

EXPLORER

Winter 2022



Isaac Newton's Third Law states for every action, there is an equal and opposite reaction



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of Saskatchewan

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EPAC President & CEO Message By Tristan Goodman



Tristan Goodman, President & CEO of The Explorers and Producers Association of Canada (EPAC)

Welcome to the Winter 2022 issue of the Explorer Magazine, The Explorers and Producers Association of Canada's (EPAC) semi-annual publication. Since the previous edition, the business environment has experienced huge swings, and the outlook for the coming months promises to be just as variable. Strong prices have allowed companies to repair balance sheets and reward shareholders, but that has not come easily. Supply chain and workplace disruptions due to COVID-19, staff shortages, changes to environmental policy and continued legal and regulatory challenges on both sides of the Canada-US border has created enormous uncertainties for the energy sector, investors, and consumers.

Isaac Newton's Third Law states for every action, there is an equal and opposite reaction. In an industry built on science and engineers, we are familiar with this scientific law and its implications in our work. The law though can also be applied to markets and business, especially in the current political and economic environment.

While governments continue to place stringent and changing Greenhouse Gas (GHG) reduction requirements onto the Canadian energy industry (while not placing the same level of cost onto national industrial users and consumers), there is an equal and opposite reaction of causing institutional investors to leave Canada and add to inflationary energy affordability issues for all national businesses and Canadians. It becomes very hard for Canadian energy companies to invest in clean technology if the patient capital of institutional investors is leaving and companies are forced to focus on preparation to weather the next storm of pop-up government policy. These unintended consequences are misaligned with government policy goals around a healthy environment and a healthy economy by not incenting Canadian businesses to invest in further clean technology adoption.

“Isaac Newton's Third Law states for every action, there is an equal and opposite reaction. In an industry built on science and engineers, we are familiar with this scientific law and its implications in our work.”

I recognise our industry has fully seized and is committed to reducing GHG emissions. We are certainly doing more than others around the world. I also understand that it is frustrating to

see governments allow the continued import of higher emission energy from other countries that lack the same GHG reduction commitment, ESG standards and support to community investment. The simple reality is that such practices should not be permitted and run counter to the Canadian governments' own policy agenda.

As governments move forward, they must be thoughtful about the pace and scale of policy implementation, keeping the average Canadian in mind who lacks disposable income to absorb some of these costs. Policy changes introduced in Ontario that led to steep price increase in electricity rates were not received well by average Canadians. Energy shortages in Europe have raced to the top of many political agendas as supply and demand realities challenge the pace of energy transitions. On a global coal use for power generation has returned to previous highs. These examples are not excuses to go backwards on the climate agenda, but rather a call to take a pragmatic approach and consider energy affordability is critical to most working Canadian families.

Here in Canada, our sector continues to adapt and evolve in many ways. We have adjusted to market pressure by saving costs through finding efficiencies while focusing on sustainability through technology and innovation. This has had the double advantage of responding to investor and public demands to reduce our environmental footprint and contribute more to local community development. As prices have increased and look to remain strong, producers will have the opportunity to accelerate investments

in projects to reduce greenhouse gas emissions, (demonstrating our industry's commitment to meet net-zero emissions targets by 2050), to reclaiming and remediating more sites and to helping Indigenous governments create vibrant well-resourced administrations.

As an industry, we understand there is a transition underway. Still, governments at all levels cannot lose sight that Canadians will need to rely on oil and gas for the foreseeable future to maintain Canada's standard of living. We will continue to make GHG reductions and Indigenous reconciliation priorities in an ESG focused world. However, we need to assist the government in determining what is achievable with the current supply and demand in a difficult period of changing energy use.

"The conventional sector is full of accomplished executives, technical experts and those who want to make Canada a better place."

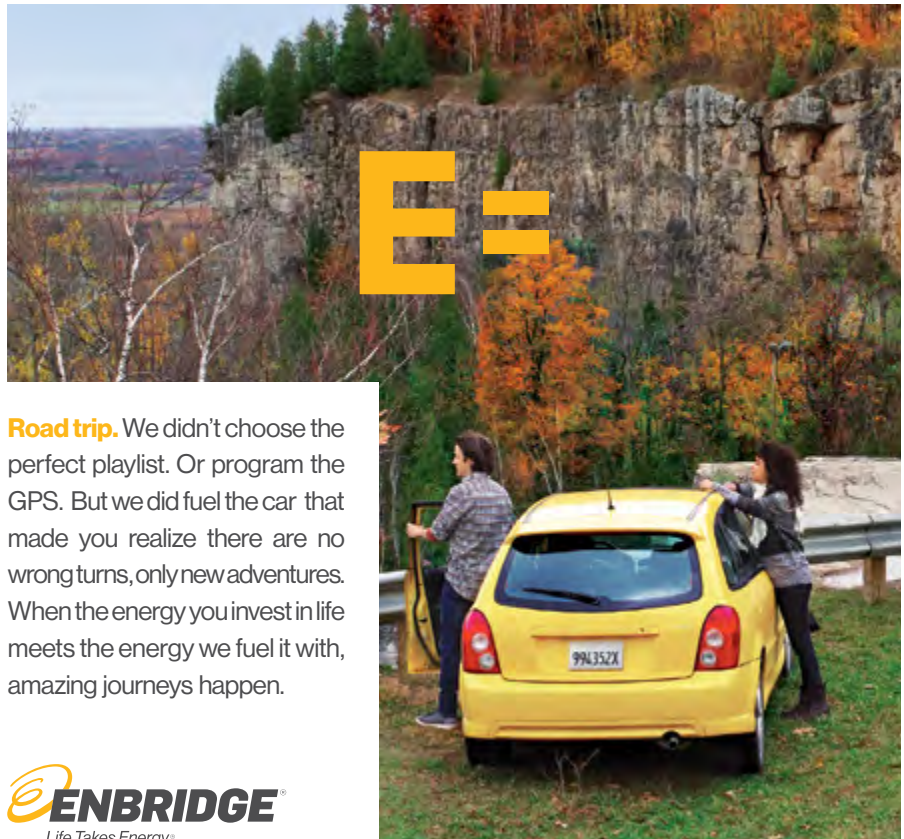
Steven Guilbeault, Minister of Environment and Climate Change of Canada recognized this reality when he stated that even if Line 5 is shut down, the province of Quebec will require oil and natural gas for many years. In the coming months, EPAC will be working with the Minister and his colleague, the Minister of Natural Resources Canada, to ensure the transition works for all parties and regions of the country. We want to ensure we do not see a repeat of the ill conceived National Energy

Program that sought to defy market fundamentals and unfairly targeted western Canada.

