

ALBERTA OIL & GAS INDUSTRY

QUARTERLY UPDATE



FALL 2017

Reporting period:

JUNE 3, 2017, TO SEPTEMBER 6, 2017

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ALL ABOUT ALBERTA'S OIL & GAS INDUSTRY

ABUNDANT: ALBERTA'S CRUDE OIL, NATURAL GAS AND NATURAL GAS LIQUIDS RESOURCES

Alberta's vast crude oil and natural gas resources are the backbone of the provincial economy and a vital element of Canada's economy. In fact, energy development is the largest contributor to the province's gross domestic product, capital investments and exports.

The increased implementation of long horizontal wells and multistage fracturing in tight sand and shale resource plays across the province—not to mention attractive provincial royalty incentives to encourage drilling—have allowed industry to extract crude, natural gas and natural gas liquids (NGLs) from resource bases that had previously been essentially untapped.

In Alberta, the advanced drilling and hydraulic fracturing technology is being used in an increasing number of oil plays. Among the most advanced plays are the Cardium in west-central Alberta and the Viking in east-central Alberta. More importantly, emerging liquids-rich plays like the Montney and the Duvernay continue to show great promise.

Although drilling activity has slowed the past few years because of the weak global commodity price environment, capital spending and drilling activity is slowly picking up in 2017 as prices have modestly rebounded. Many producers continue to report improved results and liquids yields from their Duvernay and Montney programs.

Faced with continued low global crude oil prices and weak natural gas prices, Alberta producers sought additional cost savings and curtailed capital budgets and activity in 2016. Capital expenditures fell for a second year. Conventional oil and gas wells placed on production dropped by 37.2 per cent in 2016 relative to 2015, and crude oil production and natural gas production declined as a result.

However, some positive news also emerged in 2016. The Canadian government approved two major crude oil pipeline projects: the twinning of the Kinder Morgan Trans Mountain Pipeline to Canada's west coast and the replacement of the Enbridge Line 3 pipeline to the U.S. Midwest. These projects, if completed, will increase Alberta's export capacity, and the Trans Mountain Pipeline will open up market access to Asia.

According to the Alberta Energy Regulator (AER), in 2016, Alberta produced 67 per cent of Canada's natural gas and 81 per cent of Canada's oil and equivalent. More than 60 per cent of Canada's total oil and equivalent production was marketable bitumen.

Conventional crude oil production in 2016 was an estimated 441,000 bbls/d, a decrease of about 16 per cent from 2015 due to lower crude oil prices, which resulted in fewer wells placed on production.

Overall marketable natural gas production in Alberta, which includes growing liquids-rich shale/tight gas volumes, increased for the second year in a row in 2015, growing by 2.2 per cent to 298.6 million cubic metres per day from 292.1 million cubic metres, due to the lag effect from high drilling levels in 2014.

However, in 2016 production of natural gas declined year over year for the first time since 2013, with production

estimated to have decreased by 1.8 per cent to 291.9 million cubic metres a day.

Despite the decrease in overall production, production from the Montney and Upper Mannville formations continued to grow, contributing 42 per cent of Alberta's raw natural gas production in 2016, up from 38.2 per cent in 2015. Production gains in these areas were largely associated with new wells placed on production using horizontal multistage fracturing, clearly illustrating the importance of production from these prolific wells.

Raw natural gas as it comes from the wellhead is mostly comprised of methane (the largest constituent of household natural gas), but it also contains various NGLs. Alberta is a major producer of NGLs, which consist of ethane, propane, butanes and pentanes plus.

In 2016, the Alberta government announced a Petrochemicals Diversification Program that will give \$500 million in incentives through royalty credits to new petrochemical facilities in Alberta. To get up and running, these facilities will need certain NGLs as ingredients, or "feedstock."

Alberta is already a leading petrochemical manufacturing province, home to four major ethylene plants with a combined annual production capacity of 8.6 billion pounds. Two of these plants—at Joffre and Fort Saskatchewan—are among the world's largest.

Many investment opportunities exist in Alberta's refining and petrochemical sector, particularly in Alberta's Industrial Heartland, a 589-square-kilometre region northeast of Edmonton that is home to Canada's largest concentration of petrochemical and chemical processors and petroleum refining. ■

NOTE: This publication contains information about Alberta's oil and gas industry, excluding the oil sands. For information on the oil sands, please refer to the *Alberta Oil Sands Industry Quarterly Update* on this [website](#).

Cover photo: Alberta Energy Regulator
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OIL PLAYS

The Alberta Energy Regulator (AER) estimates that the province has 1.8 billion barrels of remaining established reserves of conventional crude oil, with ultimate potential (recoverable) of 19.7 billion barrels. The remaining established reserves of conventional crude oil in Alberta represent more than one-third of Canada's remaining conventional reserves.

In 1994, based on the geological prospects at that time, the AER estimated the ultimate potential of conventional crude oil to be 19.7 billion barrels. Given recent reserve growth in low-permeability, or tight oil, plays, the AER believes that this estimate may be low.

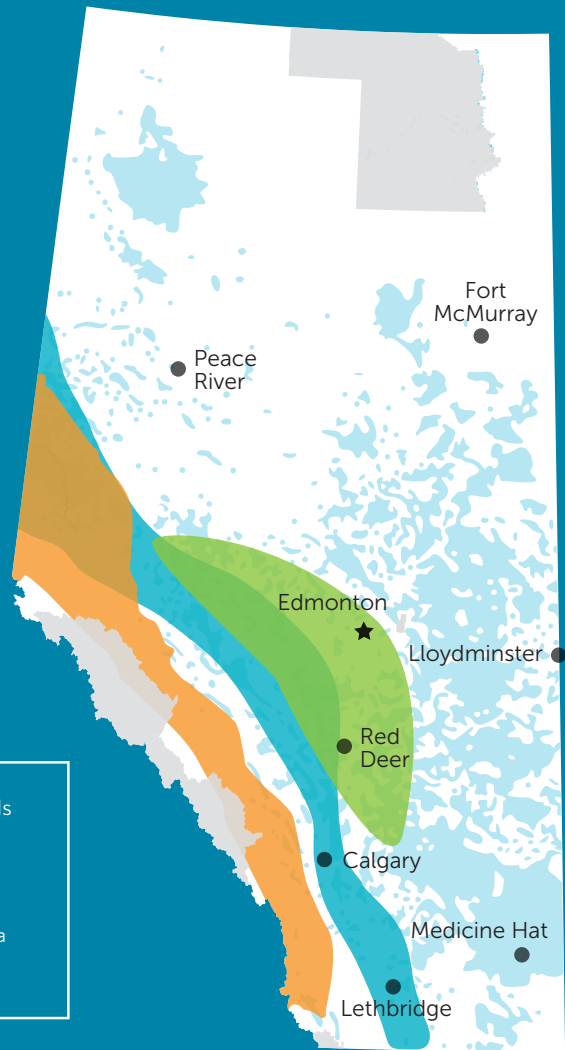







- Existing crude pipeline
- Proposed crude pipeline
- 1 Trans Mountain Expansion
- 2 Rangeland
- 3 Milk River
- 4 Bow River
- 5 Express Platte
- 6 TCPL Keystone
- 7 Alberta Clipper
- 8 Enbridge
- 9 Spearhead
- 10 ExxonMobil USGC
- 11 Gulf Coast Project
- 12 Seaway
- 13 Portland P/L
- 14 Enbridge Gateway
- 15 Keystone XL northern leg
- 16 Energy East

NATURAL GAS PLAYS

While the majority of the province's natural gas is still produced from conventional sources, the potential to grow natural gas volumes from coal, shale and tight formations will also be strong contributors going forward.

Alberta has a large natural gas resource base, with remaining established reserves of about 33 tcf and an estimated potential of up to 500 tcf of natural gas from the coal-bed methane resource. In addition, a large-scale resource assessment of shale gas potential in Alberta is underway and could significantly add to the natural gas prospects for the province.



	Deep Basin Cretaceous Multi-Zone Gas Play		Natural Gas Fields
	Nikanassin Deep Basin Gas Play		National Parks
	Montney Hybrid Tight Gas/Shale Play		Capital of Alberta



TOP PLAYS



Photo: Alberta Energy Regulator

THE CARDIUM: COSTS CONTINUE TO TREND DOWNWARD

This summer, the costs to drill and complete horizontal wells within the Cardium Formation were up to 63 per cent cheaper than the most expensive horizontal wells elsewhere in Alberta.

That is according to the latest Petroleum Services Association of Canada (PSAC) well cost data for summer 2017, which includes detailed cost estimates for many directional, horizontal and vertical wells across all major western Canadian regions and formations.

