

Business Plan 2018–21

Energy

Accountability Statement

This business plan was prepared under my direction, taking into consideration our government's policy decisions as of March 7, 2018.

original signed by

Margaret McCuaig-Boyd, Minister

Ministry Overview

The ministry consists of the Department of Energy, the Alberta Energy Regulator, the Alberta Utilities Commission, the Alberta Petroleum Marketing Commission, the Post-closure Stewardship Fund, and the Balancing Pool. The ministry ensures sustained prosperity in the interests of Albertans through responsible resource development and the stewardship of energy and mineral resource systems.

- The Department of Energy enables responsible energy and mineral resource development that considers the social, economic and environmental outcomes that support Albertans' quality of life and the prosperity of the province. The department oversees Alberta's royalty and tenure systems; collects revenues from energy resource development; leads and coordinates strategic energy related policy discussions; develops strategic and integrated policies and plans for sustainable energy and mineral development; enables markets and Alberta's electricity system, and administers the Post-closure Stewardship Fund.
- The Alberta Energy Regulator is funded through an industry levy and is responsible for oil, natural gas, oil sands and coal development in Alberta. It ensures the safe, efficient, orderly and environmentally responsible development of Alberta's energy resources. This includes allocating and conserving water resources, managing public lands and protecting the environment while securing economic benefits for all Albertans.
- The Alberta Utilities Commission's operations are funded by Alberta rate payers through an administrative fee on Alberta's utilities and the independent system operator, and regulates the utilities sector, natural gas and electricity markets to protect social, economic and environmental interests of Alberta where competitive market forces do not.
- The Alberta Petroleum Marketing Commission is responsible for marketing the Crown's share of crude oil production. The Alberta Petroleum Marketing Commission supports projects that economically benefit the province through improving market access or maximizing the value of Alberta's non-renewable resources.
- The Post-closure Stewardship Fund, financed by carbon capture and storage operators in Alberta, is a liability fund that became active in 2015. Its role is to help provide for the maintenance of carbon capture and storage sites by the Government of Alberta, after carbon capture and storage operations cease and the government assumes liability for any stored carbon dioxide.
- The Balancing Pool supports a fair, efficient and openly competitive electricity market in Alberta by performing the legislated duties and responsibilities set out in its mandate, including managing the risks and maximizing the value of certain generating assets held on behalf of Alberta's electricity consumers.

A more detailed description of Energy and its programs and initiatives can be found at www.energy.alberta.ca.

Strategic Context

The outcomes and key strategies identified in this business plan are aligned with the strategic direction of the Government of Alberta.

Energy is a cornerstone of Alberta's economy and way of life. The mining, quarrying, and oil and gas extraction sector made up 27 per cent of provincial Gross Domestic Product, the value of all goods and services, in 2016. Alberta produced about 80 per cent of Canada's oil and 67 per cent of Canada's gas in 2016, and was the world's eighth largest producer of crude oil, and eighth largest producer of natural gas.

The Government of Alberta is committed to making sure the world knows that Alberta is the most forward-looking, responsible and progressive energy producer in the world. Climate change poses a business risk to natural resource companies. Anticipating this, Alberta's goal is to be seen as the preferred supplier of competitive oil and gas products providing the best products, in the safest manner, with low carbon intensity. The province's made-in-Alberta Climate Leadership Plan has demonstrated Alberta's commitment to being a sustainable energy producer and has helped to improve global perception of Alberta's oil and gas resources. Alberta will be able to continue to proudly supply oil to every corner of the globe because it will be the "best barrel" produced in the world.

The amount of non-renewable resource royalties collected each year depends on the prices that energy companies receive for these products and how much oil and natural gas is produced. As resource prices and production levels change over time, so do the royalties collected by the government. The amount of royalties collected by the Government of Alberta has fallen over the past few years due to declines in world energy prices.

Alberta's oil and gas industry has been negatively affected by falling energy prices brought on by rising North American crude oil and natural gas production, and limited access to new international markets. This has created significant challenges for the sector, particularly around industry investment and employment.

