



McLellan says Mining, Energy, Manufacturing vital to Prairies

BY KEVIN WEEDMARK

Saskatchewan Chamber of Commerce president Steve McLellan says the mining, energy, and manufacturing industries are vital to the Prairie provinces.

"They're incredibly important," he says. "The bottom line is the diversification we have with our manufacturing, the fact that we make everything from pedal boards for guitar players to processed meats to large scale cylinders for mining operations to farm equipment that is exported around the world, we make incredible things in this province. Our agriculture manufacturers like Vaderstad are exporting to countries we have trouble spelling, and making money doing it, and helping those countries feed their people."

"The direct expenditures those companies make are important, the hiring, the products and services that they buy from their local contractors and subcontractors. It could be just an electrician or a plumber that's serving their needs. It's incredibly important."

Regulatory, tax burden

He said the mining industry does face some challenges in competing with other jurisdictions.

"One of the challenges for the mining industry is they are competing in global markets with jurisdictions that don't have the regulatory burdens that we have. We need to have some of our regulations streamlined and we need to make sure our tax system is fair. We need to make sure we are competing on a level playing field."

"The ability of these companies to operate to the standards that Canadian values dictate is being challenged by a federal government that adds duplication of provincial regulations, that requires reporting structures that duplicate provincial regulations. We need to get rid of those to make sure that our Canadian companies can compete. We can do a lot better and make



Steve McLellan addressing the Moosomin Chamber of Commerce

it easier for our Canadian companies to compete."

Discussions with province

He said the Saskatchewan Chamber of Commerce has had discussions with the provincial government over the tax burden on the potash mining industry.

"We did a report called Beyond 2020 that talks about a review of the potash sec-

tor, with the potash sector at the table.

"The calibre and the expertise we have within our potash sector is exceptional and they have ideas of using different metrics to base the taxation on, that may be better for the companies and the province, that will provide the province with their fair share, but in ways that will not penalize the mines when they do expand."

"The government hammered the potash

sector out of the blue by changing some metrics on which they are charged. It was unnecessary, it was unfair, it wasn't a consultative process. They simply said 'well, they are big companies, they can absorb it' and that's horrendous public policy. The government needs to do better, and our companies can provide some insight on how to do it better."

Lots of potential

McLellan said he sees great potential for further development of the industries in Saskatchewan.

"There is tremendous potential," he said. "In the energy industry there is a whole lot more we can do, both in the traditional oil and gas sector, getting that product to market, making sure we are using the expertise that we have and the raw resources that we have. There are opportunities to expand that industry. There are hurdles such as getting pipelines in place, but if we can get over those hurdles, the future is bright."

"In manufacturing, there is no question that there is great opportunity. The legacy of companies like SeedMaster, like Vaderstad, Morris, Doepker, all of those companies that originated here, we need to make sure we have the right ecosystem for them, so that innovation is celebrated and encouraged."

"We need to make sure that government doesn't get in the way but celebrates and supports them. Manufacturing, from metal fabricators to food processors, are an important part of the economy of this province and there's lots more than can be done. Of course, one of the newest manufacturing activities is the tech world. There's lots of money being made in technology, creation of different processes, we're hiring hundreds of people every month in Saskatchewan in our tech companies, and there could be more of that, without question."

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MINING, ENERGY AND MANUFACTURING
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Line 3 replacement will be in service by end of 2019

By any measure, replacing the Line 3 pipeline in Canada was a monumental undertaking successfully executed in the field over four seasons by a peak construction workforce of about 5,300 workers, including a large component of Indigenous men and women.

New 36-inch-diameter steel pipe milled in Regina and Camrose, 1,070 kilometres of it, joined by nearly 50,000 welds and stretching across the vast Canadian prairie from Hardisty, Alberta to Gretna, Manitoba.

Three new storage tanks, ready to be filled to a capacity of almost 1 million barrels of Canadian crude at Enbridge's Hardisty Terminal; from there and further downstream along the pipeline right-of-way, 18 new pump stations to keep the oil flowing past villages and hamlets like Metiskow, Langbank and St. Leon.

Earlier this year as final restoration continued along parts of the construction right-of-way, Enbridge has announced an agreement with shippers that the new pipeline will be brought into commercial service by the end of this year.

"We are always talking to our customers to determine their transportation needs and how we can meet those needs by optimizing our pipeline systems, so reaching a commercial agreement is a major milestone for Enbridge," explains Chad Dechaine, Director, Business Development and Asset Performance.