“Horizontal drilling in core areas of Alberta’s Montney and Duvernay resource plays is typically more expensive than in the Cardium,” says Chris Wilson, managing director of CanOils and Evaluate Energy. “The PSAC data certainly reinforces those perceptions and crucially quantifies the size and nature of the disparity. We’ve discovered, for instance, that some Cardium drilling, casing and completion costs can be between \$1.7 million [and] \$3 million cheaper than a comparable well in the Duvernay.”

Recently, the Cardium has been one of the most active formations within Alberta, with more than 2,000 wells in production today that were licensed within the past five years.

In total, the PSAC study for summer 2017 covers 18 carefully selected horizontal or directional type wells of varying lengths across various formations and depths in Alberta to provide a detailed overview of typical drilling costs in the province.

The data, collected and assembled by independent drilling experts, shows

that these 18 representative Alberta wells range in costs to drill, case and complete from \$600,000 to \$4.8 million. The five Cardium-type wells within this group range in costs from \$1.8 million to \$3.1 million, meaning costs for Cardium operators are in the mid to low range of Alberta drilling costs.

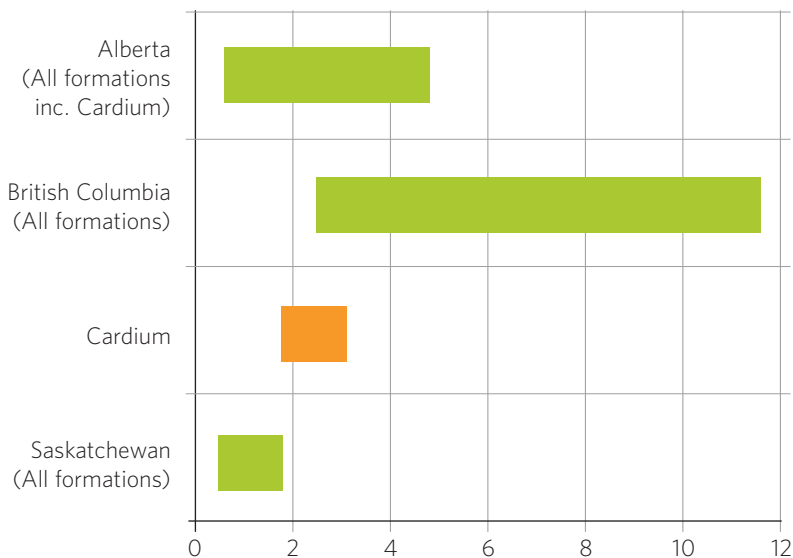
The data also shows that, on average, horizontal wells in the Cardium are more expensive to drill than typical horizontal and directional wells in Saskatchewan, but mostly cheaper than horizontal wells in B.C.

The PSAC study includes seven horizontal and directional type wells in Saskatchewan of varying lengths across various depths and formations, which range from \$500,000 to \$1.3 million to drill, case and complete. This stands in stark contrast to B.C., where the costs of the four horizontal wells included in the study range far more widely, from \$2.5 million up to almost \$12 million, due to costs attached to the deepest wells within the relatively expensive Horn River Basin. ➤

TOP PLAYS CONTINUED

RANGE OF COMBINED DRILLING, CASING AND COMPLETION COSTS

All horizontal and directional type wells in AB, BC, SK (Cdn\$ million)



Source: CanOils Assets

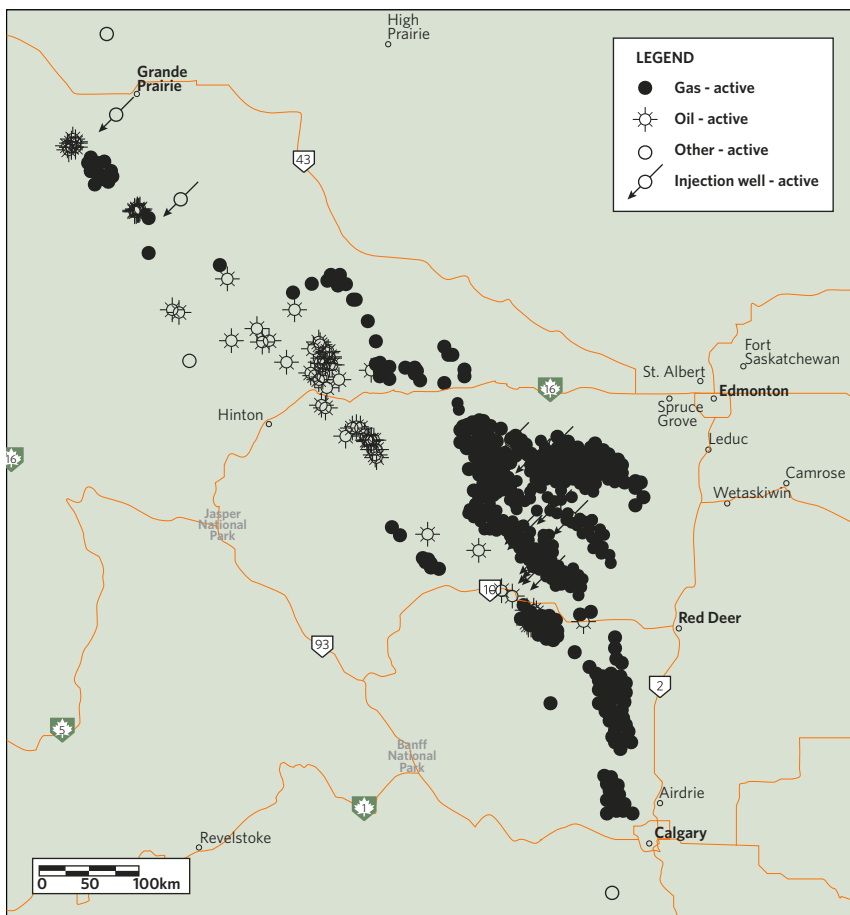
Full details on all drilling costs for all Cardium-type wells in the Foothills, Foothills Front and Central Alberta PSAC regions of Alberta are available in the PSAC well cost study <http://www2.jwnenergy.com/PSACwellcoststudy>.

PRODUCERS UPDATE CARDIUM ACTIVITY

Based on successful initial drilling, InPlay Oil has directed more capital to deep Cardium wells. The company says its original 2017 budget accounted for two Willesden Green wells. But with the positive results from its first Willesden Green well and the related offset wells, the company says it will allocate more of its 2017 capital budget to the area, drilling three more horizontal Cardium wells there this year. The shift in capital to the deeper, more expensive wells in Willesden Green will result in InPlay reducing the overall net well count to 9.1 net wells from 12, while maintaining its 2017 production guidance of 4,000-4,200 boe/d (68 per cent light oil and liquids) and exit guidance of 4,300-4,500 boe/d (68 per cent light oil and liquids).

ARC Resources has a land position of 218 net Cardium sections in Pembina, where production averaged approximately 10,800 boe/d (approximately 80 per cent light oil and liquids) in the second quarter of 2017, relatively unchanged from the first quarter of 2017. ARC invested \$37 million in capital activities in the Cardium during the first half of 2017, including drilling nine crude oil wells and completing 12 wells. ARC continues to focus on capital and operating efficiencies with its drilling and completion designs in Pembina, driving an increase in overall profitability and free cash flow growth. Optimizing production, converting horizontal injectors and managing waterflood continue to be core components of operations at Pembina. ■

MAP OF CURRENTLY PRODUCING CARDIUM WELLS THAT WERE LICENSED SINCE JANUARY 2012 (2,000+ WELLS).

