Department of Energy

Responsible for ensuring the development of the province's energy and mineral resources benefits all Albertans.

Results Achieved in 2013-14

The Ministry consists of the Department of Energy, the Alberta Energy Regulator (AER), the Alberta Utilities Commission (AUC) and the Alberta Petroleum Marketing Commission (APMC).

This report focuses on the results achieved by the Department of Energy. The department enables sustainable and effective energy and mineral resource development that considers the social, economic and environmental outcomes Albertans want. It oversees Alberta's royalty systems; collects revenues from energy and mineral resource development; and ensures Alberta has adequate electricity generation, transmission and distribution.

Alberta Energy

For more information visit: **www.energy.alberta.ca**

GOAL 1

Albertans are assured of the benefits from energy and mineral resource development

The department

works to expand market access for Alberta's energy and mineral resources. The department is responsible, through its tenure and royalty programs, for the development of the province's mineral resources and collection of an appropriate share of revenues through royalty, land sale bonuses and fees. The department supports a world-class petrochemical industry to achieve additional benefits by upgrading resources into higher-value commodities and products.

Results Achieved in 2013-14

Market Access for Alberta's Energy Resources

The department initiated the province's first **International Energy Strategy** to facilitate greater access to key global markets.

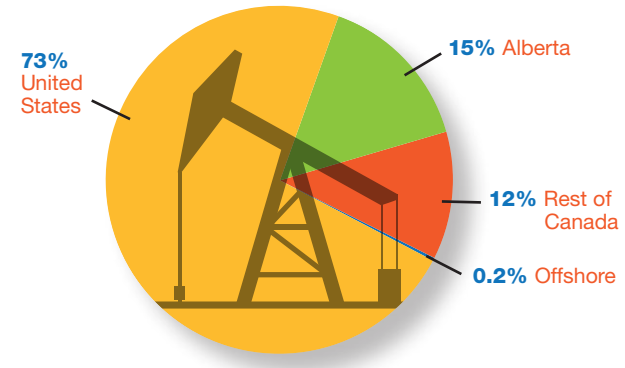
Inside and outside North America, the government's new oil market diversification campaign tackled the most urgent challenges to market access and diversification for crude oil.

The **British Columbia/ Alberta Deputy Ministers Working Group** has been effective in aligning energy development interests and addressing British Columbia's conditions. The work will serve to fulfil our shared commitment to create jobs, enhance safety, stimulate long-term growth and access new markets for Canada's resources. In March 2014, the working group released its first quarterly report, outlining progress made on key deliverables. A final report will be submitted to Premiers in January 2015 and Alberta's engagement on western energy infrastructure development will continue.

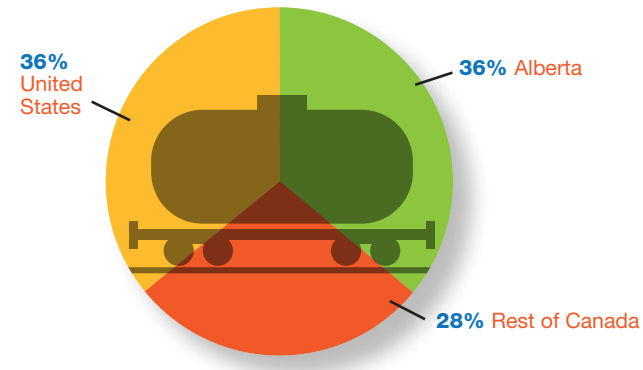
Engagement with stakeholders in provinces east of Alberta has helped the department better understand key regional concerns and opportunities of market access projects. The department has developed provincial working-level relationships to enable discussion and collaboration that support market access. Sharing information on economic benefits of energy projects, regulated safety and financial liability requirements and regulatory processes and frameworks has helped inform positive discussions. This work has included a focused effort on relationship building in Saskatchewan, Manitoba, Ontario, Quebec and New Brunswick.

In collaboration with other ministries, the department **advocated in the United States** for responsible resource development in Alberta. The efforts built awareness and emphasized effective regulation and management and shared expertise and experience.