To return to Isaac Newton's Third Law, EPAC can play an essential role in how governments respond to the forces at play. The conventional sector is full of accomplished executives, technical experts and those who want to make Canada a better place. Governments at all levels must include us in developing policies addressing the energy transition and indigenous reconciliation, just as the federal government must work with provinces as equal partners.



Tristan Goodman
EPAC President & CEO



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Message from Premier of Saskatchewan By The Honourable Scott Moe



The Honourable Scott Moe President of Executive Council, Minister of Intergovernmental Affairs

Saskatchewan is proud to be Canada's second largest oil producer, and a world leader in carbon capture utilization and storage technology. Given our vast resources and strong investment climate, we are well positioned to strengthen and diversify our resource sector to build a better Saskatchewan into 2022 and years to come.

Our oil industry is vital to building a stronger, more resilient Saskatchewan. The oil and gas industry contributes 15 per cent of our Gross Domestic Product, and supports over 30,000 full-time jobs. As demand for oil is expected to continue increasing and remain high for decades, we look forward to a strong recovery in our oil and gas sector.

In partnership with the federal government and the Saskatchewan Research Council, the Government of Saskatchewan launched the Accelerated Site Closure Program (ASCP). The ASCP uses \$400 million in federal funding for the abandonment and reclamation of up to 8,000 inactive oil and gas wells and facilities, over two and a half years. The program prioritizes Saskatchewan based oil and gas service companies and is expected to support approximately 2,100 full-time equivalent jobs. The First Nations

Stewardship Fund and the Indigenous Business Credit Pool are two initiatives that will direct ASCP funding to support First Nations and Métis participation in the program.

The program prioritizes Saskatchewan based oil and gas service companies and is expected to support approximately 2,100 full-time equivalent jobs.

Our government has many incentives in place to maintain an attractive investment climate in the province and get our resources to market. Recently, Husky Midstream completed the first project under our Oil Infrastructure Investment Program (OIIP). Their Saskatchewan gathering System Expansion pipeline project increased crude oil shipping capacity by 48,000 barrels per day. We also approved Proton Technologies under the Saskatchewan Petroleum Innovation Incentive (SPII) for their first-of-its-kind-hydrogen production project. Proton's project will deploy its patented process to extract hydrogen from existing oil reservoirs, while CO₂ will remain trapped under the ground. Hydrogen projects like this have the potential to repurpose abandoned oil wells in the province. Saskatchewan is also well positioned to become a leading producer of lithium and we are excited about entering this new market. As demand for lithium increases, we are already seeing lithium investments in the province. Prairie Lithium is an innovative new company that will produce lithium from our oilfield brines and eventually concentrate and refine their products in Saskatchewan. Lithium extraction technology projects have received government

support through our SPII initiative and the Saskatchewan Advantage Innovation Fund. This is another example of how we are diversifying our already strong energy sector.

Our government's commitment to growing our oil and gas sector and achieving our Growth Plan goal of producing 600,000 barrels per day. In our most recent budget we modernized our High Water-Cut Well Program to expand the eligibility criteria to include more wells.

These changes made wells that traditionally incur higher operation costs, more economical for producers. Now, almost 23,000 wells will qualify under the new program and the production life of the average oil well will be extended by five years.

Saskatchewan is among the most sustainable, lowest emitting, and ethical oil producing jurisdictions in the world.... Now is the time to build up our energy sector and provide the world with the energy security and products they vitally need.

We will continue to make the environmental and economic case for pipelines. Seventy percent of Saskatchewan's oil runs through the Enbridge Mainline, which includes Line 3 and connects to Line 5. Enbridge's completion of their Line 3 replacement pipeline will almost double current oil transport capacity. The lines' state of the art safety technology, further proves that pipelines are the safest, most reliable way to move our oil to markets. As well,

our government is actively supporting the efforts to prevent Enbridge Line 5 from being shut down, which would have serious impacts on Canada's relationship with the United States and our collective energy security.

Saskatchewan is a world leader in carbon capture utilization and storage technology (CCUS) and Enhanced Oil Recovery (EOR). Our government recently outlined our priorities for CCUS, which include expanding our OIIP initiative to include CO₂ pipelines and increasing our competitiveness in EOR. Leading environmentalists agree that without EOR, emissions reduction targets cannot be achieved. EOR extraction emits 82 per cent fewer emissions than traditional extraction methods.

We support our industry in all of their efforts and investments to reduce emissions. Whitecap Resources Inc. operates one of the world's largest EOR and CCUS projects near Weyburn, Saskatchewan. This year, Whitecap Resources Inc. and Federated Co-operatives Limited signed a memorandum of understanding to explore opportunities around shifting to CCUS, EOR and CO₂ transportation infrastructure. This is just the beginning, as we anticipate CCUS projects will attract provincial investment of more than \$2 billion and sequester over two million tonnes of CO₂ annually.

Saskatchewan is among the most sustainable, lowest emitting, and ethical oil producing jurisdictions in the world. Near the end of 2021, the price of oil

reached multi-year highs, supported by a global supply shortage and recovering demand. Now is the time to build up our energy sector and provide the world with the energy security and products they vitally need.

Our government will continue working with industry to find new and innovative ways to grow our resource sector, create and protect jobs, and reduce our emissions. I would like to thank our industry for their contributions to our province as we continue to build our economy.

Need Help Reducing Emissions?