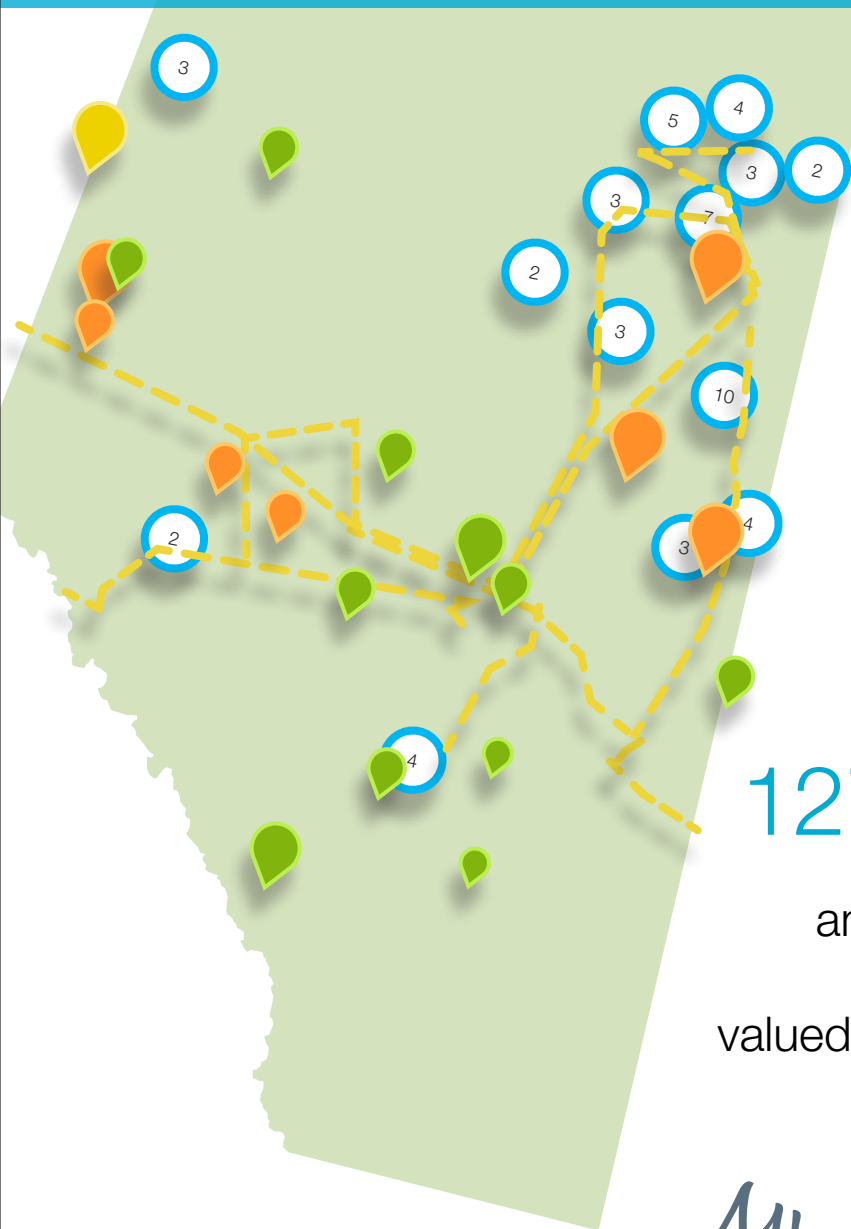


Source: CanOils Assets

majorprojects.alberta.ca

ALBERTA MAJOR PROJECTS

An inventory of private and public sector projects in Alberta valued at \$5 million or greater



127 oil & gas, pipeline
and industrial projects
valued at **\$176.9B**

Alberta  Government



Alberta

Alberta Export Expansion Package

The Government of Alberta is supporting more Alberta companies to export to new international markets with several new programs.

Ready to export?

If you're looking to explore new business opportunities around the world, we can help. The **Export Support Fund** provides up to \$20,000 to cover costs associated with entering new markets, such as marketing and attending international trade shows.

Need help deciding?

Set your business up for success with an international market entry strategy. The **Export Readiness Micro-Voucher Program** offers up to \$5,000 in funding for export experts to create your strategy.

Apply now

For more information on these programs and to apply, visit:

jobsplan.alberta.ca

WHAT'S NEW IN THE OIL & GAS INDUSTRY



Photo: Alberta Energy Regulator

NON-RENEWABLE RESOURCES REVENUE, PRICE FORECAST LOWERED BY ALBERTA GOVERNMENT

With falling non-renewable resource revenues and a lowered 2017 WTI price forecast, it's prudent the provincial government lowers the risk adjustment cushion built into the budget, says Joe Ceci, Alberta's Minister of Finance.

The government is addressing the revenue shortfall by "using \$250 million of the budgeted \$500-million risk adjustment and targeting a further \$200 million on top of the \$200 million in savings proposed in Budget 2017," he says.

On August 23, the government released its fiscal first-quarter update, announcing that its WTI price forecast for the year has been adjusted downward

from the budgeted \$55/bbl announced in March to \$49/bbl.

The province also lowered the risk adjustment to \$250 million from \$500 million at budget.

"The forecast in March was based on the best private sector forecasts available. What it speaks to is the tremendous volatility in the world oil markets," Ceci told reporters during a press conference in Edmonton.

"And given how important oil prices are to Alberta's budget, that volatility requires us to build in protections against these kinds of fluctuations so that we can meet our targets. Budget 2017 built in a \$500-million risk adjustment for just such a purpose," he said.

"And owing to the lower oil price forecast in this report, I'm drawing down on that adjustment by \$250 million to keep our budget steady."

He added, "The risk adjustment is a cushion for volatile oil prices. Essentially, energy prices. And as everybody knows, they're extremely volatile. The world oil price is all over the place. You know, it

would be great if it stayed above \$50 going forward, but we can't predict that.

"What we can say is that we used the best forecasters' information, and we used that again, and they said [WTI] is going to be probable at \$49/bbl. We're going to keep this \$250 million in our budget in the event that oil doesn't average out for the fiscal year at \$49. We'll be able to absorb some of that with this in our budget."

ALBERTA OIL AND GAS PRODUCERS SHOULD ATTEMPT TO SEIZE OPPORTUNITY IN INDIA

Alberta and Canada must act sooner than later if it wants to capitalize on India's growing energy demands before that economic potential is lost to other producers, suggests Tim McMillan.

"The urgency is now. We haven't missed the opportunity, but the opportunity continues to move on," says the Canadian Association of Petroleum Producers' president and chief executive officer. "If we aren't moving with it, we will be missing it."

India and Canada have much in common—they share many democratic, pluralistic values, similar Westminster-style parliamentary systems of governance. Further, these Commonwealth nations have complementary trade interests, with one of the world's largest energy consumers potentially benefiting from one of the world's largest energy producers.

"As a stable, reliable source of proven energy reserves with advanced energy

WHAT'S NEW IN THE **OIL & GAS INDUSTRY** CONTINUED

Photo: Alberta Energy Regulator

technologies and an interest in ensuring environmentally responsible development of its natural resources, Canada has many positive attributes that draw foreign investors," says Catherine Leroux, communications officer at Natural Resources Canada.

It is crucial to consider the market potential for western Canadian crude on the Subcontinent, McMillan says, because the likely benefits for the energy sector are massive. He notes the International Energy Agency sees India, along with China, as driving global oil demand growth out to 2040.

"Ninety per cent of that growth will be in those two countries. It's going to equate to about 10 million bbls/d of increased demand," he says. Indian demand growth will increase 46 per cent in the next 23 years. "It's substantial."

CANADIAN OIL AND GAS INDUSTRY IMPORTANT TO U.S. STATE ECONOMIES

U.S. state economies, as well as the Canadian economy, benefit from Canadian oil and gas industry investment and operations (largely centred in Alberta), says a new study by the Canadian Energy Research Institute (CERI).

"There's a strong economic relationship between Canada and the U.S., and the work that's done in Canada has a positive economic impact on a state, and it's not just related to our selling the commodities to the U.S.," says Allan Fogwill, president and chief executive officer of CERI. "It's also related to the investment and development of our resources."

The study, *Economic Impacts of Canadian Oil and Gas Supply in Canada and the U.S. (2017-2027)*, concludes that the Canadian oil and gas industry—and the oil sands in particular—is a significant contributor to the Canadian and provincial economies and that crude oil and natural gas will continue to be important to many economic sectors in North America for the foreseeable future.

PRICE NOT EXPECTED TO REBOUND ANY TIME SOON

A WTI oil price in the US\$45-\$50/bbl range is likely to endure in the short to medium term as a rebalancing of global supply takes longer than anticipated despite OPEC production curtailments, say industry insiders and analysts.

And that could have an adverse effect on western Canadian activity levels as

2017 continues to unfold. Non-oil sands exploration and production companies could look to pull back on spending plans as lower oil prices negatively impact cash flows and access to capital remains challenging.

"It's looking like it will be a couple of years before this glut in storage is reduced back to normal levels. And I do think prices are going to stay somewhere in that \$50 band until we see that storage tank drawdown. So I think it could stay in that range as least out to 2018," says Jackie Forrest, director of research at Calgary's ARC Energy Research Institute.

Gary Leach, president of the Calgary-based Explorers and Producers Association of Canada agrees, saying as-association member companies are bracing for a longer-than-anticipated rebound in prices.

"The dominant sentiment among commodity traders and price forecasters has become more somber as the much-awaited rebalancing of global crude markets could be pushed out to 2018 or even later," Leach says.

"Many forecasters have recently been reducing their price outlooks for 2018 to the low-to-mid-US\$50/bbl range and moving up to the \$60 range for 2019 as they ponder the latest global inventory numbers."

In November 2016, OPEC and non-OPEC countries agreed to cuts totaling 1.8 million bbls/d. That deal was recently extended from June 30, 2017, to the end of the first quarter of 2018.