Oil prices significantly declined in late 2014, and remained relatively low throughout 2015 and 2016. West Texas Intermediate, the benchmark for the North American price of oil, decreased by 52 per cent from US\$ 99.05 per barrel in 2013-14 to US\$ 47.93 per barrel in 2016-17.

Natural gas prices also declined because of increasing production in the United States, large storage additions, and weak-to-moderate demand throughout the year. The Alberta Gas Reference Price decreased by 39 per cent from \$3.28 per gigajoule in 2013-14 to \$2.01 per gigajoule in 2016-17. Drilling activity for natural gas decreased because of lower natural gas prices and reduced demand from Alberta's traditional markets, due to higher production in the United States.

The lower oil price environment affected investment in both Alberta and competing jurisdictions. The significant oil price decline in late 2014 did not prevent total mining, quarrying, and oil and gas extraction sector investment in that year from setting an all-time Alberta record at \$61 billion. However, the price decline has impacted the industry since then. In 2015, Alberta experienced a significant decline in investment in this sector, down to \$40.3 billion, or a 34 per cent year-over-year decline. Preliminary actual results point to a further decline in 2016, at \$25.8 billion, an estimated 36 per cent decline from the 2015 level.

Alberta also has an abundance of natural gas liquids such as propane and butane, and heavier hydrocarbons like condensate. Natural gas liquids are driving much of Alberta's oil and gas exploration, as these get higher prices than natural gas. These liquids are used extensively in Alberta's oil sands to dilute thick bitumen to help transport it through pipelines.

Alberta's royalty systems are designed to be sensitive to economic factors so that they encourage continued activity and production when prices are low, and obtain a larger share of revenues when prices are high. Signs are visible that things are improving in Alberta in almost every facet of our economy, including the energy industry. Oil prices have been climbing, although they are not expected to return to the high levels experienced in the past, and activity in the energy industry is increasing once again as companies have adjusted to lower commodity prices. The result is more good jobs and hiring in Alberta.

To become more resilient to the effects of a volatile global energy market, Alberta is taking advantage of opportunities to diversify by creating value in downstream industries. This will enable a broader, stronger and more resilient economy. The Petrochemicals Diversification Program will provide support for new investment in projects that will create jobs and provide long term benefits to Albertans. Implementation of the Energy Diversification Advisory Committee recommendations will lead to increased value for the province from Alberta's resources by encouraging value-added processing in Alberta. A substantial long-term investment in downstream diversification is the commitment to provide bitumen, pay tolls at the Sturgeon Refinery which is planned for startup in 2018, and lend subordinated debt to North West Redwater Partnership pursuant to a number of agreements.

The Alberta government is continuing to pursue and advocate for increased market access for Alberta's energy products. Getting a Canadian pipeline to Canadian tidewater is the best way for our world-class energy producers to sell our oil at world prices on the global market. The federal approval of the Trans Mountain expansion project in the fall of 2016 was a significant step forward in gaining tidal access to new markets in Asia and Alberta's efforts to reduce emissions was a key factor in gaining this approval. The United States presidential permits issued for the Keystone XL pipeline in spring 2017 and Enbridge's Line 67 expansion in fall 2017 were also positive steps forward in supporting investment in the province. Alberta will continue to build on this momentum and strengthen relationships across Canada and around the world to find ways to get Alberta's energy products to new markets.

There has been a recent global shift away from high-emission sources of electricity to cleaner sources of generation. Coupled with this is the need for significant investment in new generation to meet future needs. In 2016, the province made landmark decisions about Alberta's electricity system that would eliminate emissions from coal-generated electricity by 2030 and help transition to a low-carbon economy. Results from the most recent Renewable Electricity Program auction, a program designed to expedite Alberta's transition to a cleaner electricity system, have resulted in about \$1 billion of private-sector investment in green power generation in Alberta. The province is moving towards a capacity market to ensure that Albertans have a reliable supply of electricity at stable, affordable prices. A capacity market pays electricity generators for having the ability to make power reliably and selling energy to the grid.