The Saskatchewan Research Council (SRC) provides reliable lab and field testing for emissions measurement, reduction, capture and conversion. Our experts also evaluate enhanced oil recovery technologies that improve production and increase reserves, reduce water usage and energy inputs, and drive down greenhouse gas emissions, such as methane and CO₂.

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Alberta's Bright Energy Future By The Honourable Sonya Savage, Minister of Energy

Alberta is Canada's energy powerhouse. As a province and industry, we are ready to meet current and future energy demand, share technological innovation, and strengthen our position as a global leader in responsible energy development.

The Alberta government has set an ambitious agenda, which will see the province expand our energy portfolio for the future by complementing and building on our existing strengths in the oil and gas sector.

The world is not moving away from hydrocarbons anytime soon. In fact, all credible forecasts continue to project that oil and gas will continue to be integral to the energy mix for decades to come, even as renewables and other sources of energy increase their market share. Realistically, this means that Canada's oil and gas producers, including members of EPAC, will play a vital role as we prepare for opportunities ahead.

Alberta's government knows the importance of our oil and gas sector. This is why we moved quickly to support the oil and gas industry – and the Albertans who rely on it – as we were impacted by the global downturn, the oil price collapse and the COVID-19 pandemic. We extended mineral lease agreements, covered a portion of the levy that industry pays to the Alberta Energy Regulator; and rapidly implemented the Site Rehabilitation Program (SRP) – along with the SRP Industry Advisory Committee, of which EPAC is an important contributor. We wanted to help preserve the highly skilled workforce within exploration and production companies, as well as the oil field service companies.

Despite recent challenges, we have reasons to be optimistic for the future of our sector. We have started to see strong signs of recovery in 2021, including improved pricing and increased

drilling activity. Land sales are up, as are investment forecasts. In Alberta, oil production has recovered to pre-COVID levels. We expect this momentum to continue into 2022 and beyond, especially with Enbridge's Line 3 replacement becoming operational and construction on the Trans Mountain Expansion making steady progress.

At the same time, we are seeing a worldwide shift towards increased commitments to environmental, social and governance objectives, which will impact energy pricing and production. These objectives are shaping investment decisions and climate regulations and policies. Given Alberta's strength in traditional energy development, this shift also creates opportunities we are uniquely positioned to capitalize on. Many Alberta operators and companies are taking initiative by setting ambitious ESG goals and plans, including those related to well clean-up and reclamation, as well as investment in alternative energy technology. We expect that there will be more to come, and that emerging market opportunities will present themselves as demand for lower-carbon energy grows. It is imperative we help ensure that the industry is well-equipped to capitalize on these opportunities.

To be ready for what lies ahead, Alberta has been a leader in developing carbon capture, utilization and storage (CCUS) technology. Enhancing our ability to capture and store more carbon dioxide can build the foundation for significant emission reductions in the energy sector and elsewhere, in addition to driving clean hydrogen development. Capitalizing on the multi-billion opportunity which clean hydrogen represents will require leaning heavily on CCUS to facilitate its production and export. We know that these CCUS-led reductions will be a crucial component of meeting our country's emissions goals.

We have recently released a hydrogen roadmap that will guide the development of the province's hydrogen economy. As part of the global energy future, hydrogen is already viewed as a necessary component to achieving environmental outcomes while meeting increasing energy needs. Thanks to Alberta's abundant natural gas reserves in the Duvernay and the Montney formations, the province is well-positioned to be a competitive supplier of hydrogen to Canada and the world. Alberta has already seen encouraging interest in the sector, including announcements from a number of international companies like Air Products, Itochu, Petronas, and Mitsubishi. Our roadmap will help draw in even more investment to the province.

Alberta has already seen encouraging interest in the sector, including announcements from a number of international companies like Air Products, Itochu, Petronas, and Mitsubishi.

Supporting hydrogen growth is just one example of how government is looking to increase economic activity across Alberta's entire natural gas value chain. The Alberta government continues to implement its Natural Gas Vision and Strategy, which will help the province take advantage of opportunities in petrochemicals, plastics recycling and liquefied natural gas. For LNG specifically, this means helping to grow access to global markets. The Natural Gas Vision and Strategy outlines an approach to continue working with federal, provincial, and Indigenous partners across the country to ensure the infrastructure and regulatory structure is in place to move Alberta LNG to international markets in the coming years. Alberta's natural gas can help meet the growing global demand for affordable and sustainable energy.

In addition to being an economic opportunity, LNG has the added benefit of being an environmental one too. LNG can reduce emissions by providing a reliable baseload energy source for growing economies in Asia, replacing more emissions-heavy coal and simultaneously improving air quality across the region.

Closer to home, having strong emissions standards has been prioritized by government and industry alike in Alberta, particularly regarding methane. There was diligent work and collaboration with industry to set methane emission standards that are stringent, yet achievable. Both industry and government recognized the importance of these reductions. Cooperation has positioned Alberta ahead of other jurisdictions.

The kind of long-lasting change needed within our oil and gas industry is necessary for continued success. In fact, a strong oil and gas sector enables Alberta to be a leader in innovation in a changing energy future. Oil and gas companies in the province spend more than any other sector on cleantech research and development to reduce energy emissions. In 2019 alone, these companies spent \$1.6 billion on Research and Development (R&D) and we expect that investment to continue to increase. We have seen companies embrace the Technology Innovation and Emissions Reduction (TIER) program, empowering industries to continue developing game-changing technologies that reduce emissions. Alberta is spending up to \$750 million from the TIER fund and other public funding over three years on projects that are creating jobs, diversifying the economy and cutting emissions.

While there's no question the oil and gas sector and the global energy mix continues to evolve, we also know that the world needs Canadian oil and gas and the products made from them – both now and well into the future. We will continue

to see strong employment in the oil and gas industry along with new jobs across emerging sectors.

Based on the province's extensive experience in energy development and a commitment to prepare for the challenges of tomorrow – because of the hard work

and dedication of Albertans who lead oil and gas companies and organizations like EPAC – Alberta is well-positioned to meet post-pandemic demand as we successfully navigate an evolving energy future.