But the OPEC cuts haven't had the desired impact. During the first half of 2017, oil prices have fallen about 20 per cent from the encouraging stabilization at the end of last year as global inventories remain stubbornly full despite the cartel's current production cut deal. ■

TECHNOLOGY UPDATE

SHELL TESTS METHANE-DETECTION TECHNOLOGY IN ALBERTA

Royal Dutch Shell has launched a methane-detector pilot at one of its shale gas sites near Rocky Mountain House, Alta.

The pilot test is part of a wider multi-stakeholder initiative called the Methane Detectors Challenge, a partnership between Environmental Defense Fund (EDF), oil and gas companies, U.S. government agencies and technology developers to test next-generation methane-detection technologies.

The initiative aims to enable better early detection and repair of methane leaks and ultimately reduce emissions. While detection technologies and processes are already in place across the oil and gas industry, more technical innovation is desired.

“This pilot shows we’re serious about reducing the methane emissions associated with natural gas production to support the overall climate benefit of this fuel,” says Greg Guidry, executive vice-president of unconventional gas at Shell. “Shell is looking at all aspects of its operations, from equipment to processes, to assess and identify emission-reduction opportunities.”

Shell says it follows global operating principles to develop its shale resources safely and responsibly and has voluntary leak detection and repair programs across all its shale gas sites. However, the Quanta3 sensing system used in the pilot is a new technology that can continuously monitor methane emissions, unlike handheld optical gas imaging cameras.

Dirk Richter, Quanta3’s founder and chief executive officer, says, “Our technology provides operators with real-time

information on the integrity and performance of their sites.”

“A new frontier of methane detection is coming, and Shell is helping to give us a glimpse of that future,” adds Ben Ratner, a director at EDF. “The ultimate test will be whether the industry scales new tools and approaches to minimize wasteful methane emissions in North America and across the world.”

PARTNERSHIP AIMS TO DEVELOP NEXT WAVE OF RESERVES EVALUATION AND MANAGEMENT SOLUTION

3esi-Energisight has formed a partnership with GLJ Petroleum Consultants to develop a next-generation oil and gas reserves evaluation and management solution.

Over the next year, 3esi-Energisight will enhance its existing reserves management solution with new evaluation, analytic and reporting capabilities in collaboration with GLJ. The initial focus for the partnership is expected to be in the areas of intelligent automation, expanded petroleum data analysis capabilities, reserves compliance reporting and evolving the way in which uncertainty is captured and evaluated.

“Our partnership with GLJ is a unique collaboration in the upstream planning space that will serve to rapidly advance our market-leading software solution, supported by world-class subject matter expertise and industry experience in the reserves management and reporting space,” says Wayne Sim, chief executive officer and founder of 3esi-Energisight.

“Following our acquisition of Energy Navigator—creators of Val Nav reserves

evaluation, management and forecasting software—we see this as the next material step in building on our market-leading platform for integrated petroleum planning and reserves to serve the needs of operators, evaluators, and other industry stakeholders.”

“This partnership has compounding benefits and reinforces our commitment to achieving superior results for our clients through continuous improvement and innovation,” adds Jodi Anhorn, chief operating officer at GLJ. “We are excited to work with the innovators at 3esi-Energisight to explore and build this next generation of technology for reserves management.”

Caralyn Bennett, chief strategy officer at GLJ says, “By bringing together the leading insights of GLJ and 3esi-Energisight, we will empower our clients and their stakeholders with a reserves solution that is a step ahead of existing proprietary and commercial offerings—one with tremendous capability and next-level technology.” ■



Photo: Alberta Energy Regulator

THE ENVIRONMENTAL FILE

ALBERTA REGULATOR SEES NEED FOR IMPROVED MEASUREMENT OF UPSTREAM METHANE EMISSIONS

For Mark Taylor the main challenge in developing methane regulations for the upstream oil and gas sector is that while policies, statements and outcomes can be clear and concise, baseline emissions are largely estimates.

“What keeps us as the Alberta regulator awake is that at that very granular level, the baseline—depending on which study you look at and what data you are using—it varies,” the executive vice-president of operations at the Alberta Energy Regulator (AER) said at a recent conference in Calgary.

Canada’s national inventory is probably recognized for doing the best job worldwide in compiling greenhouse gas (GHG) estimates, he told a Canadian Society for Unconventional Resources

panel discussion on methane emission strategies. However, Taylor said, the national inventory does not really translate to a provincial level and to point companies specifically to where they need to make reductions.

“That is kind of the key part, and within Alberta’s framework, when you see the draft regulations on about September 1, one of the first pieces that we will be moving on is implementing some better measurement of reporting requirements starting in 2018,” he said.

While no requirements for reducing methane will be released until 2020, the AER wants to have companies begin reporting emissions in more detail and to be able to respond if it sees gaps between provincial numbers and the national inventory, he said. “The thing we ought to do with that measurement of reporting is basically get that aligned so we are working with federal government.”

At a national level, this spring Catherine McKenna, the Minister of Environment and Climate Change, introduced draft regulations for methane and volatile organic compounds in the energy sector. They are to be phased in between 2020 and 2023 as part of

the Pan-Canadian Framework on Clean Growth and Climate Change to reduce methane emissions by 40-45 per cent by the middle of the next decade.

“When you look at methane as a [GHG], and you look at the global warming potential, and you look at the social cost metric associated with [GHG] reductions for climate change benefits, the cost-benefit analysis is overwhelming on the benefit side,” James Diamond, manager of upstream oil and gas at Environment and Climate Change Canada, said in the panel discussion.

Final federal regulations should be available later this year or in early 2018, with the release of Alberta’s proposed methane rules anticipated in the coming months.

FUNDING SUPPORTS METHANE REDUCTION PROJECTS

Emissions Reduction Alberta (ERA) has committed funding to 12 innovative methane-reducing technology projects.

The projects have a combined value of more than \$83 million and are approved for up to \$29.5 million in ERA funding. The projects target methane-emissions monitoring, detection and reduction in the oil and gas, power generation, agriculture and forestry sectors.

“Achieving Alberta’s goal of reducing methane emissions requires the development and deployment of new technologies,” says Steve MacDonald, ERA’s chief executive officer. “The ERA-funded methane projects will help deliver the [greenhouse gas] reduction solutions that Alberta, Canada and the world need.”

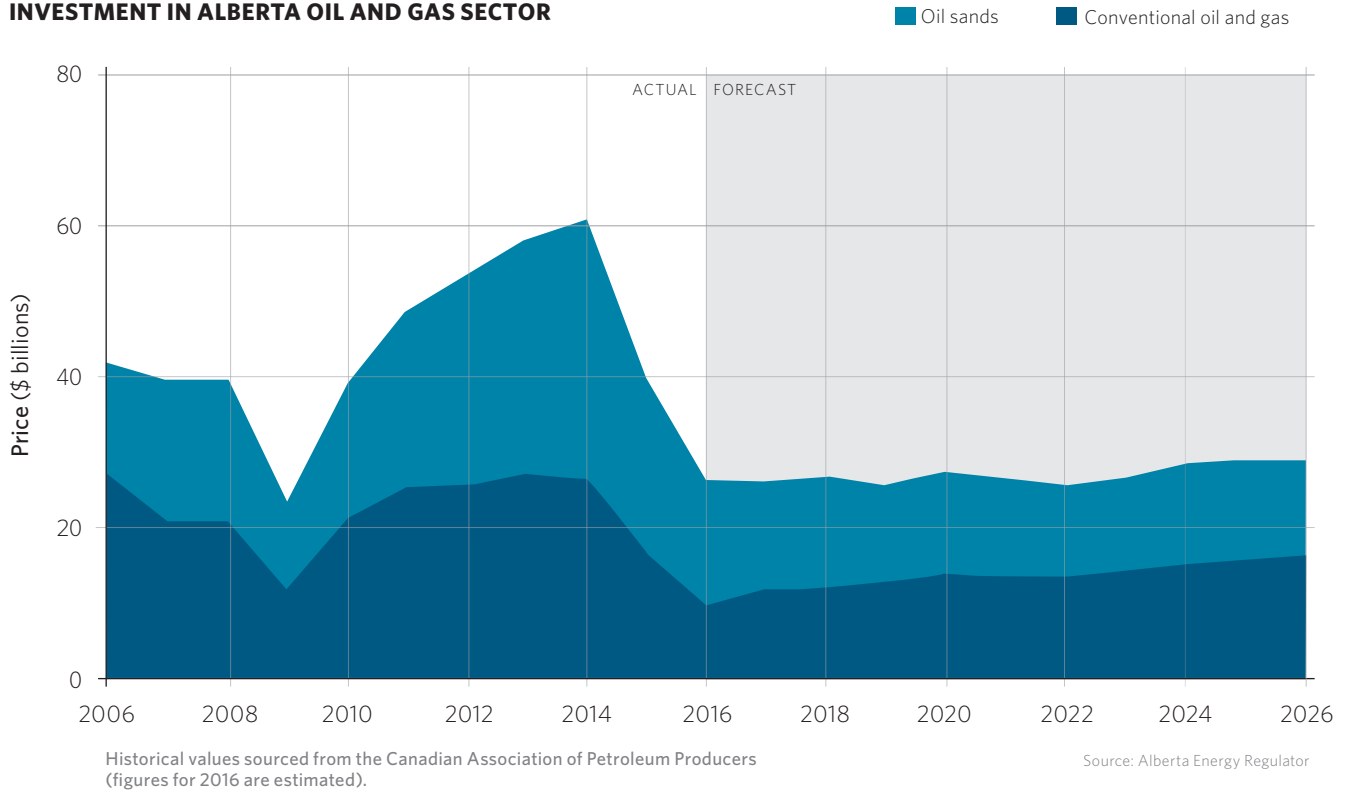
The new initiatives are the result of the ERA Methane Challenge and were selected for funding through ERA’s competitive process. ERA leveraged its investment to advance projects that will help industry meet the province’s climate leadership objective to reduce methane emissions by 45 per cent by 2025. ■