Alberta operates in a complex and competitive global marketplace with increasing development pressures on the landscape, and growing expectations from Albertans, and the world, for responsible resource development. Industry is also challenged to address these expectations while remaining competitive, and government must work to balance and optimize economic, social and environmental outcomes. Energy is committed to collaborating and engaging through forums such as the Integrated Resource Management System with other ministries and sectors, Indigenous communities, and various stakeholders to support integrated management and stewardship of Alberta's natural resources.

The Government of Alberta has identified equality as a priority and has made public commitments to advance equality specific to gender, age, cultural ethnicity, education, race, ability, language, geography, income, faith, family status and sexual orientation. Achieving equality of outcomes is intrinsically linked to social and economic growth and is vital to the realization of human rights for all. Energy is working collaboratively to operationalize this commitment through the establishment of a Centre of Responsibility and adoption of Gender-based Analysis Plus (GBA+) to assess the gender and diversity implications of engagement processes, policies, programs and initiatives.

Outcomes, Key Strategies and Performance Measures

Outcome One: Albertans benefit economically from responsible energy and mineral development and access to global markets

The ministry develops and manages policies and programs related to the province's royalty system. It accurately calculates and fully collects revenues from energy and mineral royalties, mineral rights leases, bonuses and rent. The ministry explores ways to encourage value-added processing within the province through the diversification of the energy resource value chains. This includes management of its processing and other agreements respecting bitumen processing at the Sturgeon refinery through the Alberta Petroleum Marketing Commission. It continues to seek opportunities to increase access to global markets to strengthen both provincial and national economies. The ministry represents Alberta at intergovernmental tables such as the Canadian Energy Strategy to shape initiatives to ensure they reflect Alberta's interests.

Key Strategies:

- 1.1 Develop policies and initiatives that support the diversification of energy resource value chains and value-added processing in the province.
- 1.2 Improve market access for Alberta's energy resources and products by emphasizing Alberta's commitment to reducing carbon emissions and fostering and strengthening energy-related relationships nationally and globally.

Performance Measures	Last Actual (Year)	Target 2018-19	Target 2019-10	Target 2020-21
1.a Revenues from oil, oil sands, gas, land sales and bonuses are fully collected				
• Percentage of amounts collected compared to owed	100% (2016-17)	100%	100%	100%
1.b Alberta's oil sands supply share of global oil consumption	2.6% (2016)	2.8%	2.9%	3.0%

Linking Performance Measures to Outcomes:

- 1.a It is the responsibility of the department to collect the Crown's share of energy and mineral development revenues on behalf of Albertans. This measure provides assurance that the government is collecting all revenues owed from the development of Alberta's resources.
- 1.b The increasing importance of Alberta oil sands in the global energy mix is a measure of success in being recognized as a responsible world-class energy supplier.

Performance Indicators	Actual (Year)	Actual (Year)	Actual (Year)	Actual (Year)
1.a Price ¹				
• West Texas Intermediate (US\$/ barrel)	99.05	80.48	45.00	47.93
• Alberta Gas Reference Price (C\$/GJ)	3.28 (2013-14)	3.51 (2014-15)	2.21 (2015-16)	2.01 (2016-17)
1.b Production				
Alberta's crude oil and equivalent annual production ²				
• Volume (thousands of barrels/day)	2,657	2,912	3,097	3,091
• As a percentage of Canadian production	76.4% (2013)	77.6% (2014)	80.0% (2015)	79.8% (2016)
Alberta's total marketable natural gas annual production ³				
• Volume (billion cubic feet/day)	9.69	9.90	10.14	10.17
• As a percentage of Canadian production	69.0% (2013)	67.5% (2014)	67.7% (2015)	66.8% (2016)