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BC Clean Energy Centre to Invest in Low-Carbon Innovation By Susannah Pierce



Susannah Pierce County Chair Canada and GM Renewables & Energy Solutions Canada at Shell

Last July the governments of British Columbia and Canada along with Shell announced funding toward the new B.C. Centre for Innovation and Clean Energy. The centre will be focused on collaborating to decarbonize the economy and scale up clean energy.

The centre will bring together innovators, industry, governments and academics to accelerate the commercialization and scale-up of B.C.-based clean-energy technologies. It will also be a catalyst for new partnerships and world-leading innovation to deliver near- and longer-term carbon emission reductions.

The centre's initial focus areas for funding and project delivery will include:

- carbon capture, utilization and storage;
- the production, use and distribution of low-carbon hydrogen;
- biofuels and synthetic fuels (including marine and aviation fuels);
- renewable natural gas; and
- battery technology, storage and energy management systems.

The Government of B.C. and Shell Canada have each committed \$35 million to the centre that will leverage additional public and private-sector investments and participation. The Government of Canada has committed up to \$35 million for the centre's innovative projects.

Recently the centre announced their new executive team, led by Executive Director Dr. Ged McLean and Deputy Executive Director Yemi Adefulu. Dr. McLean brings over 30 years experience in the development and commercialization of new technologies, with technical expertise in areas including renewable energy and hydrogen and fuel cell systems. He is well-positioned to connect local researchers and innovators across B.C.'s innovation ecosystem through his previous role with the University of Victoria's Institute for Integrated Energy Systems.

Mr. Adefulu brings global experience with background in the corporate energy and financial services sectors. His previous experience leading complex deals, driving operational excellence and stewarding global supply chain transformation underpinned by

innovation, digitalization and end-to-end process integration will be a strong asset.

The centre has important work to do in helping society achieve its net-zero ambitions and I wish the team nothing but success.

The centre will bring together innovators, industry, governments and academics to accelerate the commercialization and scale-up of B.C.- based clean-energy technologies. It will also be a catalyst for new partnerships and world-leading innovation to deliver near- and longer-term carbon emission reductions.

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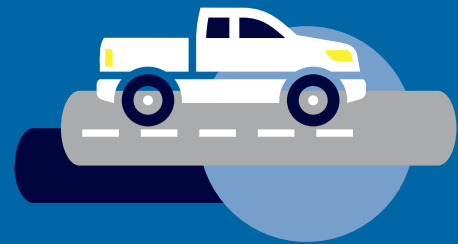


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Trans Mountain: Committed to Success and Legacies for Communities By Ian Anderson



Ian Anderson, President & CEO of Trans Mountain

Trans Mountain's success has been built on a solid and unwavering commitment to doing the right thing, for the right reasons. With a workforce of more than 11,000 people on the ground across British Columbia and Alberta building our Expansion Project, we are being good neighbours, respecting communities where we operate and doing our part to advance Indigenous reconciliation every day.

For years, I have been deeply involved with the Indigenous communities along Trans Mountain's existing and expanded pipeline corridor. I know each and every Chief and am honoured to be able to call many of them my friends. Through these relationships, the level of Indigenous involvement in our Project is unprecedented. Through job creation, procurement opportunities, partnerships, and involvement at every step of the environmental process, I am confident we are creating legacies for Western Canadian Indigenous communities that hasn't been done before.

At the same time, we're building legacies for all Canadians, we're building a critically important, energy infrastructure project. Canada is a nation of resource developers, traders, and leaders. Energy

products, led by oil, are our nation's biggest export. Expanding the capacity of North America's only pipeline with access to the West Coast gives our oil producers unprecedented access to new, high-paying markets, that will unlock billions of dollars in economic value, and we are committed to truly showcasing what we have to offer the rest of the world.

Today, the existing pipeline generates \$0.2 billion in cash each year. After the Expansion Project, that cash flow will increase seven-fold. We have always ensured that the economics of this Project makes sense and that there are positive and lasting impacts for all Canadians.

These benefits include Indigenous owned or joint-venture businesses participating in the construction of the Expansion Project – to date we have more than 1,900 businesses involved with contracts worth more than \$1.9 billion. Our Project has also made possible an unprecedented investment in marine safety and spill response enhancements for the West Coast and, in the long-term, will result in increased revenues to the energy sector, and taxes to all three levels of government. The Expansion is leaving a legacy of prosperity and tangible assets for local residents along the pipeline route. Through our community investment program, we're contributing to neighbourhood projects like trails and skate parks for the health of families. We're infusing millions of dollars into local infrastructure projects such as road upgrades and sewers in areas where they are needed for our workforce during construction and these improvements will benefit local governments and their residents for the future.

Work is now well underway across Alberta and British Columbia at our terminals, pump stations and right-of-way. We have active construction across all our spreads, and we've partnered with

responsible contractors that share our values of safety, integrity, respect, and excellence. We expect all our contractors to work at the high standards of safety and environmental protection we set for ourselves, and to assist us in fulfilling our commitments to Indigenous communities and stakeholders.

Together, we are committed to prioritizing and maximizing Indigenous, local, and regional hiring to the greatest extent possible. We have consistently seen our numbers reflect that commitment with 90 per cent of our workforce being from B.C. and Alberta and 10 per cent of our overall workforce identifying as Indigenous.

While the pandemic has changed a lot of things in the world, it has not shifted the unwavering support Trans Mountain and the Expansion Project has received from industry. The pipeline continued to be full throughout the pandemic – showcasing the need and our unique market position and really speaks to the diversity of markets we serve. We are grateful for the ongoing support we have received from The Explorers and Producers Association of Canada and the leadership of the organization, who have stood beside us through each step of this journey.

We will continue to report on our commitments, our performance and our aspirations for Trans Mountain and the Expansion Project. We will continue to advance economic reconciliation for Indigenous communities across our pipeline corridor and our country. It is our way of sharing our journey and demonstrating to our country and the rest of the world that we can balance Canada's social, environmental, and economic interests and continue to be global leader in resource development. We look forward to the opportunity to listen, learn, and adapt to the expectations of stakeholders on matters of societal importance as we continue building this nation building project.