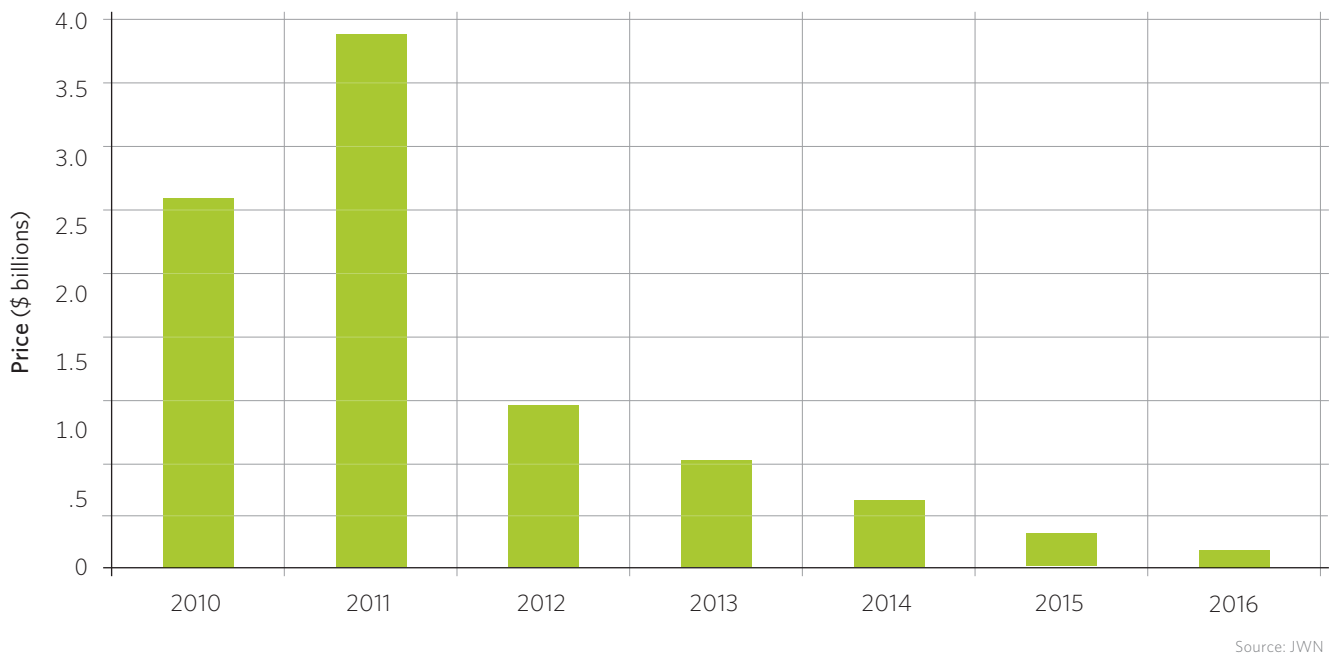
Photo: Alberta Energy Regulator

OIL & GAS STATISTICS

INVESTMENT IN ALBERTA OIL AND GAS SECTOR



ALBERTA CROWN LAND SALES Petroleum and natural gas rights, excluding oil sands



DRILLING RIG COUNT BY PROVINCE/TERRITORY

August 29, 2017

	ACTIVE	DOWN	TOTAL	ACTIVE
Western Canada				(Per cent of total)
Alberta	142	297	439	32%
British Columbia	29	36	65	45%
Manitoba	4	7	11	36%
Saskatchewan	41	78	119	34%
WC total	216	418	634	34%

Source: JWN

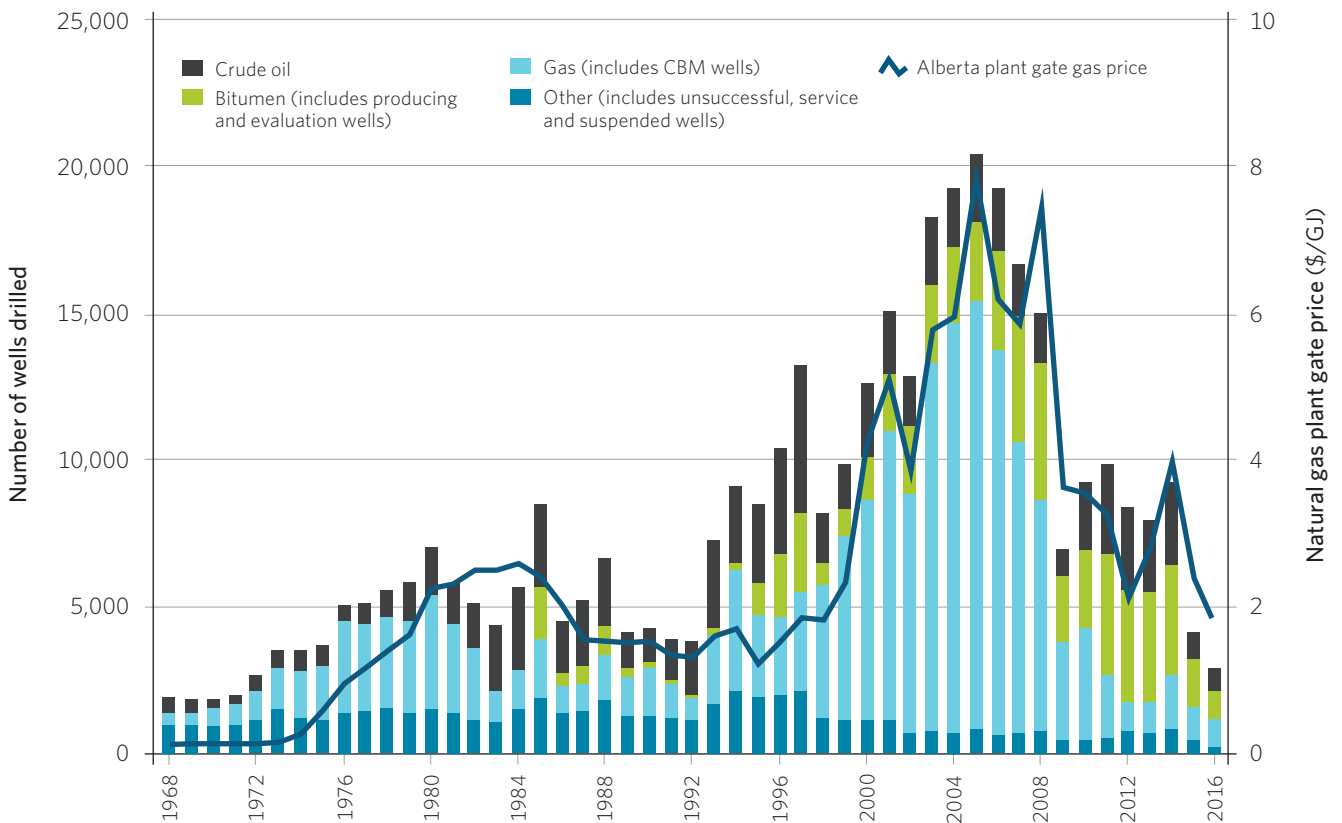
OIL AND GAS WELL COMPLETIONS BY PROVINCE

August 2017

	OIL WELLS		GAS WELLS	
Western Canada	May '16	May '17	May '16	May '17
Alberta	87	131	34	94
British Columbia	1	1	12	69
Manitoba	14	21	-	-
Saskatchewan	88	230	-	-
WC total	190	383	46	163