"Bringing this line into service in Canada represents the culmination of several years of hard work by thousands of Enbridge employees and contractors—and we wouldn't be here without the strong support of landowners, municipalities and Indigenous communities," adds Guy Krepps, Director, Major Projects Execution. "We're very grateful for that support."

The Line 3 replacement pipeline and related facilities were engineered and

built with the newest and most advanced pipeline technology, using the latest in construction methods. As a result, it offers enhanced safety and reliability in addition to being more energy efficient.

"In Wisconsin and now Canada, we've replaced Line 3 with new steel pipe and await final permitting to begin construction in Minnesota," Krepps says. "By bringing the Wisconsin segment and now the Canadian segment into service, the number of preventative maintenance

digs that would have been required will be significantly reduced, resulting in fewer disruptions to communities, landowners and

the environment." The 14-mile (22.5 km) Wisconsin segment was connected to the Minnesota Line 3 and has been operating since May 2018.



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Major operations

The two potash mines in the region, Nutrien Rocanville (above) and Mosaic Esterhazy, are the two largest potash mines in the world.

The mines operate at a lower cost than other mines in Saskatchewan because of the higher grade ore at the eastern end of the Prairie Evaporate formation.

Richard Downey, Vice-president of Investor and Corporate Relations with Nutrien told the World-Spectator last week, "Rocanville is our largest and lowest cost facility and has and will continue to operate at full rates now and into the future."

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Source: Carbon Footprint for Canadian Potash Production, Cheminfo Services Inc., 2018.

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Decrease of GHG emissions per tonne of product





THE MINING, ENERGY AND MANUFACTURING

FALL 2019



Surface remediation on Enbridge's Line 3 right-of-way. Crews plan to wrap up work on Nov. 15 and will be back next summer to finish the project. Around 200 workers have been based in Moosomin for the last few months working on surface remediation.



Indigenous monitors on the Enbridge Line 3 right-of-way.



Straw crimping along the Enbridge Line 3 right-of-way on Spread 6 in western Manitoba.



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Nutrien and **Mosaic** have been good corporate citizens and have contributed greatly to all of our communities.

We're proud to see the major investments that **Nutrien** and **Mosaic** have made in our area, and we look forward to working with you in the future!

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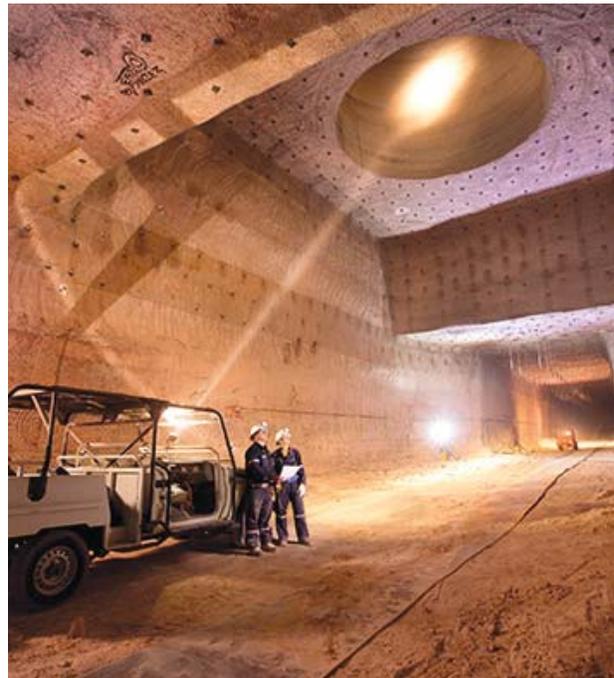
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SE Sask focus of October oil and gas offering

Southeast Saskatchewan was the focus of the October 1 public offering of Crown petroleum and natural gas rights in the province, which generated \$2.2 million and brought the 2019-20 fiscal year total to more than \$11 million. Saskatchewan currently averages \$529.63 per hectare for the fiscal year, higher than Alberta, which averaged \$149.66 per hectare.

Southeast Saskatchewan brought in \$1,608,244.49 for 35 leases totalling 4,917.960 hectares.

Four leases, comprising 516.414 hectares northwest of Lampman, re-

ceived \$469,580.00 in bonus bids; the highest bonus bid received in this offering was \$240,480.00 for a 129.274 hectare parcel in that area.

These parcels are prospective for oil in the Midale Beds of the Madison Group and oil in the Bakken Formation. The successful bidder on these parcels was Midale Petroleum Ltd.

