

## OPINION

## MINING

# Exploration, mining a Canadian powerhouse

Feds should do more to invest in the sector, says PDAC.



BY ROSS GALLINGER

Canada has long established itself as an international hub for financing as well as business leadership in mineral exploration and mining. Our expertise runs deep and investors around the world respect and value it. At home, mining has a substantial economic impact on our nation's North and on aboriginal communities. The mining sector is a powerhouse of Canada's economy. Of the world's public mining companies, 58 per cent are listed in Canada. There are nearly 1,700 mining and junior mining companies listed on the Toronto Stock Exchange (TSX) and TSX Venture Exchange (TSXV). Together they are responsible for approximately 90 per cent of the world's mining equity financings by number and nearly 40 per cent by value. With the state of equity markets steering away from the resource sector, the federal government has the opportunity to renew key investments that spur private sector activity and create jobs, to ensure domestic growth and activ-

ity for future Canadians, as well as maintain global leadership.

In northern Canada, development and jobs depend heavily on mineral exploration and mining. The number of land development agreements between aboriginal communities and private companies is proof positive. The Northwest Territories and Nunavut Chamber of Commerce estimates that the diamond mining industry alone contributed more than \$100-million to aboriginal communities as well as investing in education and job training. Nationally, mineral exploration and mining contributes more than \$36-billion to our GDP.

Success in the North requires strategic investments by both governments and companies. The federal government has a number of successful initiatives that support growth and prosperity in the North. Mineral Exploration Tax Credit (METC), the Geo-mapping for Energy and Minerals (GEM) program and the Targeted Geoscience Initiative (TGI) are vital contributions to Northern development. With the initial government investment, exploration companies can operate in areas with high concentration of mineral strains with greater success. This increases confidence and generates investment from the private sector, especially



**Show me the money:** Natural Resources Minister Joe Oliver. The Prospectors & Developer Association of Canada is calling on the federal government to renew investments in the mining sector in the next budget.

in the north, where there are few other economic activities. GEM and TGI programs are both critical to the efficient, effective and responsible development of new mineral deposits and mines.

The current challenges facing the market, coupled with the difficulty of raising capital, reinforces the significant importance of the METC. The Prospectors & Developers Association of Canada has long advocated for an extension to this annual program that has demonstrated tremendous returns for our country. METC has become the lifeblood of the exploration industry. It has been

in place for 12 years, and has become an integral part of the "Super" Flow-Through system for grassroots exploration which supports the junior mining sector.

The GEM program creates a common knowledge base for industry that defines regions of greatest resource potential for long-term development. Junior exploration companies can operate more efficiently by focusing their resources on areas with greater potential for mineral discovery and conversion to mining operations, and later creating valuable high-skilled jobs in remote communities in Nunavut and NWT.

As defined by the federal government, TGI is a collaborative federal geoscience program to generate new geoscience knowledge in support of deep exploration. This is the third renewal of a highly successful minerals program that began in 1999. In addition, TGI helps lead the development of new geoscience-based techniques to help companies focus on areas of buried mineral deposits. The federal government has invested \$25-million over five years in the TGI program and to renew the program in 2014 would be an additional support for the industry.

The exploration and mining sector is a Canadian powerhouse and part of our prosperity. Jobs are created, private sector investment happens, Canadians prosper. For northern communities this is critical. Our ongoing growth and development captures the international mining industry's attention. The federal government recognizes it and has supported the industry for years. Its investments are behind the industry's strength, growth and leadership around the world. Now that renewal is upon us, the government can once again invest in Canada and support mineral exploration and mining.

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## OPINION

## ENERGY

# Canada shouldn't put all its energy eggs in one basket



BY DONALD SMITH AND ANNIE WEBB

There are many risks in placing too much emphasis on fossil fuels as the answer to Canada's energy needs. On the environmental front, global CO<sub>2</sub> levels recently surpassed 400 parts per million (ppm), compared to 280 ppm in the pre-industrial era. These are the highest levels the earth has seen in four million years. The concentration of CO<sub>2</sub> is projected to reach an alarming 530 ppm in 2050 and 780 ppm in 2100. Growing evidence suggests that the marked increase in frequency and intensity of severe weather is linked to climate change. Floods like that seen in Calgary this summer are projected to become a lot more common and severe if atmospheric greenhouse gas levels continue to increase.