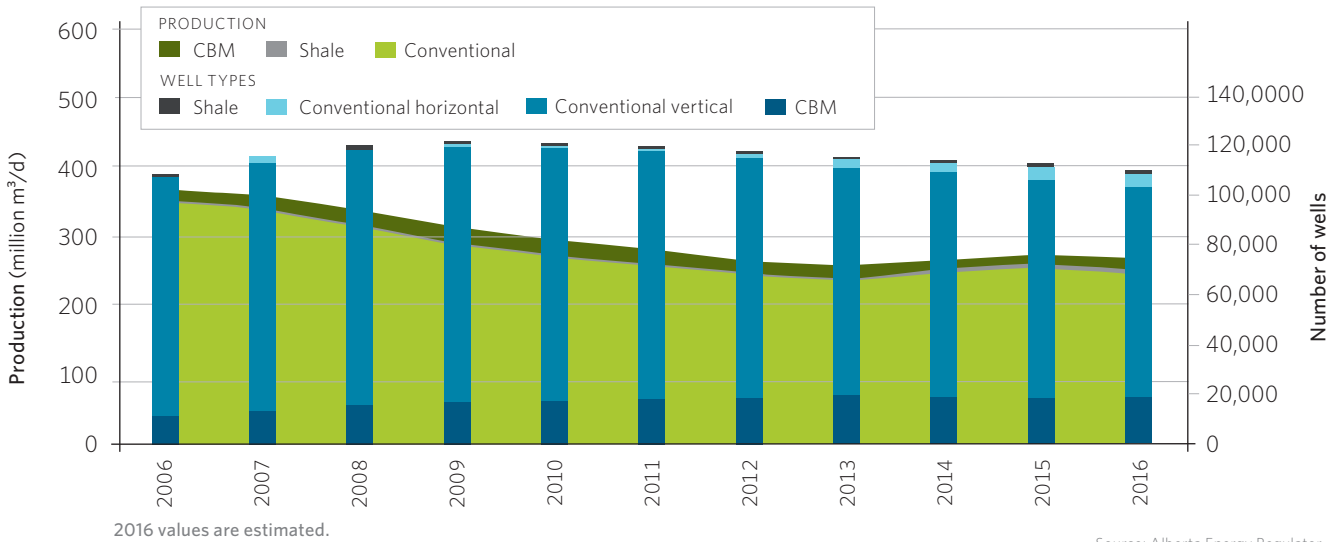
Source: JWN

DRILLING ACTIVITY IN ALBERTA, 1968-2016

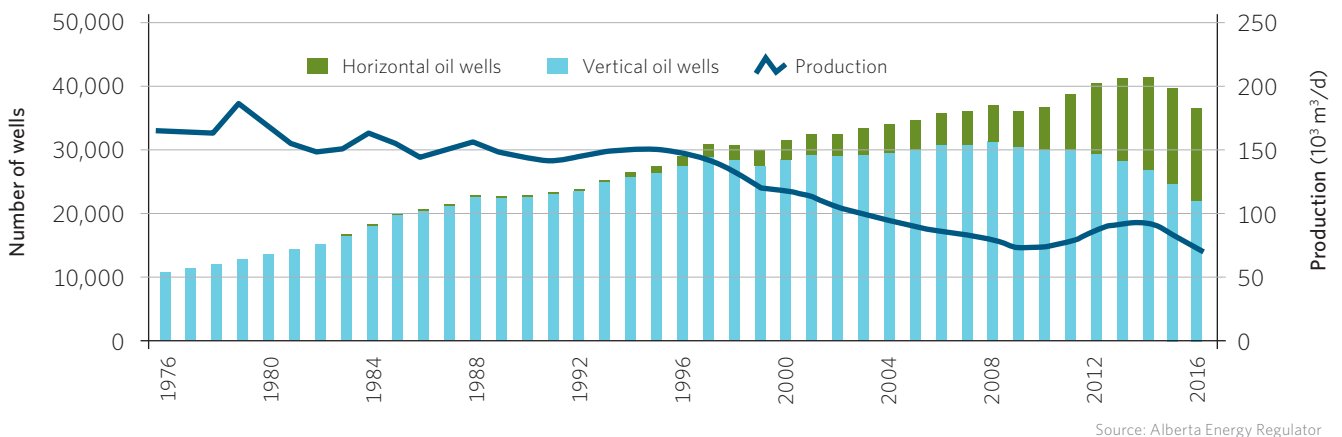


Source: Alberta Energy Regulator

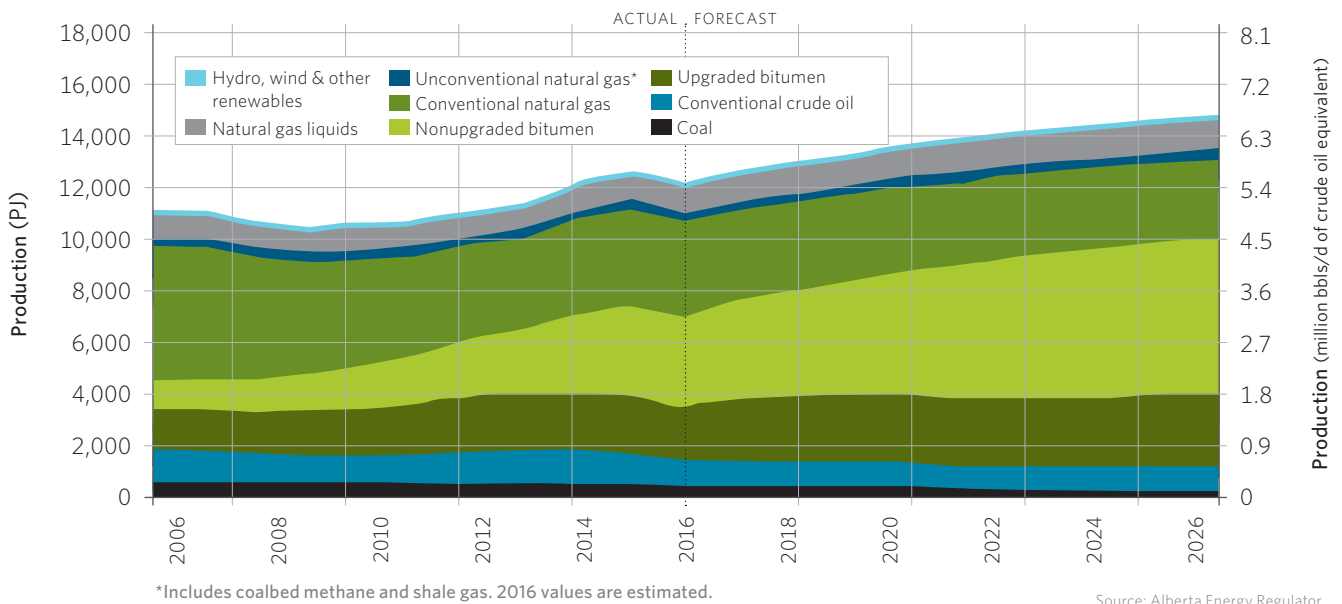
ALBERTA MARKETABLE GAS AVERAGE DAILY PRODUCTION AND PRODUCING WELLS



ALBERTA CRUDE OIL PRODUCTION AND PRODUCING WELLS



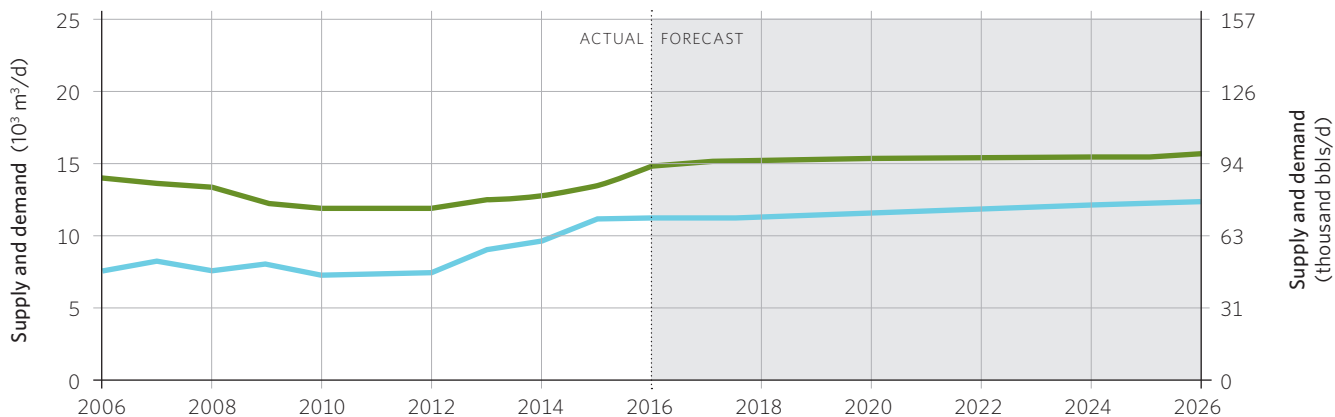
TOTAL PRIMARY ENERGY PRODUCTION IN ALBERTA



NATURAL GAS LIQUIDS STATISTICS

BUTANES SUPPLY FROM NATURAL GAS AND DEMAND