Synergy Land Services Ltd. was the successful bidder on two leases in the Kindersley area consisting of 516.658 hectares, which received a total offer of \$234,369.81. These parcels are situated northwest of Kerrobert and are

prospective for oil in the Viking Formation.

The global oil and gas industry recognizes that Saskatchewan has a favourable and low-risk investment climate relative to other jurisdictions in Canada and elsewhere.

The Fraser Institute's annual international survey of petroleum executives for 2018 ranked Saskatchewan second among jurisdictions in Canada for oil and gas investment attractiveness.

The scheduled date for the next public offering will be December 3, 2019.

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SK mining operations paid a total of **\$1.4 billion** to employees in 2017.

In 2018 SK mining operations made over **\$22 million** in social and community contributions.



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Saskatchewan Potash Nourishing the Earth.

A snapshot of Saskatchewan's potash industry

Saskatchewan potash is a vital and replenishing agricultural fertilizer used world-wide to grow healthy crops. Its application is becoming increasingly important as the globe's population soars toward an estimated 9.7 billion by 2050.

Saskatchewan has the largest and richest potash resources on the globe, and could supply the needs of farmers world-wide for several hundred years.

Not only does potash nourish the Earth, it's also used to make industrial products and pharmaceuticals.

Potash is a valuable resource that has a significant positive impact on the economy of Saskatchewan and its communities.

Three producing companies — K+S Potash Canada, Mosaic Company and Nutrien Ltd. — operate 11 mines in the province: eight are underground and three are solution operations.

POTASH MINING FACTS AT A GLANCE

- Amount mined:** 20.7 million tonnes
- Amount exported:** 95 per cent. Major markets of US, China, Brazil, India
- Sales:** \$4.4 billion
- Reserves:** Saskatchewan has approximately half the world's potash reserves.
- #1 Potash Producer in the world:** 30% of world production

SASKATCHEWAN POTASH ECONOMIC CONTRIBUTIONS

Financial Contribution to GDP: **\$5.52 billion**

Taxes (federal, provincial and local): **\$516 million**

Employment Potash mining employs Saskatchewan residents and is indirectly responsible for many more jobs and careers.

Jobs: **5,100**

Wages: **\$1 billion**

Safety Mining is one of the safest industries in Saskatchewan, and in Canada. Recordable injury frequency rate* employees (average): 1.057. *RIFR reflects the annual injury rate per 100 full-time employees.

Community investment Saskatchewan potash companies invest in community initiatives, partnerships, and causes that enhance the quality of life in the regions where they operate.

\$15.5 million In 2017, \$15.5 million was invested in various communities and Indigenous partnerships.

Statistics have been compiled from information provided by Saskatchewan's three potash mining companies and Statistics Canada/RIAS Inc. RIAs, or Regulatory Impacts/Alternatives/Strategies compiled a report entitled Economic Benefits of the Fertilizer Sector in Canada based on StatCan information. All numbers from 2017.

Potash facts: Canada is world's largest producer

Potash is the common name given to a group of minerals and chemicals containing potassium (K), which is a basic nutrient for plants and an important element of fertilizer. Potash is mostly produced in the form of potassium chloride (KCl), but deposits can have different amounts of potassium, so we often measure and refer to it in terms of potassium oxide (K₂O) equivalence, for consistency.

- Potash is primarily used to produce fertilizer
- Canada is the world's largest producer and exporter of potash
- Canada has the world's largest potash reserves, with 1 billion tonnes of potash (potassium oxide equivalent) or about one-quarter of the world's reserves

USES

Potash is primarily used as a fertilizer (approximately 95%) to support plant growth, increase crop yield and disease resistance, and intensify water preservation. Small quantities are used in the manufacturing of potassium-

bearing chemicals such as:

- detergents
- ceramics
- pharmaceuticals
- water conditioners
- alternatives to de-icing salt

Potassium is an important element of the human diet. It is essential for growth and the maintenance of tissues, muscles and organs, as well as the electrical activity of the heart.

PRODUCTION

Canada produced 20.3 million tonnes of potash in 2017, an increase of 2.4 million tonnes compared to 17.9 million tonnes in 2016.

Global potash production was estimated at 60.4 million tonnes in 2016. Canada is the world's largest potash producer, accounting for 29% of the world's total in 2016.

Four countries (Canada, Russia, Belarus and China) accounted for more than 75% of the world's potash produc-

tion in 2016.

In 2017, the estimated global reserves of potash were 4.3 billion tonnes (potassium oxide equivalent). Canada had the world's largest reserves with 1 billion tonnes.

