

Government of Alberta ■

# BUDGET 2010

*Striking the Right Balance*

Energy

BUSINESS PLAN 2010–13

Alberta ■

# Energy

BUSINESS PLAN 2010-13

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## ACCOUNTABILITY STATEMENT

The business plan for the three years commencing April 1, 2010 was prepared under my direction in accordance with the *Government Accountability Act* and the government's accounting policies. All of the government's policy decisions as of January 20, 2010 with material economic or fiscal implications of which I am aware have been considered in preparing the business plan.

The ministry's priorities outlined in the business plan were developed in the context of the government's business and fiscal plans. I am committed to achieving the planned results laid out in this business plan.

*Original signed by*

Ron Liepert, *Minister of Energy*  
January 21, 2010

## THE MINISTRY

The Ministry of Energy consists of the Department of Energy (the department) and the Alberta Petroleum Marketing Commission (APMC). It also includes the Energy Resources Conservation Board (ERCB or the Board) and the Alberta Utilities Commission (AUC or the Commission) which are agencies for which the minister is accountable.

The past, present and future of Alberta's energy industry is firmly based upon the development of the province's non-renewable resources including coal, minerals, natural gas, petrochemicals, conventional oil and oil sands. This portfolio is supplemented by the promising emergence of a renewable energy sector, which includes wind, bioenergy, solar and hydro generated electricity. The responsible development of the province's energy resources, with a commitment to the environment and the economic benefits that development provides to Albertans, is central to the Department of Energy's mandate. The department is also engaged in promoting energy efficiency and conservation by both Albertans and industry.

The department grants industry the right to explore for and develop energy and mineral resources. It is also responsible for establishing, administering and monitoring the effectiveness of fiscal and royalty systems, which provide appropriate returns for Albertans as owners of the oil and gas resource, while at the same time encouraging additional investment that creates jobs and economic prosperity.

The APMC accepts delivery of the Crown's royalty share of conventional crude oil<sup>1</sup> and sells it at current market value. The APMC's operations are fully integrated within the department and funded by the Crown.

The ERCB is an agency of the Government of Alberta with responsibility to regulate Alberta's energy resource sector. While the ERCB is accountable to the Minister of Energy, it makes its regulatory decisions independently in accordance with relevant statutes and regulations. It establishes and applies technical standards for the safe and reliable operation of energy facilities while having regard for social, economic and environmental effects, including resource conservation. The ERCB conducts inspections to ensure compliance with the regulations it administers. The ERCB also provides geoscience and other technical information and expertise to government, industry, and the public in support of the sustainable development of Alberta's energy and mineral resources.

The AUC is an independent, quasi-judicial agency of the Government of Alberta that ensures the delivery of Alberta's utility services takes place in a manner that is fair, responsible, and in the public interest. The AUC regulates investor-owned electric, natural gas and water utilities, as well as some municipally-owned electric utilities, to ensure Albertans receive safe and reliable utility services at reasonable rates. The AUC is responsible for making timely decisions on the siting of major natural gas and transmission facilities, as well as power plants. It also makes rules about the operation of retail and natural gas electricity markets and adjudicates on market and operational-rule contraventions that the Market Surveillance Administrator brings to the AUC. While the Minister of Energy is responsible for the AUC, the AUC makes its decisions independently and transparently in accordance with relevant statutes and regulations.

- 1 Unlike other energy commodities, conventional crude oil royalties are paid with "in-kind" products which are sold in the market.

## VISION

*Alberta is a global energy leader, recognized as a responsible world-class energy supplier, an energy technology champion, a sophisticated energy consumer and a solid global environmental citizen.*

## MISSION

Assure sustained prosperity in the interests of Albertans through the responsible development of energy and mineral resources, and leadership in energy technology, conservation and efficiency.

The *Provincial Energy Strategy* outlines this vision and charts a course that builds on our strengths, addresses our challenges and pursues a strategic approach. The ultimate time horizon commanded by this strategy is long-term, but over each horizon we will plot a steadfast course toward key outcomes. Three desired outcomes are critical to realizing our vision: clean energy production, wise energy use, and sustained economic prosperity. As policy makers and regulators take the necessary actions to meet these goals, Alberta will follow a path of sustainable prosperity which will allow us to play a significant proactive role in our own future and demonstrate leadership by exerting our full influence on the world stage.

## LINK TO THE GOVERNMENT OF ALBERTA STRATEGIC BUSINESS PLAN

The ministry is committed to the government's strategic business plan. The key linkages and contributions of the ministry to the Government of Alberta goals are highlighted below:

### **Government of Alberta Goal 1: Alberta will have a prosperous economy.**

The ministry promotes expansion of production from Alberta's oil sands, enhanced energy infrastructure, increased recovery of conventional oil and natural gas, development of unconventional gas, renewable energy sources, and increased value-added upgrading of Alberta's energy resources.

**Government of Alberta Goal 3: The high quality of Alberta’s environment will be sustained.**

The ministry will work with stakeholders to meet provincial climate change targets for emission reduction and carbon capture and storage and technological innovations that enhance environmentally sustainable energy development.

**Government of Alberta Goal 4: Alberta will have a financially stable, open and accountable government and maintain its strong position nationally and internationally.**

The ministry assesses and collects resource revenue from the development of Alberta’s energy and mineral resources. In 2008-09 non-renewable resource revenue accounted for about 33 per cent of the provincial government’s total revenue. The ministry has implemented the Alberta Royalty Framework for Alberta. The contribution of the energy and mineral sectors to provincial revenue will continue to support the avoidance of a provincial sales tax, the continued low personal and corporate income tax rates, and the continued provision of priority programs and services on which Albertans depend.