After months of relative silence from the Alberta UCP government on energy, environment or natural resource policy, this week saw several notable developments which Global will continue to monitor.

Alberta Releases Hydrogen Roadmap

Alberta released its Hydrogen Roadmap on November 5th and the political importance of the strategy was underscored by Premier Kenney's participation in the press conference. The Premier positioned the Hydrogen Roadmap as a central pillar of Alberta's economic diversification and recovery plans.

The Roadmap emphasizes the hydrogen opportunity in Alberta with the most ambitious scenario projecting \$30 billion in new capital investment in the province and "tens of thousands of jobs" constructing the resulting hydrogen projects by 2030.

The scale of Alberta's hydrogen ambition notwithstanding, the roadmap did not contain any new announcements on provincial funding or programming for hydrogen development in the province. The Alberta Petrochemicals Incentive Program (APIP) is put forward as the main program supporting clean hydrogen production, but that support has already been available for some time to "blue" hydrogen as a value-added activity for natural gas.

The strategy takes a "phased approach" to implementation, with the province's plans for subsequent action outlined in only general terms, but highlights include:

- Examining the potential for hydrogen blending into utility systems, looking at pilot projects to verify feasibility in the near term.
- Amending the *Gas Utilities and Gas Distribution Acts* to remove barriers to hydrogen blending.
- Pursuing incentives for fuel switching and related infrastructure in transportation working with the federal and municipal governments.
- Establishing a "Clean Hydrogen Centre of Excellence".
- Clarifying and harmonizing hydrogen regulatory requirements between federal and provincial governments.
- Developing "hydrogen hubs" across the province, presumably in alignment with the Carbon Capture, Storage and Utilization hubs the province is already working on developing.
- Develop a geoscience program focused on mapping Alberta for critical and strategic minerals.
 - The implication is that Alberta Geological Survey (AGS) will put more emphasis on minerals, but the strategy stops short of saying that overly, likely because the current activities of the AGS are largely funded by the oil and gas sector, meaning the province is being careful releasing details on how this new emphasis will be implemented and funded.

<https://www.alberta.ca/hydrogen-roadmap.aspx>

Alberta Mineral Strategy and Action Plan

Alberta released its Mineral Strategy and Action Plan on November 4th. Alberta has not previously been home to large scale minerals development outside of coal but this Strategy and Action Plan is the first step in a planned provincial effort to better profile the mineral development potential of the province.

Highlights:

- The *Mineral Resource Development Act* has been introduced into the legislature to expand and clarify the mandate of the Alberta Energy Regulator as the main regulator of minerals development in Alberta.
 - This is the first step in a planned update of Alberta's lifecycle metallic and industrial minerals regulatory regime, including modernizing tenure and royalty systems for minerals.

<https://www.alberta.ca/minerals-strategy-and-action-plan.aspx>

Environmental Protection and Enhancement Amendment Act

Alberta has yet to signal its intent with the forthcoming bill to amend the *Environmental Protection and Enhancement Act* which is the cornerstone of Alberta's environmental regulatory system for energy and natural resources, but this amendment act now appears on the order page to be introduced into the legislature on November 15.

The amendments are likely more substantive than small changes to improve efficiency, or they would likely have been included in the prior omnibus Red Tape Reduction bill also proceeding through the Legislature this sitting. Global will monitor this closely as it develops.

[20211115_1200_01_op.pdf\(assembly.ab.ca\)](https://www250.ca/document/20211115_1200_01_op.pdf(assembly.ab.ca))

British Columbia Update By Emilio Caputo, Global Public Affairs

The B.C. government is nearing the end of its first in-person session since the pandemic began. With loosening public health restrictions and increased vaccine mandates from industry, the government has shifted much of its focus onto energy and environmental policy. Within the last six months alone, B.C. announced its updated CleanBC climate plan, released a hydrogen strategy, and launched a review of its natural gas royalty program. The province also continues to advance its reconciliation agenda with a government-to-government commitment to First Nations on files like old growth and cumulative effects.

CleanBC Roadmap to 2030

Leading into the 2021 United Nations Climate Change Conference (COP26), the government released its CleanBC Roadmap to 2030 which provides a pathway to meeting its 2030 sectoral

emissions reduction targets. The report lays out several proposed policy changes related to the oil and natural gas industry. Government intends to engage with EPAC and its members on each policy area over the course of 2022. With respect to the oil and natural gas industry, the government intends to:

1. Review carbon pricing mechanism to ensure it meets the federal benchmark price as it moves to \$170 per tonne in 2030 while improving supports for emissions reductions.
2. Develop a mechanism for “high quality” offset credits.
3. Require large new facilities to show a path to net-zero by 2050, as part of the application process.
4. Develop policy to meet the federal commitment to reduce methane emissions by 75 per cent over 2012 levels by 2030.

5. Advance a provincial strategy to deploy CCUS and other negative emissions technologies.

In addition, the government intends to increase the stringency of its low carbon fuel standard and place a cap on emissions on downstream natural gas utilities.

EPAC has been and will continue to be heavily engaged with the Government of British Columbia on these files to represent member interests.

Hydrogen in B.C.

The province aims to become a leader in the development of hydrogen, having released the B.C. Hydrogen Strategy in July and being the first province to do so. The strategy outlines development and investment opportunities for both green and blue hydrogen. The plan earmarks \$260 million for hydrogen development, especially targeting fuel-



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switching through the Clean Industry and Innovation Rate and financial incentives to study hydrogen.

The strategy includes 63 actions to undertake over the short term (2020-2025), medium term (2025-2030), and long term (2030-beyond). These include:

- Incentivizing the production of renewable and low carbon hydrogen;
- Developing regional hydrogen hubs where production and demand are co-located;
- Financial supports for deploying fuel cell electric vehicles and infrastructure;
- Expanding the use of hydrogen across different industrial sectors and applications;
- Promoting the adoption of hydrogen in areas where it is most cost-effective in terms of emission reductions;
- Creating the B.C. Centre for Innovation and Clean Energy to drive the commercialization of new hydrogen technology; and
- Establishing ambitious carbon-intensity targets and a regulatory framework for carbon capture and storage.