Performance Indicators	Actual (Year)	Actual (Year)	Actual (Year)	Actual (Year)
1.c Investment ⁴				
Upstream: Mining, Quarrying, and Oil and Gas industry investment in Alberta				
• Cdn\$ Billions	55	61	40	26
• Mining, Quarrying, and Oil and Gas investment in Alberta as a percentage of Canadian investment	66% (2013)	67% (2014)	63% (2015)	57% (2016)
Downstream: Petroleum, Coal and Chemical Manufacturing				
• Cdn\$ Billions	1.04	1.15	1.30	1.11
• Alberta as a percentage of Canadian investment	31% (2013)	34% (2014)	36% (2015)	33% (2016)
1.d Employment ⁵				
• Direct employment in Mining, Quarrying and Oil and Gas Extraction (thousands)	171 (2013)	175 (2014)	155 (2015)	136 (2016)
1.e Market Access				
• Total percentage of crude oil leaving Alberta	82%	83%	85%	86%
• Total percentage of natural gas leaving Alberta	67% (2013)	65% (2014)	63% (2015)	62% (2016)

Notes:

- 1 Alberta's oil and gas industry has been negatively affected by falling energy prices brought on by rising North American crude oil and natural gas production, and limited access to new international markets. This has created significant challenges for the sector.
- 2 Data source has been changed for interprovincial comparison of production and includes bitumen production. Oil prices, which the government cannot control, significantly declined in late 2014, and remained relatively low throughout 2015 and 2016. West Texas Intermediate, the benchmark for the North American price of oil, has decreased by 52 per cent from US \$99.05 per barrel in 2013-14 to US\$ 47.93 per barrel in 2016-17.
- 3 Natural gas prices, which the government cannot control, also declined because of increasing production in the United States, large storage additions, and weak-to-moderate demand throughout the year. The Alberta Gas Reference Price decreased by 39 per cent from \$3.28 per gigajoule in 2013-14 to \$2.01 per gigajoule in 2016-17. Drilling activity for natural gas has decreased because of lower natural gas prices and reduced demand from Alberta's traditional markets, due to higher production in the United States.
- 4 The decline in oil prices had a major impact on industry investment. The lower oil price environment affected investment in both Alberta and competing jurisdictions. The significant oil price decline in late 2014 did not prevent the total mining, quarrying, and oil and gas extraction sector investment in that year from setting an all-time Alberta record at \$61 billion. However, the price decline has impacted the industry since then.
- 5 The decline in oil prices had a major impact on industry employment.

Outcome Two: Effective stewardship and regulation of Alberta's energy and mineral resources

The ministry engages with all stakeholders on issues involving responsible resource development of Alberta's energy and mineral resources. A strategic and integrated system approach to responsible resource development in the province strengthens the overall environmental, economic and social outcomes for the benefit of Albertans and demonstrates the province's commitment to addressing climate change. Through the Alberta Energy Regulator, the ministry collaborates with other ministries to regulate Alberta's energy industry to ensure the efficient, safe, orderly and environmentally responsible development and sustainable management of energy resources. Through the Alberta Utilities Commission, the ministry further supports the interests of Albertans by ensuring that the delivery and regulation of Alberta's utility service is fair and responsible.

Key Strategies:

- 2.1 Collaborate with other ministries to establish a balanced and sustainable approach to resource management to manage the combined or cumulative effects of resource development, including regional planning, and promote a positive legacy from non-renewable resource development.

- 2.2 Optimize regulation and oversight to ensure the safe, efficient, effective, credible and environmentally responsible development of Alberta's energy resources.
- 2.3 Enhance regulation and oversight of Alberta's utilities to ensure social, economic and environmental interests of Alberta are protected.
- 2.4 Collaborate with the Alberta Climate Change Office and other ministries to develop and implement regulatory standards as part of Alberta's Climate Leadership Plan to reduce greenhouse gas emissions by:
 - Reducing methane levels for the upstream oil and gas sector by 45 per cent from 2014 levels by 2025; and
 - Limiting emissions from oil sands development.

