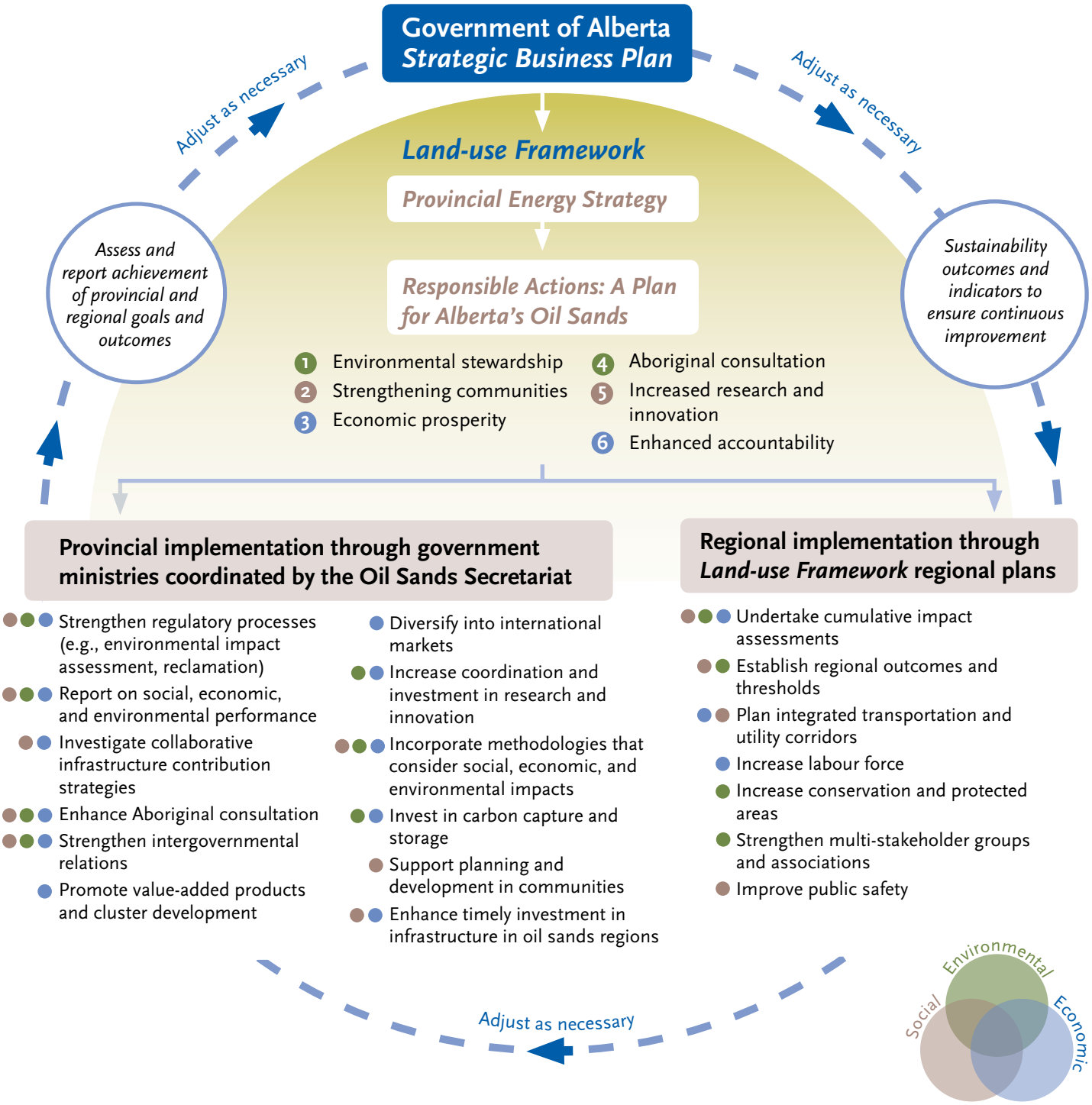
A willingness to take risks, to question the status quo, and to demand a level of co-operation and collaboration beyond that experienced to date will be necessary for Alberta to seize the opportunity to maximize the many benefits associated with development of our extensive oil sands resource.