Alberta Oil Deliveries 2013



Natural Gas Deliveries 2013



Asian Market Collaboration

The department formalized and consolidated new energy relationships in China, Japan, Korea and India.

Agreements with countries in East and South Asia ensure over-arching political endorsement and create multiple pathways for trade in energy products, services and expertise.

Canadian Energy Strategy

Alberta co-led the development of the **Canadian Energy Strategy** (CES), a national collaborative approach to energy development that will position Canada as a recognized global leader in responsible energy development, production, supply and transportation. The CES is targeted to be approved for public release by the Council of Federations in 2014.

GOAL 1 continued

Non-renewable Resource Revenue

Energy development is driving Alberta's economy and continues to build a solid foundation for our province's future.

Among the sources of non-renewable resource revenue, **bitumen royalty** made the largest contribution to provincial royalty revenue for the fifth fiscal year. In 2013-14, bitumen accounted for about $5.2 billion or about 55 per cent of the $9.6 billion revenue.

Annual bitumen production has been increasing since 2008. In 2013, Alberta's bitumen production reached its highest level ever, at about 2.1 million barrels per day.

Conventional crude oil royalties, the second highest non-renewable resource revenue source, contributed about $2.5 billion to provincial revenues. The third largest source was **natural gas and byproducts** royalties, which brought in approximately $1.1 billion.

Energy Investment Competitiveness

Alberta maintains a competitive and effective royalty framework that encourages responsible resource development, provides a favourable climate for industry growth and maximizes benefits to Albertans. Alberta's combined tax and royalty rate places the province in the top quartile of North American jurisdictions for investment opportunities, while assuring an appropriate return from resource development.

In 2012, **capital expenditure in Alberta's upstream oil and gas industry** was the highest in the province's history, totalling almost $52 billion, an increase of 16 per cent from 2011.

Capital expenditure in Alberta's oil sands reached an all-time high of about $27 billion in 2012. Conventional oil and gas capital expenditure reached almost $25 billion, the second highest level ever.

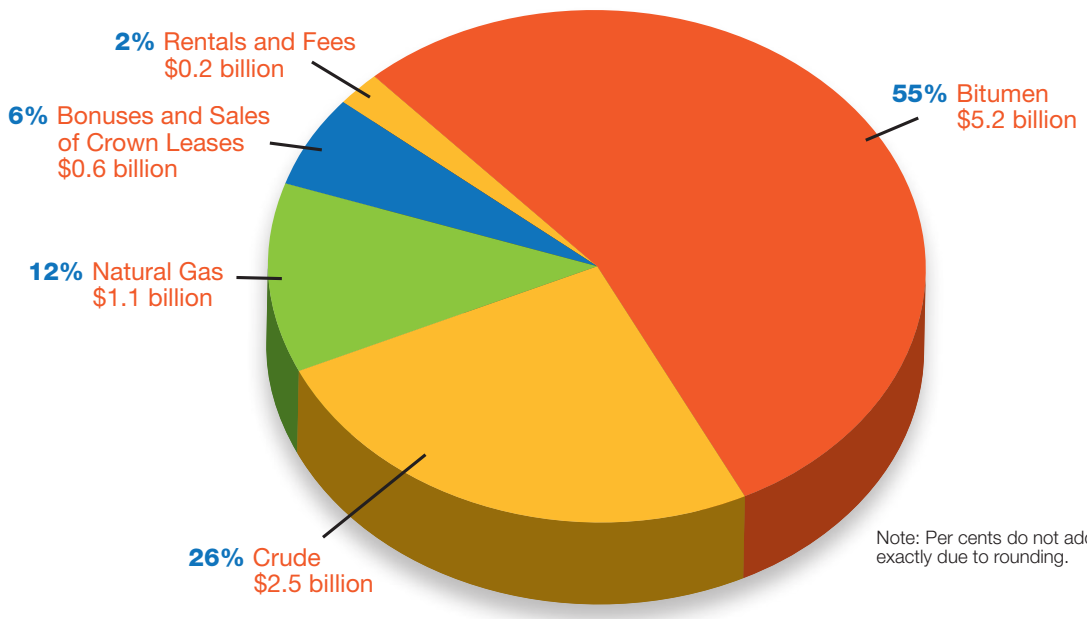
Energy Processing and Petrochemical Developments

The **Incremental Ethane Extraction Program** (IEEP) is a $350 million program that encourages increased petrochemical production in Alberta. Royalty credits offset the high capital costs of recovering incremental barrels of ethane feedstock. The IEEP is expected to incent approximately 91,000 barrels per day of ethane. To date, IEEP has contributed to approximately $1.8 billion in new project capital investment.