**Government of Alberta Goal 10: Alberta will have effective and efficient transportation infrastructure.**

The ministry will develop and implement policies to enable sufficient and reliable pipeline and electric transmission facilities are available in a timely manner to support continued economic growth in the province.

## **SIGNIFICANT OPPORTUNITIES AND CHALLENGES**

### **Opportunities:**

#### **Alberta’s Energy Supply**

The Western Canada Sedimentary Basin’s deposits of oil, gas, oil sands and coal make it one of the most concentrated sources of fossil fuels in the world. Additional potential could be reached by tapping more of what we currently leave in the ground (e.g. enhanced oil recovery), developing our substantial unconventional gas (coalbed methane, shale gas, tight sands), and our extensive wind, solar and bioenergy resources.

#### **Wise Energy Use**

Through wise investment in better technologies and adoption of improved energy-use practices, Albertans will get more heat, light, and electricity from the energy we use in our homes, industries and goods and services, decreasing costs and lessening our footprint on the environment.

#### **Value-Added**

Alberta is in a unique position to develop leading industrial and petrochemical upgrading and refining clusters based on transforming raw feedstocks into synthetic gas and gas liquids for petrochemical development. At the same time we can capture and store carbon emissions and produce electricity for the provincial grid.

#### **Research and Innovation**

Oil sands hold enormous potential, but will require new technologies, research and deployment to achieve full production potential and drive clean energy solutions. New technologies will also expand opportunities for oil and gas resources and transition the use of Alberta’s abundant coal resources to low emission/clean power generation, coal gasification and industrial feed stocks.

#### **Carbon Capture and Storage (CCS)**

In its ultimate role, CCS is an enabler of clean gasification processes and are key technology components to realizing the commercial viability of clean fossil fuels. The Western Canada Sedimentary Basin is also one of the world’s most attractive sites for storing carbon emissions. Ultimately, Alberta’s expertise in the science of solutions will be valued and an exportable resource unto itself.

## **Pipelines**

The encouragement of outbound pipeline systems can open new markets for Alberta's natural gas and oil sands products. This includes supporting market diversification through developing capacity to deliver product to Canada's west coast for shipment to other international markets.

## **Challenges:**

### **Energy Prices and Resource Revenues**

Energy revenues peaked in 2008-09. The increased supply of natural gas in the United States and uncertainty of natural gas demand growth will impact Alberta's economy in the foreseeable future. Given the forecasted decline in conventional oil and gas production, oil sands royalties and the development of unconventional gas may be the key energy developments of the next decade.

### **Oil Sands Development**

Expansion of environmental legislation (particularly low carbon fuel standards) in other North American jurisdictions could affect markets for Alberta's bitumen and synthetic crude oil. Alberta's challenge is to demonstrate environmentally responsible development of our oil sands while facilitating sustainable prosperity.

### **Electricity Generation and Transmission Capacity**

Electricity transmission capacity is required in advance of need, to enable new generation and meet long-term load growth throughout the province. Improving electricity infrastructure will also lay the foundation for greener energy, lower-cost electricity, greater potential for renewable energy sources and future economic growth that supports more energy and fuel efficient consumer products.

### **Capacity and Expertise**

The energy business is complex and knowledge intensive. Employees' skills are often attractive to industry resulting in strong competition for those with specialized expertise and skills. In recent years the ministry has experienced greater difficulty in finding technical and professional people with the skills and knowledge to maintain technical competency and fulfill our mandate.

### **Climate Change**

Alberta will continue to address concerns over its emissions and adapt as new environmental standards are mandated. The need to adjust energy operations to meet evolving provincial and federal legislation for greenhouse gas emission regulations and carbon-related legislation will be a challenge to industry and the province.

### **Competitiveness**

Alberta is looking at the global competitiveness of Alberta energy resources in the face of the current economic climate and emergence of low-cost production in other jurisdictions. The economic downturn and reduction of demand, combined with a significant increase in the forecasted shale gas supply potential in North America, has put significant downward pressure on natural gas prices and drilling activity in Alberta. Alberta has significant shale gas resources; however their development is in its infancy.

## STRATEGIC PRIORITIES

Through the ministry's review of external and internal challenges and environmental factors, the strategic priorities described below have been identified. These are in addition to the important ongoing core activities of the ministry.

- 1. Provincial Energy Strategy**  
**Linkage:**  
**Goals 3, 4, 5, 6, 7, 8 and 9**

Implement the vision and actions contained in the *Provincial Energy Strategy*.
- 2. Carbon Capture and Storage**  
**Linkage:**  
**Goal 3**

Address carbon capture and storage policy gaps, and initiate large scale demonstration projects through the *Carbon Capture and Storage Funding Act*.
- 3. Oil sands research**  
**Linkage:**  
**Goal 8**

Support research on new oil sands extraction processes that use less energy, less water, reduce tailings ponds, improve land reclamation and support the oil sands strategic plan.
- 4. Regulatory framework**  
**Linkage:**  
**Goals 3 and 10**

Review the regulatory framework of energy activities in Alberta to assure efficient and streamlined delivery of the outcomes established in provincial resource and environmental management policies.
- 5. International energy relations**  
**Linkage:**  
**Goals 3 and 5**

Promote increased international awareness of Alberta as a global energy supplier, an energy technology champion, a sophisticated energy consumer and a solid global environmental citizen, so Alberta energy products continue to have access to markets.
- 6. Upgrading and refining capacity**  
**Linkage:**  
**Goal 4**

Implement strategies to increase upgrading and refining capacity in Alberta, including the implementation of Bitumen Royalty-In-Kind.
- 7. Electricity transmission**  
**Linkage:**  
**Goals 7, 9 and 10**

Develop and implement policies to allow for sufficient and reliable electric transmission facilities, in a timely manner, to meet the needs of a growing economy and population.
- 8. Investment competitiveness**  
**Linkage:**  
**Goal 1**

Develop a common understanding of Alberta's investment competitiveness within the natural gas and conventional oil sectors; develop recommendations for government consideration and improve working relationships with industry stakeholders.