TRADE

Canada is the world's largest exporter of potash. In 2017, Canada exported 19 million tonnes of potash, accounting for 39% of the world's total exports.

Three countries (Canada, Russia and Belarus) accounted for more than 75% of the potash traded internationally in 2016.

PRICES

Potash prices have been declining since 2012. Prices stabilized in 2016 at around US\$200 per tonne, then increased slightly from the second half of 2017 to reach US\$207 at the end of 2017.

Source: Natural Resources Canada

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No issue in Canada has been framed as more black and white than pipeline development

It's often said that you can have it all, but not all at once. The key to finding work/life balance is to measure success not by the day or week, but over the longer term. So it is with our choices for Canada.

We are often told that we have to choose between being socially just and having a competitive economy; between maintaining social programs and reducing government spending and debt; and between having clean air and water and a robust energy sector. These ominous black and white trade-offs have contributed to confusion, finger pointing, anger, and in some cases apathy. And when these broad trade-offs are enacted as policy, no one wins.

Perhaps no issue in Canada has been framed as more black and white than pipeline development. But like most complex issues, the best answer has shades of grey. As a business executive who has worked in both Ontario and Alberta, I've been inspired by the work of Canada Powered by Women—a initiative to engage more women in conversations that matter. Right now, an honest conversation about the future of our energy industry is critical.

Just over half of Canadians want the next federal gov-



Lorraine Moore

ernment to expand the Trans Mountain pipeline. But in what appears to be a misinformed wish to please absolutely everyone, the project has stalled—and everyone is paying the price. Canada is now viewed as a country that can't get anything done. This negative reputation affects every sector and every province through lowered investor confidence, fewer infrastructure projects, and a loss of jobs.

• The people who most need safe and reliable energy are the world's poorest. By providing Canadian oil and gas to the world, and displacing coal-fired energy, we can continue to help lift millions out of poverty and reduce pollution.

• Economically, the Canadian energy industry has been the single biggest contributor to GDP for decades. The industry has provided paycheques and transfer payments to Canadians from coast to coast. All of us have benefited from the well-paying jobs in the energy industry. In the last four years, tens of billions have been lost while the US energy sector has rocketed.

• Transporting oil and gas through pipelines is much safer than rail.

• If Canada wants to be a leader in addressing climate change, our federal government should stop talking about closing down the industry that represents our best chance for climate leadership, environmental stewardship, and economic growth—not only for our citizens, but many of the poorest people of the world. When it comes to common ground on the environment, the economy, and climate—maybe there really is a way to have it all.

Lorraine Moore is the founder of Accelerate Success Group and strategic advisor, executive coach and consultant to CEOs, boards, leadership teams and individuals. She has been a senior executive at TC Energy (formerly TransCanada) and TD Bank.



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Canada well placed to meet world's growing energy demands

When an irresistible force meets an immovable object, conflict typically ensues. So it is with the world-wide effort to come to grips with the unprecedented challenges posed by climate change.

While most countries—minus Donald Trump's America—have notionally signed on to the 2015 Paris Agreement goal of working towards holding the global temperature rise to a maximum of two degrees centigrade, few are on track to slash their greenhouse gas (GHG) emissions sufficiently to meet the target. Indeed, world-wide emissions are still increasing—climbing by 1.8 per cent in 2018, driven by growing energy use and ongoing economic development in China, India and many other emerging market economies.

Even as concerns mount over the effects of a warming climate, the world remains overwhelmingly dependent on GHG-producing fossil fuels. True, a transition to "clean" energy—i.e., energy that doesn't generate GHGs—is underway, but the pace is slow and the adoption of less carbon-intensive energy is largely restricted to the electricity sector.

Stupendous amounts of energy are needed for heating and cooling, transportation, and to support many industrial processes—all served by ubiquitous fossil fuels. In 2018, heating and cooling accounted for more than half of overall global energy use, and transportation for almost one-third. While there is welcome progress in shifting away from fossil fuels to produce electricity, this is less true for the other components of energy demand; electricity is not a substitute for many of these uses.