North West Redwater Partnership

The North West Redwater Partnership began construction of the **Sturgeon Refinery.** The Alberta Petroleum Marketing Commission and Canadian Natural Resources Ltd will supply the refinery with and pay for processing of 50,000 barrels per day of bitumen through a 30-year processing agreement. The bitumen will be refined into diesel and diluent. Carbon dioxide from the refinery processes will feed into the Alberta Carbon Trunk Line, a commercial-scale carbon capture and storage initiative.

2013-14 Total non-renewable resource revenue $9.6 billion



Note: Per cents do not add up exactly due to rounding.

GOAL 2

Effective stewardship of Alberta's energy resources and regulatory systems is achieved through leadership and engagement with citizens, communities, industry and governments

The department

works closely with Albertans, communities, governments and industries to develop and implement strategic and integrated policies, plans and tools for sustainable energy and mineral development.

Results Achieved in 2013-14

Responsible Energy Development Act

The **Alberta Energy Regulator** (AER) is now the single, full-lifecycle energy regulator for Alberta.

In June 2013, the Government of Alberta proclaimed the Responsible Energy Development Act, and the AER began operations taking over all Energy Resources Conservation Board responsibilities. Energy resource development functions and responsibilities then moved from Environment and Sustainable Resource Development (ESRD) to the AER in three phases. In November 2013, ESRD moved specific functions under the Public Lands Act and the Mines and Minerals Act to the AER. In March 2014, it transferred specified functions under the Water Act and the Environmental Protection and Enhancement Act. This transition fully authorized the AER to protect land, air and water.

Protecting our Natural Habitats with Regional Planning

The **Lower Athabasca Regional Plan** (LARP), the first of seven regional plans under the Land-use Framework, considers the cumulative effects of all activities on air, water and biodiversity. LARP conservation areas promote biodiversity by protecting habitats for wildlife, such as caribou populations. In 2013-14, 76 oil sands and metallic and industrial minerals leases or portions, which fell within the boundaries of the new protected areas, were cancelled.

Consultation on the final draft of the **South Saskatchewan Regional Plan** took place from November 2013 to February 2014. Work on the **North Saskatchewan Regional Plan** is well underway. The department continues to identify energy and mineral development as a key economic driver for this plan.

Integrated Infrastructure Planning in Oil Sands Areas

Comprehensive Regional Infrastructure Sustainability Plans (CRISPs) provide a long-term, flexible and integrated approach to planning for growth in the province's three oil sands areas: Athabasca, Cold Lake and Peace River. The plans focus on the infrastructure needed to support continued quality of life and oil sands development.

In 2013-14, work continued on both the Athabasca Oil Sands Area CRISP and on the initial draft of the Peace River Oil Sands Area CRISP.

In April 2013, the department publicly released the Cold Lake Oil Sands Area CRISP. Issue-specific teams in the areas of transportation, accommodations and aviation are currently implementing the CRISP.

GOAL 3

Development of energy related infrastructure and cleaner energy technologies is actively led and supported

The department

works to ensure that Alberta has adequate electricity generation, transmission and distribution; supports fair, efficient and openly competitive retail and wholesale electricity markets; and supports the development of alternative and renewable energy resources in Alberta. The department is a world leader in carbon capture and storage and promotes effective innovation policies and programs to achieve technology and processing improvements in the development of energy and mineral resources.

Results Achieved in 2013-14

Electricity Enhancements for Albertans

More than 45 per cent of Alberta's electricity generating capacity comes from alternative and renewable energy sources, including wind, hydro, biomass and natural gas cogeneration.