- 9. Organization and staff** Implement human resource development and workforce planning strategies to retain, attract and develop employees to maintain a competent and committed workforce that meets current and future needs.
- Linkage:**
- Goal 11**

## CORE BUSINESSES, GOALS, STRATEGIES & PERFORMANCE MEASURES

### Core Business One: Assuring energy supply and benefits from energy and mineral resource development for Albertans

The Department of Energy encourages private sector development of Crown-owned energy and mineral resources in an environmentally sustainable manner. In return, the Department of Energy receives revenues in the form of royalties, bonus bids, offset compensation, annual rental fees and freehold mineral tax. To foster effective use and conservation of energy and mineral resources the ministry encourages industrial integration and increased value-added resource upgrading in Alberta. This core business supports working with other ministries on resource development policy, and the sustained economic prosperity and clean energy production outcomes outlined in the *Provincial Energy Strategy*.

## GOAL ONE **1** Alberta has a competitive and effective royalty system, incenting development and maximizing benefits to Albertans

**What It Means** Alberta will sustain a royalty regime which attracts industry investment, creating economic activity and jobs. It also enables that government, as the resource owner, receives an appropriate share of revenues from the development of these resources. A strong energy sector provides royalties for Albertans, jobs, business opportunities, tax revenue, and numerous other benefits to the provincial economy. Success is measured by sustaining vibrant industry activity, and a competitive fiscal regime that attracts investment.

- Strategies**
- 1.1 Continue to monitor the effectiveness and competitiveness of Alberta's royalty regime in light of changing economic circumstances.
  - 1.2 Alberta's royalty regime will continue to support Government of Alberta economic and resource development outcomes.

Performance Measure	Last Actual (year)	Target 2010-11	Target 2011-12	Target 2012-13
1.a Combined tax and royalty rates for Alberta natural gas and conventional oil production, compared to other jurisdictions <sup>2,3</sup> (The target for this measure will be determined following the investment competitiveness study <sup>4</sup> )	n/a <sup>1</sup>	Alberta will have a combined royalty and tax rate that is among the top 3 lowest/most competitive compared to similar jurisdictions.		

**Notes:**

- 1 Alberta's new royalty framework became effective January 1, 2009, therefore performance measure information for the last actual period is unavailable at this time. Reporting of this information will begin in the 2011-14 Business Plan.
- 2 The combined tax and royalty rate calculation will combine the federal and Alberta corporate income tax rates and an effective price and quantity weighted average royalty rate. This rate will be based on the tax and royalty rates applicable on the incremental revenue after costs have been recovered.

- 3 Comparator jurisdictions for Alberta include British Columbia, Saskatchewan, and the following USA states: Texas, Louisiana, Wyoming, Colorado, New Mexico, California, Pennsylvania, Oklahoma, and New York.
- 4 Targets to be established following completion of the Natural Gas and Conventional Oil Investment Competitiveness Study Project.

### **Supplemental Information:**

Maximizing the benefits from resource development for Albertans requires that Alberta have a competitive fiscal and regulatory structure and a culture that incents and encourages technological innovation and entrepreneurial spirit. This is because Alberta competes for investment capital and knowledge resources in a North American and global context, and investors and companies must be confident that Alberta is a place that they will get a fair return and be supported in their entrepreneurial efforts. The fiscal system must be applied within the overall context of investment competitiveness.

Thus, comparing the combined tax and royalty rate among competing jurisdictions, is not enough. Other factors affect competitiveness and the benefits from oil and gas activity are more than direct royalties and taxes. Benefits also include jobs, business opportunities, technological innovation and learning and related economic activity that results from sustainable oil and gas industry activity.

On this basis, we will track the combined tax and royalty rate for each comparator jurisdiction while at the same time tracking key indicators of sustainable and vibrant industry activity.

Key indicators will include:

- crude oil production;
- natural gas production;
- oil and natural gas prices;
- land sales;
- total metres drilled;
- total expenditures;
- average number of active drilling rigs;
- pipeline utilization; and
- employment.

Published sources will include Provincial, State, and Federal statutes and regulations supplemented with reliable and accepted information from recognized agencies such as the USA Energy Information Administration and the Alberta Energy Resources Conservation Board.

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## **GOAL TWO** **Energy and mineral resource revenues are accurately calculated, collected and reported**

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**What It Means** Energy's business processes, systems and controls result in accurate calculation, assessment and collection of all amounts that should be collected. In 2008-09 non-renewable resource revenue accounted for \$11.9 billion dollars or approximately 33 per cent of the Government of Alberta's total revenue.



- Strategies**
- 2.1 Continue to provide clear communication to industry with regard to filing complete and accurate information.
  - 2.2 Continue to support enhancement of the ministry's information technology systems and infrastructure that are critical to supporting resource revenue assessment and collection processes.