The continued growth of atmospheric greenhouse gas concentra-

tions is not the only risk associated with placing too much weight on the fossil fuel sector. The oil sands, although they may be the world's third largest fossil fuel reserves, are essentially limited to selling only to the U.S. due to the existing pipeline infrastructure. However, technological advances have boosted production in both Canada and the U.S., reducing the market share for Canadian oil. In pursuit of new markets, rail and road have been increasingly used for transport, yet these carry serious risks as the recent Lac-Mégantic disaster has shown. Proposed new pipelines have had their share of controversy related to fears of potential spills, not to mention that the enormous investment in time and money required to build them would commit Canada to several more decades of fossil-oil dependency.

Low-emission renewable bioenergy is widely regarded as a feasible substitute for fossil fuels, leading to long-term energy security and environmental sustainability. Advanced biofuels have been shown to reduce greenhouse gas emissions by 50 to 90 per cent com-

pared to fossil fuels, while emissions from oil sands production are estimated at eight to 37 per cent higher than conventional crude. Canada must make the transition to renewable energy, and its large reserves of oil and gas provide an opportunity to do so in the context of a stable existing energy supply.

Canada has the know-how to make this happen. BioFuelNet Canada, a federal Network of Centres of Excellence, brings together academia, industry and government to accelerate research and development, and address barriers that stand in the way of commercialization of "advanced" biofuels, where "advanced" indicates the use of biomass sourced from non-food materials. Using waste biomass instead of food materials ensures that biofuel production does not threaten global food security, contribute to rising food prices or use large areas of high quality arable land. The production and use of advanced biofuels also release significantly less greenhouse gas emissions than food-based biofuels. Advanced biofuels represent a highly promising opportunity to put to use Canada's

vast quantities of agricultural and forestry waste, plus municipal solid waste available throughout the country. Biofuel production can also aid with economic diversification, rural development, waste management, job creation and improvement in human health.

Canada has been meeting its current federal ethanol blending mandate (five per cent ethanol blended into gasoline), in large part through U.S. corn ethanol imports. As much of the economic opportunity is currently occurring south of the border, Canada should be maximizing its potential on domestic soil. However, future growth in the biofuels sector must now come from advanced biofuels technology.

Enerkem, a Montreal-based company that is a partner of BioFuelNet, is opening Canada's first commercial-scale waste-to-biofuel plant in Edmonton this fall, in collaboration with the City of Edmonton and Alberta Innovates. Enerkem and Greenfield Ethanol are building a second full-scale facility in Varennes, Que., which is set to open in 2014. Each of these plants will produce 38 million litres per year of advanced biofuels and drastically reduce the amount of municipal solid waste going to landfills or incinerators.

In order to help grow the advanced biofuels sector, federal support for advanced biofuels technology is critical, especially for the early stages of commercialization. This support is necessary to attract private investment to finance new plants in the first few years. The NextGen Biofuels Fund from Sus-

tainable Development Technology Canada provides capital assistance for new advanced biofuels plants, but there are currently no operating incentives available for advanced biofuels in Canada. First generation plants (which make biofuel from corn or wheat) receive an operating incentive of \$0.10 per litre declining to \$0.03 per litre until 2017. A federal operating incentive that is higher, on a per-litre basis, for advanced biofuels would help support higher capital costs and technology risks associated with the commercialization of these new technologies.

Canada should be using its oil sands resources strategically to transition to clean energy, for a more economically and environmentally sustainable future. Instead of putting all its energy eggs in the oil sands basket, Canada needs to ensure that it is a leader in the world's future energy markets, providing a secure and sustainable source of energy for future Canadian families. This means reducing dependence on fossil fuels over the long term, moving to a low carbon economy and increasing the support for the most promising renewable energies.

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