The **Member of the Legislative Assembly (MLA) Retail Market Review Committee Implementation Team** looked at ways to improve the functioning of the retail market and provide consumers with more choice, fewer barriers and better education. The MLAs met with stakeholders, including electricity consumer groups, rural electrification associations and electricity producers. A plan is being finalized to respond to 33 of the recommendations found in the Retail Market Review Committee's 2012 report. The Alberta Utilities Commission was given greater authority to scrutinize the costs of transmission lines through changes to the Transmission Regulation.

In 2013-14, Alberta's electricity transmission network grew. In December 2013, the **Heartland Transmission Line**, which links south Edmonton to the Industrial Heartland area northeast of the city, came online, while the **Montana-Alberta Tie Line** now links southern Alberta and Montana. Five companies won the right to develop bids for a new transmission line to Fort McMurray.

In December 2013, the department extended the **Micro-generation Regulation** until December 2015. The regulation allows customers to choose the source of their electricity, reduces the administrative and regulatory burden on micro-generators and establishes compensation for excess energy from micro-generation.

Action on Climate Change

Since 2011, the department's **Renewable Fuels Standard** has reduced greenhouse gas (GHG) emissions by one million tonnes per year. The standard requires that gasoline contain five per cent ethanol and that diesel contain two per cent. In 2012, the gasoline average was seven per cent, and the diesel average was 2.1 per cent.

Four new biofuel facilities, currently in development, will increase Alberta's biofuel capacity from approximately 85 million litres to 464 million litres annually by 2015. Waste streams produced over 90 per cent of bioenergy under the **Bioenergy Producer Credit Program**. The program also added about 50 megawatts of electricity generating capacity.

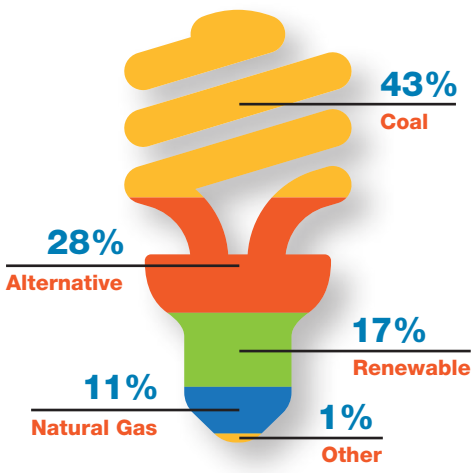
In 2013-14, the department released the **Regulatory Framework Assessment Report to support carbon capture and storage** (CCS). Over the next three years, the department will fulfil 71 report recommendations to ensure safe and environmentally responsible CCS.

The department is also playing a key role in lowering Alberta's GHG emissions through two large CCS projects: the Alberta Carbon Trunk Line and Shell Quest Project. In 2013-14, the department certified two Quest construction milestones and distributed instalment payments under the CCS funding program. By 2016, these projects are estimated to reduce Alberta's GHG emissions by about 2.8 million tonnes per year, the equivalent of taking 550,000 cars off the road.

Supporting Innovative Technology and Processing Improvements

The department's **Innovative Energy Technologies Program** generates responsible and innovative energy development. This program funds pilot scale research and technology projects that can improve the efficiency of extraction, production and recovery of hydrocarbon resources. The research leads to the improved economic viability of reservoirs, which in turn results in incremental reserves and royalties. In 2013-14, there were nine active projects.