Performance Measures	Last Actual 2008	Target 2010-11	Target 2011-12	Target 2012-13
<b>2.a Revenues from Oil, Oil Sands, Gas and Land Sale Bonuses are accurately calculated:</b> Demonstration of checks, internal audits, process for correcting errors, and that any errors have been corrected <sup>1</sup>				
• Oil	100%	} 100%	} 100%	} 100%
• Oil Sands	100%			
• Gas	100%			
• Land Sale Bonuses	100%			
<b>2.b Revenues from Oil, Oil Sands, Gas and Land Sale Bonuses are fully collected:</b> Percentage of amounts collected compared to amounts owed <sup>1</sup>				
• Oil	100%	} 100%	} 100%	} 100%
• Oil Sands	100%			
• Gas <sup>2</sup>	100%			
• Land Sale Bonuses	100%			

**Notes:**

- 1 The data for 2.a and 2.b are based on calendar year.
- 2 The result for 2.b (Gas) is rounded. There are uncollectable revenues, but these total less than 0.1 per cent.

**Sources:**

Department of Energy, Land Automated Mineral Agreement System (LAMAS), and Petroleum Registry of Alberta (PRA)

## GOAL THREE **3** Energy and mineral resource development occurs in a responsible, environmentally sustainable manner and supports Government of Alberta outcomes

**What It Means** The *Provincial Energy Strategy* provides direction for addressing emerging energy and mineral trends. The ministry is encouraging clean energy production and investment in future energy development in a manner that protects the environment and public safety while integrating broader considerations of social, economic, resource, environmental and cumulative effects.

- Strategies**
- 3.1 Work with other government ministries and major stakeholders to implement the *Provincial Energy Strategy* and the long term strategic plan for oil sands development *Responsible Actions: A Plan for Alberta's Oil Sands*.
  - 3.2 Create and implement an integrated approach for policy assurance and regulation in Alberta that meets the intent of the *Provincial Energy Strategy* and can be applied to oil and gas extraction and production activities.
  - 3.3 Develop and implement appropriate policy regarding nuclear power in Alberta based on the views expressed by Albertans in the recent comprehensive consultations.

- 3.4 Explore and promote opportunities for additional hydroelectric generation and remove barriers to the development of additional wind generation in Alberta.
- 3.5 Work with other ministries and stakeholders to implement the provincial action plan on climate change and the recommendations from the Carbon Capture and Storage Development Council, in particular the implementation of carbon capture and storage research and demonstration projects.
- 3.6 Work with other ministries and stakeholders to develop a policy and regulatory framework that enables the deployment of carbon capture and storage.
- 3.7 Conduct an Assurance Review of the regulatory processes that would apply to Carbon Capture and Storage (CCS) deployment in the province to build a world class regulatory process, develop public confidence in CCS technologies and promote Alberta's CCS investment.
- 3.8 Lead Alberta's strategic participation in regional, national and international energy initiatives, promoting energy trade, provincial participation in international energy discussions and negotiations, and improved access to international markets.
- 3.9 Work with other ministries on implementing the provincial *Land-use Framework, Water for Life: Alberta's Strategy for Sustainability*, cumulative effects management, biodiversity strategy, species at risk recovery plans, rural development and access management planning initiatives.
- 3.10 Work with other ministries on policies or regulatory refinements to support the development of unconventional gas resources, including coal bed methane, shale gas, and tight gas, in an environmentally friendly way.
- 3.11 Complete a mature oilfield review and enhance, if necessary, policy infrastructure for optimization, continued productivity and sustainable development of conventional oil within the mature basin context of Alberta.

Performance Measures	Last Actual (year)	Target 2010-11	Target 2011-12	Target 2012-13
3.a <b>Carbon Capture and Storage:</b> This measure is under development. It will report annual amounts of injected carbon dioxide in Alberta	n/a <sup>1</sup> (2008)		5 Megatonnes by 2015 <sup>2</sup>	
3.b <b>Upstream Oil and Gas Investment:</b> Upstream industry investment in Alberta – Annual capital expenditure in Alberta on exploration and development of oil, oil sands and gas resources <sup>3</sup> (\$ billions)	37.7 (2007)	23 to 30	23 to 30	23 to 30

**Notes:**

- 1 The amount of carbon dioxide injected will increase as projects come on stream and should be fully implemented by 2015.
- 2 The amount of carbon dioxide injected will be monitored and reported for projects funded by the department through the \$2 billion CCS program.
- 3 The results do not include bonuses from the sale of mineral rights. Alberta remains Canada's top location for upstream oil and gas industry investment (exploration and development). Overall, in 2007, total industry investment in Alberta accounted for about 81 per cent of Canada's total oil and gas industry spending of \$46.8 billion.

**Sources:**

- 3.a Department of Energy
- 3.b Statistics Canada's Private and Public Investment publication

## The ministry and its partners have the required policies and programs to encourage value-added development in Alberta

**What It Means** Alberta currently has a world-class petrochemical industry, and can achieve additional benefits by upgrading energy resources into higher value commodities and products. The oil sands, when combined with Alberta's ethane-based petrochemical industry, create significant potential for more value-added development in Alberta. The ministry, partner departments, and interested parties will collaborate to shape a value-added strategy for Alberta, one of the key directions in the *Provincial Energy Strategy*.

- Strategies**
- 4.1 Develop policy and program recommendations to increase upgrading, refining and petrochemical capacity in Alberta.
  - 4.2 Increase the value of Crown barrels received under Bitumen Royalty-In-Kind by directing volumes up the value chain.
  - 4.3 Work with other ministries to promote and market Alberta's energy resource development and value-added opportunities to secure new investment, market growth, employment and business opportunities.
  - 4.4 Work with other ministries to assess the value of additional pipeline capacity to reach and expand markets including industry development of greater pipeline capacity to the West Coast of Canada for offshore delivery of bitumen, synthetic crude oil and refined products.
  - 4.5 Facilitate the development and utilization of waste to energy opportunities for gasification, renewable fuels and alternative feedstocks.