Royalty Review

EPAC has also been engaged with the province as it undertakes a review of its natural gas royalty system. The government is undertaking the review in the hopes of developing a system that encourages economic development, provides a fair return to government, and helps with environmental protection.

Following an academic review of the current system, government publicly released a discussion paper that explored those three themes, specific design principles, and three possible frameworks.

Through the following consultations, EPAC advocated for a revenue-minus-cost model, similar in principle to Alberta's regime, as a way to improve British Columbia's competitiveness and encourage economic development while meeting the government's other objectives.

EPAC will continue to engage with government on the specific details of the new royalty framework to minimize negative impacts to producers.

EPAC expects an announcement on the design of the new royalty regime in the weeks following the provincial budget, sometime in early March. EPAC will continue to engage with government on the specific details of the new royalty framework to minimize negative impacts to producers.

Indigenous Reconciliation

While B.C. continues to implement the Declaration on the Rights of Indigenous Peoples Act and develop the Draft Action Plan, there are several priority files. These include old growth forests and permitting in Treaty 8 territory, where the province and Indigenous governments are using a government-to-government approach to decision-making.

This summer, the B.C. Supreme Court ruled that B.C. had breached Blueberry River First Nation's treaty rights by authorizing development without fully considering

its cumulative effects. The court decision has created significant uncertainty for industry. While negotiations related to a cumulative effects framework remain ongoing, EPAC continues to focus advocacy efforts on a near term solution that would enable the processing of critical applications that were in progress prior to the court decision. Based on discussions with the Premier, the Premier's Chief of Staff, Ministers, Deputy Ministers and Indigenous stakeholders, EPAC is confident that all stakeholders share the goal of developing a long-term solution that enables the continued development of clean BC natural gas and a sustainable and stable economy.

To better enable the opportunity for an industry lens to the development and refinement of concepts for negotiation with the Blueberry River First Nations as well as other Treaty 8 Nations, the Government of BC struck a Strategic Solutions Team (SST). Vicki Ballance, VP Operations with EPAC sits on the SST and encourages members to reach out with any questions on this important file.

Looking ahead, industry across B.C. can expect consultation with Indigenous governments to be part of the permitting process in all future development. This will likely come with the expectation of Indigenous equity partnerships or impact benefit agreements.



Ottawa Update: Trudeau tells COP26 summit Canada will cap oil and gas emissions By Ted Gruetzner

This fall, the energy world has been focused on Glasgow and COP26, where world leaders, industries and many others meet to create solutions to combat climate change. Canadian energy watchers were particularly interested in what the Canadian contingent that included Prime Minister Justin Trudeau, the newly appointed Minister of Natural Resources Jonathan Wilkinson and Minister of Environment and Climate Change Steven Guilbeault would announce.

The federal government didn't disappoint, announcing that Canada would move quickly to implement a campaign commitment to cap emissions from the oil and gas sector.

"We'll cap oil and gas sector emissions today and ensure they decrease tomorrow at a pace and scale needed to reach net-zero by 2050," Trudeau said, using language lifted from the platform.

"We'll cap oil and gas sector emissions today and ensure they decrease tomorrow at a pace and scale needed to reach net-zero by 2050..."

To move this forward, Ministers Guilbeault and Wilkinson sent a letter to the Net-Zero Advisory Board, asking them to report how this could be achieved. The Board has indicated they intend to respond to this request "quickly."

At COP 26, Canada also officially joined the Global Methane Pledge today and its objective of reducing total methane emissions by at least 30 per cent below 2020 levels by 2030. Canada has set the global pace by becoming the first country to reduce methane emissions in the

oil and gas sector by at least 75 per cent below 2012 levels by 2030. In addition, Canada has committed to pursuing methane reductions across economic sectors.

In media interviews, Minister Guilbeault has indicated that he understands oil and gas will continue to play a role in the economy. Minister Guilbeault told one reporter that Canadians rely on the product. "Canada could stop producing oil and gas tomorrow, and that demand won't change. It would just come from someplace else."

By Ted Gruetzner, Vice President, Energy, Environment and Resources

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The path forward with Carbon Capture, Utilization & Storage (CCUS) By Whitecap Resources Inc.



As global populations continue to grow, the world faces a dual challenge to provide reliable and affordable energy while working to reduce GHG emissions. Governments around the globe are enacting policies that are focused on achieving net-zero emissions by 2050. The IPCC and International Energy Agency (IEA) have made it clear that net-zero targets to combat climate change will become virtually impossible to meet without *Carbon Capture, Utilization & Storage (CCUS)*.

Whitecap Resources Inc. (Whitecap) has emerged as the leading CCUS company in Canada through their Weyburn, Saskatchewan and Joffre, Alberta injection facilities. Whitecap is a Canadian energy company focused on the

production of crude oil and natural gas in western Canada. Located in southeast Saskatchewan, Whitecap's Weyburn Unit is the single largest anthropogenic carbon sequestration project in the world.

The Saskatchewan government has reaffirmed their CCUS priorities in a recent news event at the Weyburn Unit in September 2021. Energy Minister Bronwyn Eyre stated *"We want to build on Saskatchewan's energy strength and make our province the most competitive jurisdiction in Canada to invest in CCUS technology and infrastructure. Saskatchewan is already a world leader in carbon capture, particularly with enhanced oil recovery."*

"We want to build on Saskatchewan's energy strength and make our province the most competitive jurisdiction in Canada to invest in CCUS technology and infrastructure."

The Weyburn project has had continuous support from other Saskatchewan research and consulting organizations including the International CCS Knowledge Centre and the Petroleum Technology Research Centre (PTRC). Financial institutions have also been keen supporters of the Weyburn project and CO₂ sequestration. Recently, BMO's equity research team published a report in regard to the assessments of ESG practices within the Canadian Exploration & Production (E&P) and Energy Services sectors. Further support for CCUS came from the IEA's recent Net-Zero by 2050 report. *"After 2030 in the NZE (Net-zero emissions scenario), the bulk of emissions reductions come from the use of technologies that are under development today. CCUS is the most important, accounting for 55% of reductions in 2050 relative to today."* Whitecap's Weyburn unit can be the marker project for CCUS operations around the globe.