Performance Measure	Last Actual 2016	Target 2018-19	Target 2019-20	Target 2020-21
2.a Timeliness of the needs and facility applications (Alberta Utilities Commission)				
• Percentage of needs and facility applications determined within 180 days of the application being deemed complete	96.7%	100%	100%	100%

Linking Performance Measures to Outcomes:

- 2.a Trust in the utility regulator is enhanced by efficient regulation and oversight. This measure provides assurance that Alberta Utilities Commission regulatory decisions for approvals, permits or licences in respect of a needs identification document, transmission line or part of a transmission line are made in a timely, fair and transparent manner.

Performance Indicators	Actual 2013-14	Actual 2014-15	Actual 2015-16	Actual 2016-17
2.a Regulatory compliance (Alberta Energy Regulator) ¹				
• Percentage of inspections that are in compliance with regulatory requirements	n/a	99%	99%	99%
2.b Pipeline safety (Alberta Energy Regulator)				
• Number of high-consequence pipeline incidents ²	53	51	31	33

Notes:

- ¹ The result for 2014 is based on the available data since July 2014, when the Alberta Energy Regulator began transitioning to a new compliance assurance framework.
- ² High-consequence pipeline incidents include those that could have significant impacts to the public, wildlife or the environment, or that involve the release of substance that affects a large area or body of water.

Outcome Three: Albertans benefit from a stable, reliable electricity system that protects consumers, attracts investment, and has improved environmental performance

An electricity system that has reasonable prices, eliminates emissions from coal-fired electricity, and creates a positive investment climate is vital to the social and economic foundation of Alberta. A modern electricity system is needed in Alberta to support the transition to a cleaner energy future and meet the needs of a growing province. Energy collaborates with other ministries, agencies, stakeholders, and Indigenous communities to develop and deliver effective electricity system policies and programs.

Key Strategies:

- 3.1 Collaborate with other ministries to implement recommendations and manage regulatory requirements from Alberta's Climate Leadership Plan to transition Alberta's electricity system to a lower carbon system, including:
 - Implementing a plan to phase out coal fired electricity generation by 2030; and
 - Delivering on Alberta's commitment of 30 per cent electricity production from renewables by 2030.

- 3.2 Develop and implement policy to efficiently regulate Alberta's electricity retail system to protect consumers.
- 3.3 Create a reliable electricity system that is affordable for Albertans and attractive to investors by implementing an electricity capacity market.

Performance Measures	Last Actual 2016	Target 2018-19	Target 2019-20	Target 2020-21
3.a Transmission losses ¹	3.4%	3.7%	3.7%	3.7%
3.b Percentage of electricity produced in Alberta from renewable sources (megawatts)	10%	30% of electricity generation from renewables by 2030		

Note:

¹ Methodology for this measure has been changed to provide consistency with Alberta Electric System Operator reporting and for better accuracy of actual transmission losses.

Linking Performance Measures to Outcomes:

- 3.a A reliable and efficient electricity transmission system is important to ensure electricity can be delivered when needed. By measuring transmission losses, the department will demonstrate to generation developers the efficient movement of electricity to market which will, in turn, build industry confidence to develop new generation infrastructure.
- 3.b Through its policy framework, the Government of Alberta will enable the transition of the electricity system towards more renewable generation and a low-carbon electricity system.

Risks to Achieving Outcomes

Climate change poses business risks to natural resource companies. Alberta Energy is working closely with the Alberta Climate Change Office to implement the government's Climate Leadership Plan and support business to adapt to those risks. In the course of achieving its outcomes, the ministry also considers and manages the key risks that may impact its ability to implement its strategies and complete its day-to-day business. The ministry's key risks include:

- The flow of capital investment into Alberta for the development of energy and mineral resources will continue to be affected by geopolitical uncertainty and continued commodity price volatility. Market demand for Alberta's energy products affects this risk. Since the United States is currently the largest market for Alberta's energy products, this demand is also connected to future United States production capacity and the construction of new pipelines delivering products to other markets. The value of the Canadian dollar and the potential impact of changes to the North American Free Trade Agreement may also affect this risk.
- The electricity system transition is a complex multi-year exercise requiring careful analysis and extensive collaboration. Risk drivers, such as the long-term reliability of Alberta's current electricity system and level of infrastructure investment needed for new or replacement generation capacity, transmission and distribution are some of the factors driving the change.
- Decisions on energy resource development require careful consideration of economic, environmental and social outcomes. In maintaining the balance, coordination across ministries and agencies, and collaboration with Indigenous peoples, other governments, industry, environmental nongovernmental organizations and stakeholders will continue to be essential. Policy and political decisions made at the federal level as well as inter-provincial relations may impact this risk.