Performance Measures	Last Actual 2008	Target 2010-11	Target 2011-12	Target 2012-13
4.a <b>Ethane Demand in Alberta</b> – in barrels per day <sup>1</sup>	223,000	60,000 – 85,000 additional barrels of ethane per day over next five years		
4.b <b>Ethanol Production in Alberta</b> – millions of litres (based on projected Alberta gasoline consumption pool)	40	150 million to 300 million		
4.c <b>Biodiesel Production in Alberta</b> – millions of litres (based on projected Alberta distillate consumption pool)	19	55 million to 110 million		

**Note:**

1 Ethane Demand in Alberta includes small volumes used for enhanced oil recovery.

**Sources:**

4.a ERCB 2008 ST-98 (historical data) and Department of Energy (target)

4.b Department of Energy

4.c Department of Energy

## Core Business Two: Leading and engaging citizens, communities, industry and governments to achieve effective stewardship of Alberta’s energy resources

Citizens, governments and industry share responsibility for the stewardship of energy resources so vital to our economic/social attractiveness and future competitiveness. Through effective communication and information systems, education and outreach programs, and sound regulatory frameworks, this core business supports the wise energy use outcome outlined in the *Provincial Energy Strategy*.

### GOAL FIVE **5 Albertans are aware of and understand existing and emerging trends and opportunities relating to energy development and use in Alberta**

**What It Means** The focus of this goal is to enhance understanding of changing energy trends, new energy sources and issues related to the development of energy, as well as improving awareness around how the province develops and uses energy, its economic benefits, and environmental protection measures.

- Strategies**
- 5.1 Enhance provincial, national and international understanding of Alberta’s energy resources and work being done to develop these in an environmentally sustainable manner.
  - 5.2 Review the effectiveness of current communications and public information to provide Albertans with easily accessible, relevant and high quality data, information, services, knowledge, and advice relative to the energy and utility sectors.
  - 5.3 Proactively identify, communicate and address emerging issues that face energy and mineral development in Alberta.
  - 5.4 Work within Alberta’s education system to facilitate a flow of age-suitable information about the energy industry, its importance and its future.
  - 5.5 Develop and deliver education supports to raise awareness of Carbon Capture and Storage technology and its important contribution to greenhouse gas mitigation objectives.

Performance Measure	Last Actual 2009	Target 2010-11	Target 2011-12	Target 2012-13
5.a Albertans’ Assessment of their Energy Knowledge <sup>1</sup>	70% <sup>2</sup>	n/a <sup>3</sup>	71%	n/a <sup>3</sup>

**Notes:**

- 1 The results are based on an October 2009 Omni Alberta survey conducted by Leger Marketing asking the question: “On a scale from 1 to 7, 1 being ‘Not at all Knowledgeable’, and 4 being ‘Knowledgeable’ and 7 being ‘Very Knowledgeable’ how knowledgeable do you feel you are about the energy industry in Alberta?”
- 2 Results denote the percentage of Albertans who rate themselves from “Knowledgeable” to “Very Knowledgeable” (survey categories 4, 5, 6, and 7).
- 3 This survey will be conducted every second year (biennially).

**Source:**

Department of Energy

**What It Means** Managing energy efficiency and conservation helps mitigate rising energy costs and environmental impact; while investments in energy efficiency and conservation reduce the energy intensity per dollar of GDP. The ministry works with other ministries, municipalities and industry to achieve the significant benefits of a lessened impact on the environment, reduced costs to residents, improved industry competitiveness, and new innovation.

- Strategies**
- 6.1 Encourage the natural gas industry's utilization of best practices for fuel gas efficiency in upstream gas processing and work with industry to develop benchmarks for fuel gas use.
  - 6.2 Support fuel efficiency audits for oil sands projects.
  - 6.3 Promote smart metering, smart grids and better consumption measurement to help Albertans better understand and adjust their electricity consumption patterns and adopt greener practices.
  - 6.4 Facilitate the reduction of energy intensity through gains in energy efficiency and demonstrated government leadership.
  - 6.5 Support development of an energy efficiency policy framework and provincial legislation.

Performance Measure	Last Actual 2009	Target 2010-11	Target 2011-12	Target 2012-13
6.a <b>Increased Fuel Gas Efficiency Reporting:</b> Percentage of total fuel gas used by industry participants who voluntarily reported fuel gas efficiency information <sup>1</sup>	68%	n/a <sup>2</sup>	72%	n/a <sup>2</sup>

**Notes:**

- 1 The top 15 industry fuel gas consumers used 68 per cent of all fuel gas consumed in Alberta in 2008. The department aims to increase industry participation in the ERCB's voluntarily reporting process. This is the first year the data collection process was undertaken. The top 15 users of fuel gas were contacted to participate, and participation will expand.
- 2 Results will be collected every second year (biennially).

**Source:**

Energy Resources Conservation Board

Supplemental Information:	Gas Plants	Gas Gathering	Oil Batteries	Gas Batteries
<b>2008 Fuel Gas Indicators by Facility:</b> 10 <sup>3</sup> m <sup>3</sup> of fuel gas per day (bcf/yr)	11,766 (152)	10,083 (130)	1,970 (25)	5,099 (66)

## Core Business Three: Leading and supporting the development of energy related infrastructure, innovation, markets and regulatory systems

Supporting sustained economic prosperity as outlined in the *Provincial Energy Strategy*, this core business secures the provision and maintenance of “hard” infrastructure such as electricity transmission lines, natural gas and oil pipelines, and carbon capture and storage facilities, as well as “soft” infrastructure such as research networks and regulatory frameworks for fair and responsible development that is in the public interest.