Through collaboration, innovation, and creativity, Alberta will further develop the oil sands responsibly so they continue to benefit all Albertans.

[25] The Oil Sands Sustainable Development Secretariat was created by the Government of Alberta in the summer of 2007 to address rapid growth issues in the oil sands regions of Alberta. The Secretariat collaborates with ministries, industry, communities, and stakeholders to ensure an integrated policy approach in addressing the social, infrastructure, environmental, and economic impacts of oil sands development. It acts as a main point of contact for inquiries from the public, industry, and stakeholders on the government's plan for managing growth in the oil sands.

Appendix A: Provincial and Regional Implementation

This diagram shows how this plan will be coordinated with the *Provincial Energy Strategy* and implemented provincially and regionally through the *Land-use Framework*.



Appendix B: Priority Actions

Environmental stewardship

- Explore common methodologies to evaluate the economic, social, and environmental impacts of oil sands development.
- Revise the current environmental impact assessment process to support cumulative effects management.
- Create economic, social, and environmental performance measures and report progress regularly.
- Continue to commit to carbon capture and storage projects to reduce the impacts of industrial greenhouse gas emissions.
- Increase the effectiveness of multi-stakeholder groups and associations including the Cumulative Environmental Management Association.
- Develop and implement regulations to reduce the inventory of tailings and increase the pace of reclamation in the oil sands areas.
- Encourage communities to reduce their footprint through adopting standards for environmentally sustainable buildings, developing alternative transportation modes, and creating community environmental programs.

Strengthening communities

- Identify processes to better assess social and infrastructure needs related to oil sands development.
- Continue to implement the community development plan to address housing shortages in Fort McMurray.
- Investigate opportunities to regionalize municipal service delivery and financing to facilitate effective allocation of resources to high-growth areas.
- Work with industry to develop financial contribution strategies to support the development of public and community infrastructure.

Economic prosperity

- Initiate an independent review of oil sands research and innovation systems to identify gaps and develop an integrated, efficient, and coordinated approach to oil sands development.
- Establish Alberta as a world-class centre for clean-energy research and innovation through government/industry partnerships and investments in research and demonstration of technology projects.
- Leverage bitumen royalties to develop value-added oil sands products, and establish a government-led organization to promote integrated chemical cluster development in the Industrial Heartland.
- Actively support the replacement of natural gas as an oil sands input fuel with a variety of potential substitutes including synthetic gas from bitumen components.

Building relations

- Within the parameters of the *Land-use Framework,* develop a regional plan for the Lower Athabasca Region that integrates provincial policies, establishes land-use objectives, and provides the context for decision-making.
- Develop a coordinated approach to further enable the Government of Alberta to work with the federal government on matters of common jurisdiction or interest.
- Conduct a pilot project to assess the cumulative environmental impacts of oil sands development on the rights and traditional land uses of Aboriginal people.
- Work with the federal government to create a pilot project for collaboration on First Nations consultation.

Appendix C: Related Government of Alberta Strategies and Initiatives

Aboriginal Workforce Action Plan (pending) referred to at
http://www.justice.gov.ab.ca/hansard/default.aspx?id=5528

Alberta Access Planning Framework – A Context for Access and Demand
http://www.advancededucation.gov.ab.ca/reading/policy/roleframework/aapf.pdf

Alberta Children and Youth Initiative referred to at
http://www.child.gov.ab.ca/home/501.cfm

Alberta Energy Research Strategy
http://www.aeri.ab.ca/sec/new_res/ene_res_str_001_1.cfm

Alberta Heritage Fund for Science and Engineering
http://www.albertaingenuity.ca/

Alberta Heritage Savings Trust Fund referred to at
http://www.albertaingenuity.ca

Alberta's Action Plan: Bringing Technology to Market
http://www.advancededucation.gov.ab.ca/technology/wwwtechnology_asp/techprior/techcomm/actionplan/actionplan.asp