Weyburn's Carbon dioxide (CO₂) is sourced from two facilities. The first source began deliveries via a 328 km pipeline in 2000 from the Great Plains Synfuels Plant located in North Dakota. This made the project the first CCUS facility to have infrastructure that crosses international borders. In 2013, the world's first carbon capture and storage facility on a coal fired power plant came online at Saskpower's Boundary Dam 3 facility (BD3). This transformation makes BD3 one of the most environmentally friendly power plants in the world today. The Weyburn Unit currently has an injection rate of 2 million tonnes (Mt) of CO₂ per year, which is almost half of the total CO₂ sequestered each year in Canada. To date, this internationally recognized world class project has safely captured and stored over 36 Mt of CO₂.

With the subject of emission targets and the path to net-zero being forefront for large emitters across Canada and



the world, Whitecap looks to expand their position as a leader of responsible and environmentally sustainable oil and gas development across their asset base. Recently, Whitecap created a New Energy Team to leverage their expertise to advance business opportunities associated with CCUS. The team is also looking at other opportunities such as blue hydrogen production, which would result in further volumes of CO₂ to be stored.

“After 2030 in the NZE (Net-zero emissions scenario), the bulk of emissions reductions come from the use of technologies that are under development today. CCUS is the most important, accounting for 55% of reductions in 2050 relative to today.”

In October 2021, Whitecap announced a memorandum of understanding (MOU) with Federated Co-operatives Limited, which focuses on the capture of CO₂ from the Co-op Refinery Complex in Regina and the Co-op Ethanol Complex near Belle Plaine, Saskatchewan. “We are confident that this partnership with FCL will strike the right balance between desired environmental and economic outcomes for the citizens of Saskatchewan and all Canadians,” (Grant Fagerheim, CEO, Whitecap Resources). The captured CO₂ would be compressed, transported and sequestered as part of our Weyburn Unit CO₂ EOR operations or injected into a new saline storage facility. This initial MOU presents an opportunity to safely sequester an additional 0.5 Mt of CO₂ in the Weyburn area where public trust has been earned by proving successful

containment over the past 20 years, through on going MMV (measurement, monitoring and verification) programs.

Since 2017, investment in CCUS has been steadily growing. While this is encouraging, there is still a considerable amount of work that needs to be done in order to rapidly deploy CCUS at the level necessary to achieve climate targets. Governments need to carefully consider their regulations and financial supports that will provide the incentives for private and public companies to reduce emissions. Whitecap believes that *Carbon*

Capture, Utilization & Storage (CCUS) will continue to play a critical role in reducing emissions in Canada at a lower cost for the benefit of consumers, emitters and our environment.



geoLOGIC's new cloud solution offers operators instant data access, fresh ways for teams to collaborate and savings on infrastructure By David Hood



**David Hood, Chief Executive Officer
of geoLOGIC Systems**

Cloud computing is a potential solution to many challenges facing oil and gas companies in ensuring the ideal data sets and intelligence tools are fully accessible to relevant team members.

Simply put, cloud computing is the delivery of IT services via the Internet. It includes things like data storage, servers, databases, networking, and software. This world of information and tools is available over any device that can access the web.

geoLOGIC systems Ltd., Canada's leading provider of subsurface oil and gas data solutions recently unveiled gDC Cloud to provide users with instant access via the cloud to its best-in-class data and visualization tools. The workflows within gDC Cloud are designed to be primarily map-driven to enable visualization of results during and after data discovery. Map functionality is simple, highly effective and visually impactful.

"The ability to remotely access data and business intelligence tools from anywhere at any time via an Internet browser has become a major positive in

favour of cloud computing," said David Hood, chief executive officer of geoLOGIC. geoLOGIC built gDC Cloud so that users can discover geoLOGIC data in a modern and intuitive map-driven, easy-to-use, web-based application.

"Accessibility to the same data for all employees across disciplines and departments is seen as vital by both leadership and employees," added Hood. "The flexibility to share data across disciplines to collaborate on projects through one platform is also a major benefit."

"The flexibility to share data across disciplines to collaborate on projects through one platform is also a major benefit."

Many companies that have migrated data and intelligence tools to the cloud say it provides improved security. Cost savings can also be found – the reliability of cloud computing results in less downtime due to the automation of many processes and the completion of updates to data and software without outages.


Cloud computing's other key benefits include accessibility, flexibility, data and intelligence sharing, and collaboration opportunities.

"Internal efficiencies are realized by increased productivity as workflows are optimized, and collaboration improves across asset teams using the same data as a 'single source of truth,'" said Hood.

geoLOGIC's gDC Cloud allows you to:

- View subsurface well data such as completions, formation tops, production, and well logs.
- View mineral land agreement, freehold, land sale, and open rights information.
- Explore extensive frac and drilling datasets.
- Query key well and land data attributes, with near-instantaneous results.
- Create and retain map layers, save query results, import shapefiles, and add interpretations.
- Create impactful data visualizations, including well and land asset maps, formation contour maps, well and group production charts and time-depth drilling charts.
- Analyze subsurface information by building cross-sections with raster and LAS logs, picking tops, and adding interpretations.


geoLOGIC introduces a new Drilling Module in geoSCOUT!



The new Drilling Module provides you with the data and information you need to:

- Drill and complete more efficient wells by determining factors that lead to best composite performance.
- Determine best-in-class performance by benchmarking competitors, vendors, and drilling attributes.
- Reduce non-productive time by proactively identifying potential issues.
- Plan better wells by integrating all relevant data sets.

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(geoLOGIC Systems, 2022)

gDC Cloud is a flexible data management platform with prebuilt integrations into software systems and data sources that simplifies customer workflows. The platform is designed to easily migrate data to desktop applications, which enables data analysis and data management. Analytics can plug directly into that data, or the data can be connected to any desktop or advanced management application. The data discovery, integration and analytical opportunities available through gDC Cloud are limitless.