### GOAL SEVEN **7** Energy related infrastructure is built and sustained to support the Government of Alberta’s objectives

**What It Means** Alberta’s electricity system requires a robust, reliable and efficient transmission system to meet increasing demand. Natural gas and oil pipelines are needed to access new markets, and infrastructure is needed to support carbon capture and storage. Energy works with other ministries to encourage development of energy infrastructure and broader social/community infrastructure in support of future economic prosperity.

- Strategies**
- 7.1 Minimize regulatory duplication arising from overlapping federal and provincial responsibilities.
  - 7.2 Advocate for optimal tolls, tariffs and access to existing and new pipelines and wires that transport Alberta energy resources to North American and international markets.
  - 7.3 Lead the development of a plan for a comprehensive upgrade to the transmission system in Alberta.
  - 7.4 Adopt and implement a policy to build transmission, as part of the Alberta interconnected electricity system, to zones of renewable or low emission electricity.
  - 7.5 Adopt and implement a policy to build interties to other markets to enable an adequate supply of electricity to Alberta.
  - 7.6 Improve the policy and regulatory framework to encourage distributed generation including microgeneration and mid scale opportunities.
  - 7.7 Develop policy that will remove barriers to the wide scale development of carbon capture and storage (CCS) that, along with the initial projects supported by the CCS funding program, will encourage investment in CCS infrastructure.

Performance Measures	Last Actual (year)	Target 2010-11	Target 2011-12	Target 2012-13
7.a <sup>1</sup> <b>Magnitude of Transmission Must Run (TMR) Congestion (GWh)<sup>2</sup></b>	1,005 (2008)		Targets to be established <sup>5</sup>	
<b>Magnitude of Constrained Down Generation (GWh)<sup>3</sup></b>	295 (2008)		Targets to be established <sup>5</sup>	
<b>Transmission Losses (%)<sup>4</sup></b>	3.8% (2008)		Targets to be established <sup>5</sup>	
7.b <sup>1</sup> <b>Number of Microgeneration Sites (installed Microgeneration capacity)</b>	99 <sup>6</sup> (2009)		Targets to be established <sup>7</sup>	

**Notes:**

- 1 Results for 7.a and 7.b are based on the calendar year.
- 2 Magnitude of Transmission Must Run refers to the amount of generation that must be running in a specific region where there is insufficient transmission available to supply the load in that region.
- 3 Magnitude of Constrained Down Generation refers to the amount of generation that has to be reduced when there is insufficient transmission available to enable its energy to get to the load that needs it.
- 4 Transmission Losses are indicated as a percentage of total Alberta interconnected load.
- 5 Targets for 7.a to be established in conjunction with the Alberta Electric System Operator for the 2011-14 Business Plan.
- 6 As of September 30, 2009, there are 99 microgeneration site installations, representing capacity of 372 KW.
- 7 Targets for 7.b have not been established. The number of sites is being monitored. The policy will be reviewed after reaching 25 MW or 300 installed sites, whichever comes first.

**Source:**

Alberta Electric System Operator

## GOAL EIGHT Promote effective innovation policies and programs to achieve technology and processing improvements in the development of energy and mineral resources

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**What It Means** Technology is important to realizing our energy vision and outcomes of the *Provincial Energy Strategy*. New technologies, along with enhanced deployment of proven technologies, will reduce emissions, development costs, and reduce the use of natural gas and water in energy development, while realizing large scale carbon capture, increased recovery, and expansion of Alberta's renewable energy sources. The ministry will work with Alberta Advanced Education and Technology and other stakeholders to support and encourage energy research by industry, government, universities and research organizations.

- Strategies**
- 8.1 Work with other ministries, research organizations and industry, to develop an integrated, coordinated approach to research that supports environmentally sustainable energy development.
  - 8.2 Support research on new gas and crude oil extraction processes that use less energy, less water, reduced tailings ponds and improve land reclamation, including increasing knowledge transfer by making research information more accessible.

**Performance Measure Under Development:**

All department facilitated research is placed in an inventory with public access wherever possible.

**Supplemental Information:**

Collection of these results to commence in 2010 and in conjunction with this, targets will be established.

## GOAL NINE Alberta has a competitive and efficient energy system ensuring Albertans' electricity and natural gas needs are met

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**What It Means** Reliable and efficient energy markets are vital to the social and economic foundation of Alberta, and the *Provincial Energy Strategy*. Through policy and market design for wholesale and retail electricity and natural gas markets, reliable energy supplies and competitive prices for Alberta consumers is assured.

- Strategies**
- 9.1 Develop recommendations to assure that Alberta's electricity system continues to operate effectively to meet Alberta's growing needs.



- 9.2 Research, gather and publish metrics and tools to assess the performance of the electricity market.
- 9.3 Monitor the development and implementation of mandatory reliability standards for the North American transmission grid.
- 9.4 Harmonize the regulatory requirements for electricity and natural gas retail markets to provide a consistent set of retail market rules.
- 9.5 Develop policy recommendations to support advanced metering technology development and use in the retail market.
- 9.6 Participate with government agencies and regulated electricity and natural gas retailers to provide consumers, industry and other government agencies with clear and timely communication to increase consumer understanding of Alberta's competitive marketplace for natural gas and electricity.

Performance Measure	Last Actual 2008	Target 2010-11	Target 2011-12	Target 2012-13
9.a <b>Power Generation:</b> Margin (MW) between supply and peak demand <sup>1</sup>	23%	Maintain a minimum 7% margin over peak load <sup>2</sup>	Maintain a minimum 7% margin over peak load <sup>2</sup>	Maintain a minimum 7% margin over peak load <sup>2</sup>

**Notes:**

- 1 Wind power is not included as it is not dispatchable on a consistent basis. Tie line capacity is also not included.
- 2 The seven per cent operating reserve requirement has been established by the Western Electricity Coordinating Council (WECC) as a minimum standard for reliability in member jurisdictions. WECC is responsible for coordinating and promoting bulk electric system reliability in the Western Interconnection. This includes Alberta and British Columbia, the northern portion of Baha, California; Mexico; and all or portions of the 14 Western states between.