Alberta supply Total Alberta demand*

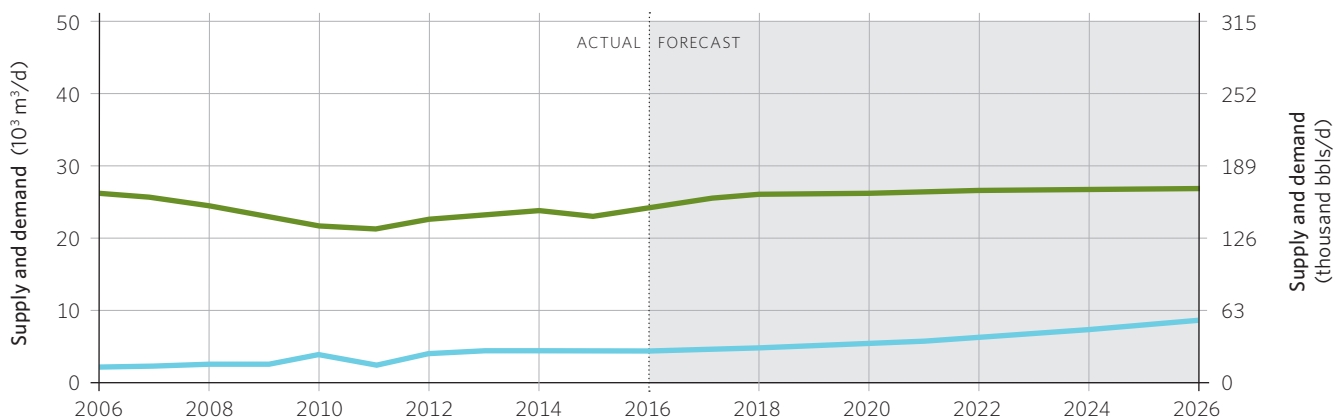


*Excludes solvent flood volumes. 2016 values are estimated.

Source: Alberta Energy Regulator

PROPANE SUPPLY FROM NATURAL GAS AND DEMAND

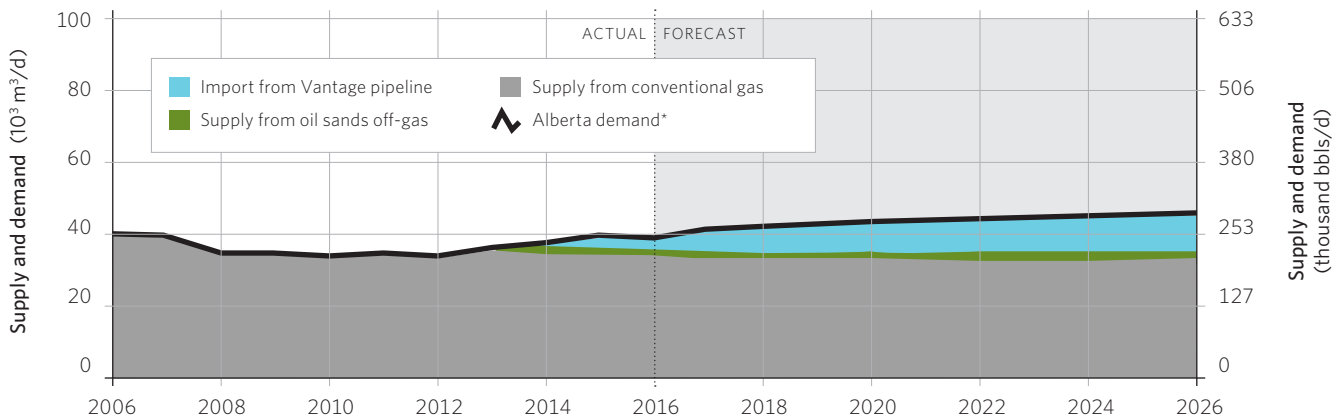
Alberta supply Alberta demand*



*Excludes solvent flood volumes. 2016 values are estimated.

Source: Alberta Energy Regulator

ETHANE SUPPLY AND DEMAND

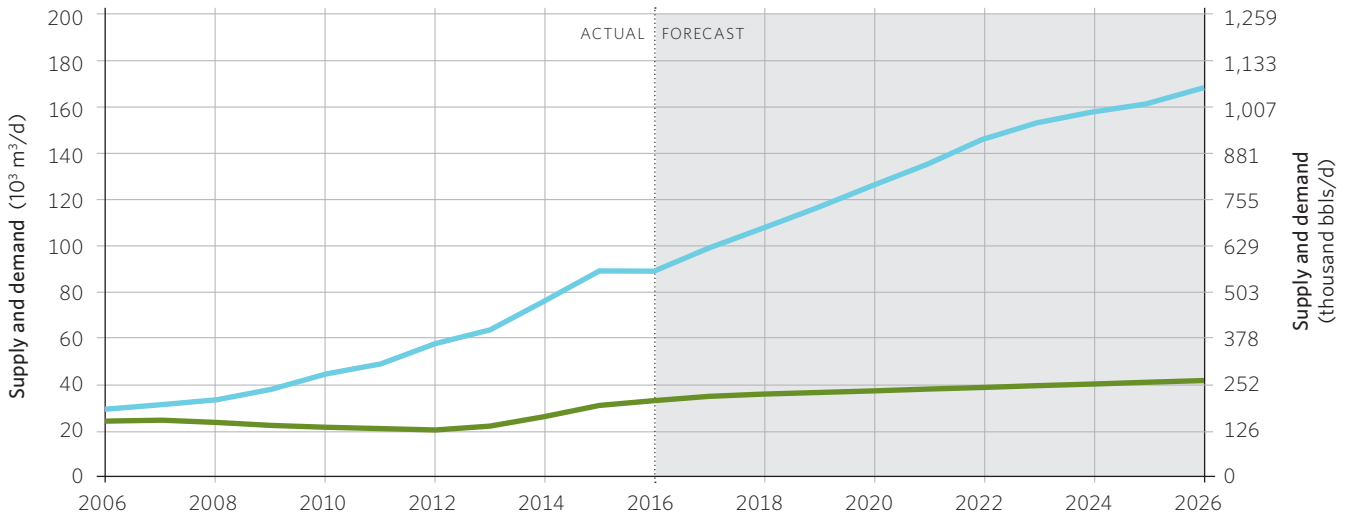


*Excludes solvent flood volumes. 2016 values are estimated.