Alberta's First Nations Consultation Guidelines on Land Management and Resource Development
http://www.aboriginal.alberta.ca/documents/First_Nations_and_Metis_Relations/First_Nations_Consultation_Guidelines_LM_RD.pdf

Alberta's Safe Communities Secretariat referred to at
http://justice.gov.ab.ca/safe/

Alberta's 2008 Climate Change Strategy
http://www.environment.gov.ab.ca/info/library/7894.pdf

Biodiversity Action Plan (pending) referred to on page 268 of
http://www.finance.alberta.ca/publications/budget/budget2008/sustain.pdf

Building and Educating Tomorrow's Workforce – Alberta's 10-Year Strategy
http://employment.alberta.ca/documents/WIA/WIA-BETW_strategy.pdf

Building Confidence: Improving Accountability and Transparency in Alberta's Royalty System
http://www.energy.alberta.ca/Org/pdfs/Valentine_ABRoyalty.pdf

First Nations Protocol Agreement on Government to Government Relations
http://www.aboriginal.alberta.ca/documents/Protocol_Agreement_(final-signed_by).pdf

Fish Conservation Strategy for Alberta: 2006–2010
http://www.srd.gov.ab.ca/fishwildlife/fishingalberta/pdf/Fish%20Conserv%20Strategy%202006.pdf

Investing in our Future: Responding to the Rapid Growth of Oil Sands Development
http://www.alberta.ca/home/395.cfm

Land-Use Framework
http://www.landuse.alberta.ca

Launching Alberta's Energy Future: Provincial Energy Strategy
http://www.energy.gov.ab.ca/Org/pdfs/AB_ProvincialEnergyStrategy.pdf

Métis Settlements Long-Term Funding Agreement
http://www.aboriginal.alberta.ca/documents/MSGC_InterimFundingAgmt.pdf

Office of Statistics and Information referred to at
http://employment.alberta.ca/cps/rde/xchg/hre/hs.xsl/4357.html

Oil Sands Consultations Aboriginal Consultation Final Report
http://www.oilsandsconsultations.gov.ab.ca/docs/FinalReport_AboriginalReport-lowres-july4.pdf

Oil Sands Consultations Multi Stakeholder Committee Final Report
http://www.oilsandsconsultations.gov.ab.ca/docs/FinalReport_MSCReport-lowres-july24.pdf

Roles and Mandates Policy Framework for Alberta's Publicly Funded Advanced Education System
http://www.acifa.ca/wordDocs/Roles&Mandatesnov07.pdf

Securing Tomorrow's Prosperity
http://www.albertacanada.com/documents/STP_booklet_Summer_2005.pdf

Strengthening Relationships: The Government of Alberta's Aboriginal Policy Framework
http://www.oilsandsconsultations.gov.ab.ca/Submissions/All_Submissions/Wood_Buffalo_Metis_Locals_Tab_8_Policy_Framework.pdf

Supporting Immigrants and Immigration to Alberta
http://employment.alberta.ca/documents/WIA/WIA-IM_policy_framework.pdf

Sustainable Resource and Environmental Management Information-Sharing Initiative (pending) referred to at
http://www.srem.gov.ab.ca/info_sharing.html

The Government of Alberta's First Nations Consultation Policy on Land Management and Resource Development
http://www.international.gov.ab.ca/documents/Policy_APPROVED-May16.pdf

The New Royalty Framework
http://www.energy.gov.ab.ca/Org/pdfs/royalty_Oct25.pdf

The Premier's Council for Economic Strategy referred to at
http://premier.alberta.ca/speeches/speeches-2008-apr-21-Edm_Chamber.cfm

The Spirit of Alberta: Alberta's Cultural Policy
http://culture.alberta.ca/culturalpolicy/pdf/SpiritofAlberta.pdf

The 20-Year Strategic Capital Plan to Address Alberta's Infrastructure Needs
http://treasuryboard.alberta.ca/docs/20YSCPweb.pdf

Water for Life: Alberta's Strategy for Sustainability
http://www.waterforlife.alberta.ca/

Responsible ACTIONS

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