**Sources:**

Energy Resources Conservation Board, Alberta Electric System Operator and Department of Energy

## GOAL TEN **10** Regulation of energy and utility development in Alberta is fair, responsible and in the public interest

**What It Means** The Government of Alberta has established, in legislation and policy, a regulatory framework intended to ensure that the discovery, development and delivery of Alberta's energy resources and the development of Alberta's utility system take place in a manner that is fair, responsible and in the public interest.

The ERCB regulates the discovery, development and delivery of Alberta's energy resources, including oil, natural gas, oil sands, coal, and pipelines. Regulation is needed so non-renewable resources are produced in a safe, responsible, and efficient manner. The ERCB also ensures that development takes place in the public interest, having regard for social, economic and environmental impacts, including resource conservation. The ERCB consistently re-examines its regulatory requirements and improves them wherever needed by engaging its stakeholders. As the development of Alberta's unconventional and newer resources is growing, the ERCB will be proactive in identifying and addressing emerging issues while continuing to deliver effective regulation.



The AUC makes timely decisions on regulated utility rates, and electricity and natural gas transmission and distribution facilities - which are needed to attract investment, meet future needs and ensure fair pricing. The AUC has rule-making responsibility related to data communications transactions and the delivery of these transactions to market participants to ensure well-functioning electricity and natural gas markets.

- Strategies**
- 10.1 Maintain high standards of public safety, environmental protection and energy resource conservation by ensuring ERCB regulatory requirements are relevant, understood and complied with.
  - 10.2 Ensure effective, efficient and appropriate ERCB regulation of unconventional energy resources and participate and provide expertise on government initiatives directed at integrated and coordinated regulation of carbon capture and storage, unconventional gas and oil sands to improve the regulatory framework.
  - 10.3 Enhance ERCB stakeholder engagement and provide them with information, knowledge and advice related to the energy sector.
  - 10.4 Continue to ensure that the ERCB's sustainable liability management programs effectively address and regulate industry management of oil and gas facility abandonment and remediation liabilities and supports AENV in managing reclamation liabilities.
  - 10.5 Improve processes for hearing transmission facility applications to ensure that they are conducted in a timely manner and provide appropriate opportunities for public input. (AUC)

Detailed Business Plans for the ERCB and AUC are available on the following websites:

- <http://www.ercb.ca>
- <http://www.auc.ab.ca>

ERCB Performance Measure	Last Actual 2008	Target 2010-11	Target 2011-12	Target 2012-13
10.a <b>Regulatory Noncompliance:</b> Percentage of field inspections finding High Risk regulatory noncompliance	2.1%	Less than or equal to 3.0%	Less than or equal to 3.0%	Less than or equal to 3.0%

AUC Performance Measure	Last Actual 2008-09	Target 2010-11	Target 2011-12	Target 2012-13
10.b <b>Timeliness of the Needs and Facility Applications:</b> Percentage of needs and facility applications determined within 180 days of the application being deemed complete	100%	100%	100%	100%

**Sources:**

- 10.a Field Surveillance Inspection System database and Energy Resources Conservation Board waste management database
- 10.b Alberta Utilities Commission

**What It Means** Sustaining and building organizational capacity is fundamental to ministry effectiveness. To effectively position Energy to respond to current and evolving business requirements, this goal focuses on having the right resources, people, finances, information, technology, processes and tools in place.

- Strategies**
- 11.1 Implement workforce planning, development, succession, and retention strategies to maintain a competent and committed workforce now and into the future. Develop strategies for protection of information assets, corporate information and knowledge management, as well as business continuity and resumption plans.
- 11.2 Deliver human resource, financial management, information management, and technology business solutions that address emerging business needs and technology drivers in support of crucial business operations, and allow the retirement of aged business solutions.

Performance Measures	Last Actual 2009	Target 2010-11	Target 2011-12	Target 2012-13
<b>11.a Industry Satisfaction:</b>				
• with department services	82%	n/a <sup>1</sup>	80% or higher	n/a <sup>1</sup>
• with department electronic information management	90%	n/a <sup>1</sup>	80% or higher	n/a <sup>1</sup>
<b>11.b Work Environment:</b>				
<b>Department:</b>				
• Employee Engagement	75%	80% or higher	80% or higher	80% or higher
• Quality Work Environment	75%	80% or higher	80% or higher	80% or higher
<b>ERCB:</b>				
• Employee Engagement	80%	75% or higher	75% or higher	75% or higher
• Quality Work Environment	79%	78% or higher	78% or higher	78% or higher
<b>AUC:</b>				
• Employee Engagement	81%	80% or higher	80% or higher	80% or higher
• Quality Work Environment	81%	80% or higher	80% or higher	80% or higher

**Note:**

1 Industry Satisfaction surveys are conducted every second year (biennially).

**Sources:**

11.a Banister Research and Consulting

11.b Alberta Government Core Measures Survey (conducted annually)

## EXPENSE BY CORE BUSINESS

(thousands of dollars)