STATEMENT OF OPERATIONS

(thousands of dollars)	Comparable			2018-19 Estimate	2019-20 Target	2020-21 Target
	2016-17 Actual	2017-18 Budget	2017-18 Forecast			
REVENUE						
Internal Government Transfers	-	-	626	-	-	-
Freehold Mineral Rights Tax	57,059	90,000	73,000	87,000	92,000	100,000
Natural Gas and By-Products Royalty	519,746	455,000	557,000	541,000	590,000	585,000
Crude Oil Royalty	716,329	476,000	883,000	1,053,000	981,000	1,035,000
Bitumen Royalty	1,483,459	2,546,000	2,358,000	1,785,000	2,184,000	2,926,000
Coal Royalty	26,182	12,000	20,000	11,000	10,000	10,000
Bonuses and Sales of Crown Leases	203,276	148,000	577,000	327,000	312,000	343,000
Rentals and Fees	148,170	117,000	139,000	112,000	106,000	101,000
Energy Regulation Industry Levies and Licences	269,222	274,847	259,847	297,841	306,841	300,204
Utility Regulation Industry Levies and Licences	30,628	34,929	34,929	34,724	34,724	35,724
Investment Income	1,240	1,167	1,167	1,167	1,167	1,167
Other Revenue	9,356	4,372	7,267	7,267	7,867	7,267
Net Income Alberta Petroleum Marketing Commission	30,108	69,000	39,300	118,798	66,104	34,940
Net Income Balancing Pool	(1,952,003)	-	770,450	160,931	86,430	86,430
Ministry Total	1,542,772	4,228,315	5,720,586	4,536,728	4,778,133	5,565,732
Inter-Ministry Consolidations	(246)	-	(626)	-	-	-
Consolidated Total	1,542,526	4,228,315	5,719,960	4,536,728	4,778,133	5,565,732
EXPENSE						
Ministry Support Services	6,303	5,696	5,868	5,721	5,720	5,720
Resource Development and Management	72,936	70,898	70,361	71,940	70,789	70,790
Cost of Selling Oil	57,752	85,000	74,000	79,600	85,000	90,000
Energy Diversification	-	-	-	-	10,000	10,000
Climate Leadership Plan	1,118,787	34,884	34,884	106,435	134,670	160,073
Carbon Capture and Storage	30,659	214,984	51,184	273,504	72,614	59,654
Energy Regulation	245,959	251,256	251,256	253,250	253,250	246,613
Orphan Well Abandonment	31,028	30,500	15,500	45,500	60,500	60,500
Utilities Regulation	31,123	36,129	36,129	35,924	35,924	35,924
Post-Closure Expense	-	230	230	-	-	-
Ministry Total	1,594,547	729,577	539,412	871,874	728,467	739,274
Inter-Ministry Consolidations	(777)	-	-	-	-	-
Consolidated Total	1,593,770	729,577	539,412	871,874	728,467	739,274
Net Operating Result	(51,244)	3,498,738	5,180,548	3,664,854	4,049,666	4,826,458
CAPITAL INVESTMENT						
Resource Development and Management	812	899	1,525	899	899	899
Climate Leadership Plan	412	-	-	-	-	-
Energy Regulation	11,697	9,000	9,000	15,000	9,000	9,000
Utilities Regulation	921	1,000	11,500	1,000	1,000	2,000
Ministry Total	13,842	10,899	22,025	16,899	10,899	11,899
Inter-Ministry Consolidations	-	-	(626)	-	-	-
Consolidated Total	13,842	10,899	21,399	16,899	10,899	11,899