Source: Alberta Energy Regulator

PENTANES PLUS SUPPLY FROM NATURAL GAS AND DEMAND FOR DILUENT

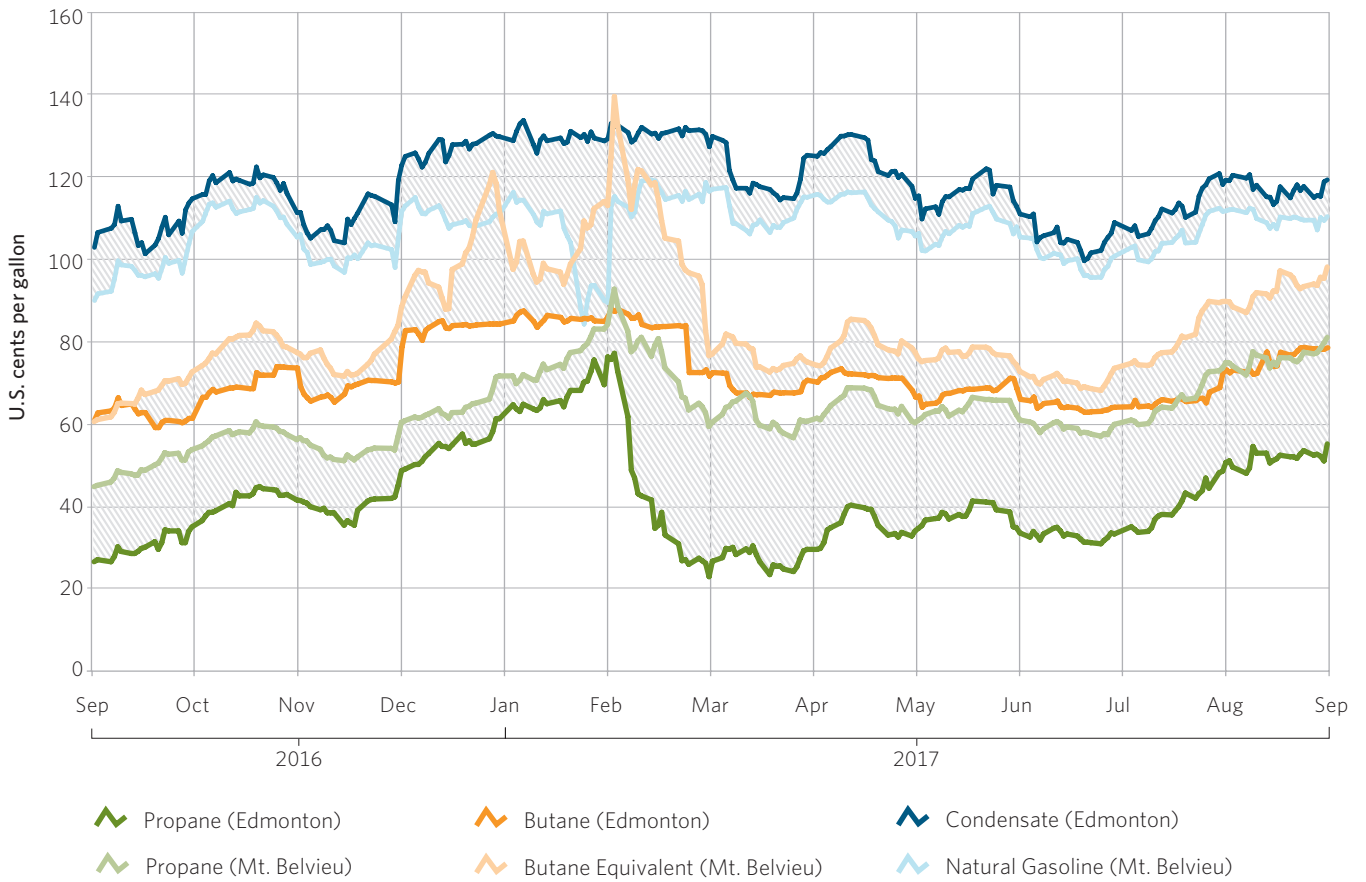
Alberta supply Alberta demand*



*Excludes solvent flood volumes. 2016 values are estimated.

Source: Alberta Energy Regulator

NORTH AMERICAN NGL PRICES



Note: Mt. Belvieu's field grade butane equivalent value is calculated by adding 70% of the value of the Mt. Belvieu Enterprise normal butane price to 30% of the value of Mt. Belvieu Enterprise isobutane price, to allow for comparison with Edmonton benchmark.

Source: Argus, 2017
www.argusmedia.com



Alberta

Capital Investment Tax Credit (CITC)

Are you an Alberta-based business conducting manufacturing, processing or tourism infrastructure activities? Are you looking to make an investment of at least \$1 million in value?

If so, you can apply for a 10 per cent tax credit on eligible capital expenditures, up to a maximum of \$5 million.

For more information on how and when to apply for the CITC, visit: jobsplan.alberta.ca or email citc.program@gov.ab.ca

We listened to business leaders' ideas to create the Alberta Jobs Plan. This included implementing new tax credits, providing training for aspiring entrepreneurs, adding supports for established ones, increasing access to capital and cutting the small business tax.

Together, we are creating new jobs, diversifying Alberta's economy and making the lives of Albertans better.

CONTACTS

ALBERTA GOVERNMENT

Alberta Advanced Education
www.advancededucation.alberta.ca

Alberta Economic Development
 and Trade (EDT)
www.economic.alberta.ca

Alberta Energy
www.energy.alberta.ca

Alberta Energy Regulator
www.aer.ca

Alberta Environment and Parks
www.aep.alberta.ca

Alberta Geological Survey
www.ags.aer.ca

Alberta Innovates
www.albertainnovates.ca

Alberta Surface Rights Board
www.surfacerights.alberta.ca



Photo: Alberta Energy Regulator

INDUSTRY ASSOCIATIONS

Alberta Land Surveyors' Association
www.alsa.ab.ca

Canada's Natural Gas
www.canadasnaturalgas.ca

Canadian Association of Geophysical Contractors
www.cagc.ca

Canadian Association of Oilwell Drilling Contractors
www.caodc.ca

Canadian Association of Petroleum Producers
www.capp.ca

Canadian Energy Pipeline Association
www.cepa.com

Canadian Natural Gas Vehicle Alliance
www.cngva.org

Canadian Society for Unconventional Resources
www.csur.com

Canadian Society of Exploration Geophysicists
www.cseg.ca

Canadian Society of Petroleum Engineers
www.speca.ca

Explorers and Producers Association of Canada
www.explorersandproducers.ca

Gas Processing Association of Canada
www.gpacanada.com

Petroleum Services Association of Canada
www.psac.ca

Petroleum Technology Alliance Canada
www.ptac.org

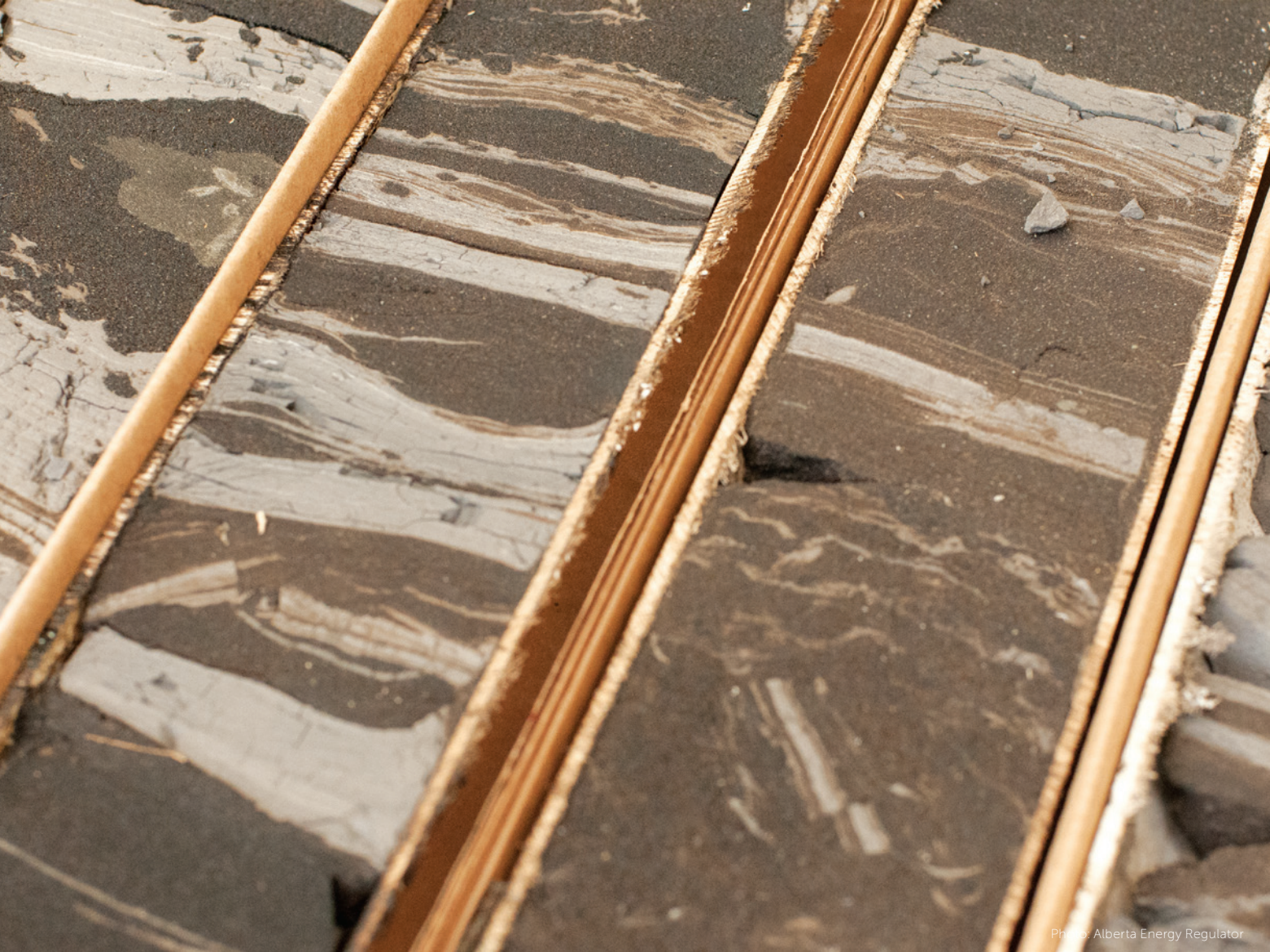


Photo: Alberta Energy Regulator

FOR MORE INFORMATION, PLEASE VISIT

www.albertacanada.com



Feedback, questions and comments on this issue of the *Alberta Oil & Gas Industry Quarterly Update* are welcomed.

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