2014 Electricity Generation Capacity

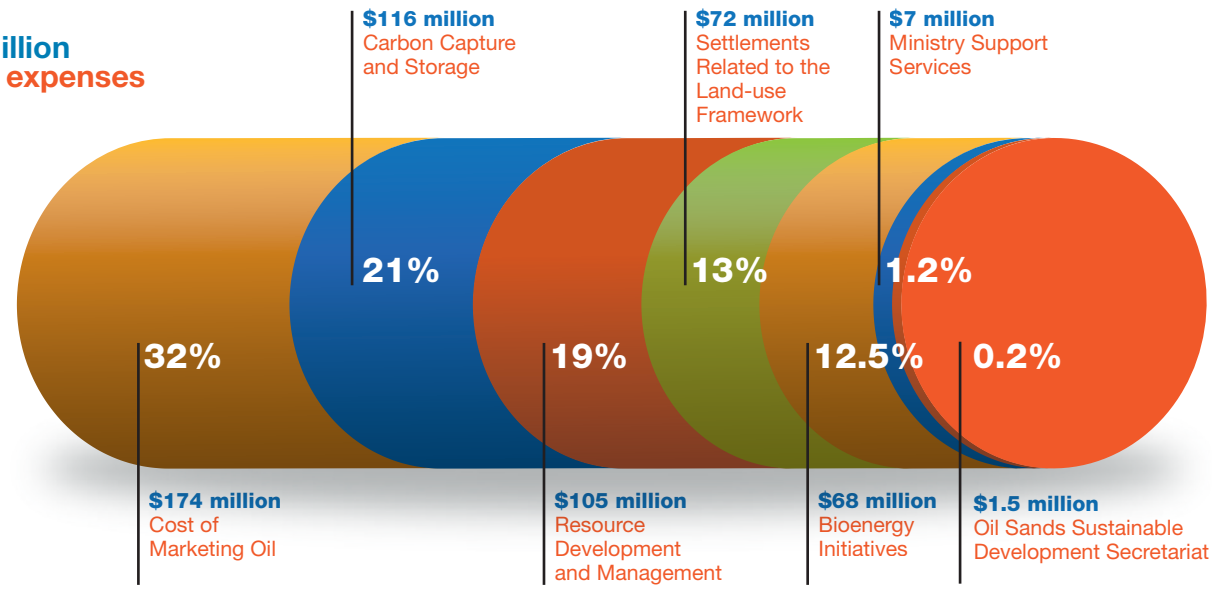


Energy **FACTS**

Resource		2013-14	2012-13
Bitumen	Total bitumen production	2.09 million bbl/d (2013)	1.92 million bbl/d (2012)
	Marketable bitumen and Synthetic Crude Oil (SCO) production	1.94 million bbl/d (2013)	1.78 million bbl/d (2012)
Conventional Crude Oil	Average price for West Texas Intermediate per barrel	US$99.05	US$92.07
	Crude oil production	0.58 million bbl/d	0.56 million bbl/d (2012)
	Crude oil wells drilled	2,493 (2013)	2,817 (2012)
Natural Gas and By-Product	Average Alberta Gas Reference Price per gigajoule (GJ)	$3.27/GJ	$2.29/GJ
	Number of conventional natural gas wells drilled	1,109 (2013)	983 (2012)
	Total marketable natural gas production including Coalbed Methane (CBM) in trillion cubic feet (Tcf)	3.5 Tcf (2013)	3.6 Tcf (2012)
	CBM production (excluding comingled gas)	0.27 Tcf (2013)	0.29 Tcf (2012)
Bonuses and sales of Crown Leases	Average price per hectare (ha) paid for petroleum and natural gas mineral rights	$327.52	$334.89
	Petroleum and natural gas hectares sold	1,792,294 ha	3,070,092 ha
	Average price per hectare paid for oil sands mineral rights	$248.44	$197.75
	Oil sands hectares sold	111,690 ha	131,668 ha
Wells and Licences	Well Licences issued	9,894 (2013)	10,884 (2012)
	Industry drilling	5,367 (2013)	8,422 (2012)
Coal	Raw coal production	34.5 million tonnes (2013)	34.7 million tonnes (2012)
	Total marketable coal deliveries	28.3 million tonnes (2013)	28.3 million tonnes (2012)
	Percentage of total coal deliveries exported out of province	23% (2013)	22% (2012)
Electricity	Total generation capacity in Megawatts (MW)	14,598 MW (2013)	13,898 MW (2012
	Total generation capacity from renewable sources	2,430 MW (2013)	2,427 MW (2012)
	Total generation capacity from coal	6,258 MW (2013)	5,690 MW (2012)
Metallic and Industrial Minerals	Hectares of mineral permits issued	2.3 million ha	968,963 ha

Department Expenses **2013-14**

$544 million
in total expenses



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