A glance at recent projections for energy production

Jock Finlayson and Denise Mullen

and consumption highlights the central role of fossil fuels in meeting the world's voracious energy needs. For example, according to BP's 2019 baseline energy outlook:

- Global primary energy demand will increase by one-third to 2040, mainly from economic growth and rising living standards in Asia, Africa, and the Middle East. While "energy intensity"—the amount of energy used per dollar of economic activity—is expected to decline, total energy consumption still increases.
- Energy used in buildings (heating and cooling) and industry represents about three-quarters of the jump in cumulative energy use to 2040, according to BP's baseline forecast.
- The transition to a lower-carbon energy mix continues, led by growing demand for natural gas and renewables. The share of primary energy demand met by coal and oil falls. However, in overall terms fossil fuels still provide a large majority of the world's energy, even in 2040.
- Global reliance on oil and demand for liquid fuels remains strong in the transport sector, albeit edging lower thanks to more energy-efficient vehicles and incremental market penetration by electric vehicles. But even in 2040, oil is projected to supply 85 per cent of the energy required to move cars, trucks, trains, ships and aircraft.
- Production and trade in liquefied natural gas (LNG)

is set to increase sharply in the next two decades. This underscores the opportunity for Western Canada to become a significant LNG producer and exporter given the region's abundant reserves of natural gas.

• What are the implications of the evolving global energy landscape for Canada? Our country is endowed with an enviable mix of energy riches, including the world's third largest oil reserves. Energy plays an outsized role in Canada's economy, amounting to 10 per cent of GDP and supplying 20 to 25 per cent of all merchandise exports. Canada is the fourth biggest global producer of natural gas and oil. In the electricity sector, Canada boasts among the highest shares of carbon-free generation (more than two-thirds) among all advanced economies—we have done more than most countries to reduce the GHG footprint of electricity.

As an oil and gas producer, Canada has well-respected environmental standards and rigorous project approval processes.

Indeed, compared to most other major oil and gas exporting nations—including Russia, Venezuela, Angola, and various Middle Eastern petro-states—Canada clearly ranks as a responsible supplier.

Even as efforts continue to tamp down GHG emissions and reduce the carbon intensity of energy use, a fast-growing world will continue to demand energy. Canada is well-placed to help meet it.

Jock Finlayson is executive vice-president and Denise Mullen Director of Environment and Sustainability with the Business Council of British Columbia.

Nutrien Rocanville and Mosaic Esterhazy:

Area home to the two largest potash mines in the world

BY KEVIN WEEDMARK

Many people realize that Nutrien Rocanville and Mosaic Esterhazy are two very large mines and two very stable anchors for the economy in southeast Saskatchewan and southwest Manitoba.

But a lot of people might not realize just how big the two mines are.

They are not only the two largest potash mines in Saskatchewan.

They are not only the two largest potash mines in Canada.

They are not only the two largest potash mines in North America.

They are the two largest potash mines in the world.

With nameplate capacities of 6.6 million tonnes of KCl (Mosaic Esterhazy) and 6.5 million tonnes (Nutrien Rocanville), the two mines are far larger than any other potash mines in operation.

Between the two mines there are almost 1,800 people directly employed.

of the \$3 billion expansion. The Rocanville mine produced 2.48 million tonnes of KCl in 2015, 2.72 million tonnes in 2016, and 4.86 million tonnes in 2017.

In 2017—before the merger that created Nutrien—Rocanville produced about half of the 9.8 million tonnes of potash produced by the five PotashCorp mines in Saskatchewan.

ESTERHAZY THE LARGEST MOSAIC MINE

Mosaic Esterhazy is the largest of the three Mosaic potash mines in Saskatchewan.

Mosaic has a nameplate capacity of 6,600 tonnes of potash, more than the other two Mosaic mines in Saskatchewan combined.

Mosaic is investing in the area with the K3 project at Esterhazy.

The first stage of the K3 Project was approved in 2009 as part of Mosaic's strategy to ensure the long-term viability

of our Esterhazy Operations.

In 2015, a modified project scope was approved to accelerate the second stage of K3 development.

ROCANVILLE, ESTERHAZY HAVE MORE POTASH PRODUCTION CAPACITY THAN MOST COUNTRIES

Between Nutrien Rocanville and Mosaic Esterhazy, this area has more potash production capacity than any country outside Canada.

Between Nutrien Rocanville and Mosaic Esterhazy, this area has 13.1 million tonnes per year of potash production capacity, helping make Canada the world's largest producer of potash.

The number two country in the world for potash production is Russia, which produced 7.2 million tonnes in 2017, less than the capacity of the two potash mines in this area.

ROCANVILLE THE LARGEST NUTRIEN MINE
Production at Rocanville doubled with the completion

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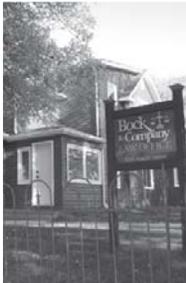
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