	Comparable			2010-11 Estimate	2011-12 Target	2012-13 Target
	2008-09 Actual	2009-10 Budget	2009-10 Forecast			
Assuring energy supply and benefits from energy and mineral resource development for Albertans	146,720	167,758	172,833	130,975	86,239	88,437
Leading and engaging citizens, communities, industry and governments to achieve effective stewardship of Alberta's energy resources	26,050	7,962	8,131	8,766	3,766	3,766
Leading and supporting the development of energy related infrastructure, innovation, markets and regulatory systems	221,509	325,523	225,716	316,786	419,072	423,976
<b>MINISTRY EXPENSE</b>	<b>394,279</b>	<b>501,243</b>	<b>406,680</b>	<b>456,527</b>	<b>509,077</b>	<b>516,179</b>

## MINISTRY STATEMENT OF OPERATIONS

(thousands of dollars)

	Comparable			2010-11 Estimate	2011-12 Target	2012-13 Target
	2008-09 Actual	2009-10 Budget	2009-10 Forecast			
<b>REVENUE</b>						
<b>Non-Renewable Resource Revenue</b>						
Natural Gas and By-Products Royalty	5,834,006	3,687,000	1,739,000	1,861,000	2,565,000	2,281,000
Crude Oil Royalty	1,800,120	1,249,000	1,821,000	2,137,000	2,223,000	2,255,000
Synthetic Crude Oil and Bitumen Royalty	2,973,132	1,008,000	1,856,000	3,249,000	4,136,000	5,112,000
Bonuses and Sales of Crown Leases	1,112,403	631,000	847,000	630,000	605,000	557,000
Rentals and Fees	159,865	143,000	156,000	135,000	126,000	118,000
Coal Royalty	35,770	27,000	34,000	35,000	37,000	35,000
Energy Industry Drilling Stimulus Program	-	(842,000)	(441,000)	(732,000)	(348,000)	-
<b>Total Non-Renewable Resource Revenue</b>	<b>11,915,296</b>	<b>5,903,000</b>	<b>6,012,000</b>	<b>7,315,000</b>	<b>9,344,000</b>	<b>10,358,000</b>
Freehold Mineral Rights Tax	260,913	200,000	165,000	167,000	189,000	196,000
Investment Income	2,661	3,100	2,700	2,800	2,900	2,900
Industry Levies and Licences	140,567	145,743	142,063	150,233	151,419	152,317
Other Revenue	39,553	9,859	9,859	9,859	9,859	9,859
<b>MINISTRY REVENUE</b>	<b>12,358,990</b>	<b>6,261,702</b>	<b>6,331,622</b>	<b>7,644,892</b>	<b>9,697,178</b>	<b>10,719,076</b>
<b>EXPENSE</b>						
<b>Program</b>						
Ministry Support Services	2,053	2,195	2,195	2,195	2,195	2,195
Resource Development and Management	173,343	179,018	179,251	143,112	93,376	95,574
Energy Regulation	177,270	171,957	170,157	161,957	161,957	165,963
Utilities Regulation	28,101	35,038	31,958	36,228	38,514	39,412
Carbon Capture and Storage	-	100,000	5,000	100,000	200,000	200,000
Orphan Well Abandonment	12,727	13,000	13,000	13,000	13,000	13,000
Valuation Adjustments and Other Provisions	785	35	5,119	35	35	35
<b>MINISTRY EXPENSE</b>	<b>394,279</b>	<b>501,243</b>	<b>406,680</b>	<b>456,527</b>	<b>509,077</b>	<b>516,179</b>
Gain (Loss) on Disposal of Capital Assets	-	-	-	-	-	-
<b>NET OPERATING RESULT</b>	<b>11,964,711</b>	<b>5,760,459</b>	<b>5,924,942</b>	<b>7,188,365</b>	<b>9,188,101</b>	<b>10,202,897</b>

## CONSOLIDATED NET OPERATING RESULT

(thousands of dollars)

	Comparable			2010-11 Estimate	2011-12 Target	2012-13 Target
	2008-09 Actual	2009-10 Budget	2009-10 Forecast			
Ministry Revenue	12,358,990	6,261,702	6,331,622	7,644,892	9,697,178	10,719,076
<i>Inter-ministry consolidation adjustments</i>	(2,025)	-	-	-	-	-
<b>Consolidated Revenue</b>	<b>12,356,965</b>	<b>6,261,702</b>	<b>6,331,622</b>	<b>7,644,892</b>	<b>9,697,178</b>	<b>10,719,076</b>
Ministry Expense	394,279	501,243	406,680	456,527	509,077	516,179
<i>Inter-ministry consolidation adjustments</i>	(2,025)	-	-	-	-	-
<b>Consolidated Expense</b>	<b>392,254</b>	<b>501,243</b>	<b>406,680</b>	<b>456,527</b>	<b>509,077</b>	<b>516,179</b>
Gain (Loss) on Disposal of Capital Assets	-	-	-	-	-	-
<b>CONSOLIDATED NET OPERATING RESULT</b>	<b>11,964,711</b>	<b>5,760,459</b>	<b>5,924,942</b>	<b>7,188,365</b>	<b>9,188,101</b>	<b>10,202,897</b>

## CAPITAL INVESTMENT BY PROGRAM

(thousands of dollars)

	Comparable			2010-11 Estimate	2011-12 Target	2012-13 Target
	2008-09 Actual	2009-10 Budget	2009-10 Forecast			
Resource Development and Management	9,906	2,315	2,315	2,315	1,315	1,315
Energy Regulation	14,909	21,700	21,700	24,200	23,200	9,000
Utilities Regulation	3,397	1,000	1,000	1,500	1,500	1,500
<b>MINISTRY CAPITAL INVESTMENT</b>	<b>28,212</b>	<b>25,015</b>	<b>25,015</b>	<b>28,015</b>	<b>26,015</b>	<b>11,815</b>