“It is highly flexible and scalable, and the data connectivity means more time spent analyzing data as opposed to wrangling with it,” said Hood.

“In terms of usability, because of this flexibility, the platform can address the data discovery needs for many disciplines and across domains, realizing the value of the integration of the data and information aggregated within the platform.”

Given today’s challenging oil and gas market, such immediate access to accurate, continually updated data presented in a way that enables quick evaluation, analysis and forecasting can help ensure capital is invested wisely.

“Many E&P management teams believe investing in mergers or acquisitions, or new plays, is a better use of capital to grow free cash flow or to build the

scale they believe is necessary to attract capital and keep shareholders invested,” said Hood. “The data and processes needed to evaluate acquisitions are similar to those required to understand existing assets. Accessing this vital information via the cloud can save time, money and improve results.”

To learn more about gDC Cloud, visit: www.geologic.com/products/gdccloud/

Microlearning can lead to macro results By Energy Safety Canada

Worker training and education are critical for improving safe work performance in the energy industry. The goal of any training course is to increase knowledge and skills, and then apply that learning to improve job performance. To do that, people must be able to retain and apply the knowledge, but statistics on the retention of learning can seem discouraging. For example, the [forgetting curve](#) illustrates that we tend to forget nearly half of what we learn in a matter of days.

So how can training content be delivered in a way that sticks? Energy Safety Canada (ESC) recently began incorporating microlearning assets into its training strategy. Why microlearning? Learning is a process, not an event. People learn by having several interactions with a topic, and microlearning can [improve long-term retention](#) by more than 20%.

What microlearning is and isn't

Microlearning is a way of teaching and reinforcing concepts by delivering information on a single learning objective in small, specific bursts. It appeals to learners as it is usually less than four minutes in duration and is available on-demand when needed.

“One of Energy Safety Canada’s key objectives is to enable worker safety through the delivery of effective, efficient and fit-for-purpose learning. Executed properly, microlearning ticks all three of those boxes.”

Equally important is understanding what microlearning is not. It is not just about being brief and chopping an existing course into smaller bits does not qualify as appropriate microlearning material.

Microlearning as a tool for safety training

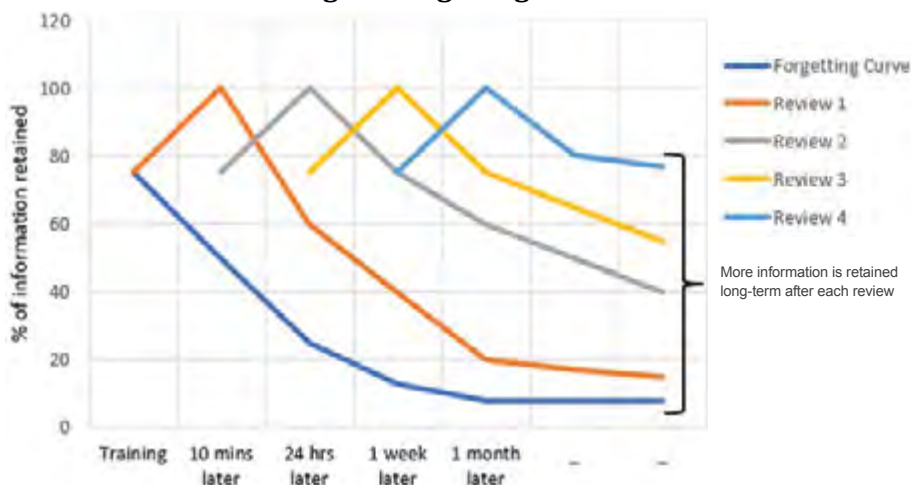
As Canada’s safety association for the oil and gas industry, safety training is a substantial part of ESC’s mandate.

“One of Energy Safety Canada’s key objectives is to enable worker safety through the delivery of effective, efficient and fit-for-purpose learning,” explains Paula Campkin, the organization’s vice president of operations and Safety Centre of Excellence. “Executed properly, microlearning ticks all three of those boxes.”

How ESC has implemented microlearning:

- After successfully completing [H₂S Alive](#)[®] training, workers automatically receive an email two weeks later with an interactive quiz on a critical component of the course: The 7 Steps to Emergency Response. This gives workers an opportunity to take the quiz at their convenience and tests what they’ve learned, which helps to keep it front-of-mind.
- This animated video on [dropped objects](#) expands industry’s understanding of the risks and encourages hazard identification and control.
- To support the Life Saving Rules (LSRs), ESC developed [10 short video clips](#) — one for each LSR — to reinforce their importance and prompt critical thinking about how they can be applied on the work site.
- ESC’s [Process Safety Program](#) helps companies understand what process safety is, identify their most significant process safety risks, and recognize which existing operational practices

Overcoming the Forgetting Curve



Source: Re-creation of chart by Dr. John Wittman, California State University (CSU), Stanislaus

¹ For the University of British Columbia’s graduate-level course, “Ventures in Learning Technology”



Screenshots from ESC's animated Dropped Objects microlearning video.

Find out more about microlearning:

- **Webinar from ESC** [Microlearning: A Shift from Training to Risk Mitigation](#)
- **Open Educational Resource¹** [Module 4: The Science Behind Microlearning](#)

Benefits of Microlearning

- **Learner participation** — Easy to access (often mobile-friendly), engaging, doesn't take much time.
- **Increased competency** — Helps users to recall and retain key information, gives them access to "just-in-time" learning.
- **Agile** — From content gathering to design and deployment, microlearning can be quickly developed and updated as needed.
- **Cost-effective** — Can dramatically reduce the cost of content development and course design and can be reused in other offerings.

fall under process safety management. To supplement this program, ESC has developed three [process safety posters](#) that serve as visual reminders of key concepts.

These microlearning offerings are among the highest viewed resources on the ESC website. Building on this success, additional microlearning content is being developed that reinforces key safety concepts to increase worker competency.

"By keeping training fresh, accessible and relevant, microlearning is one way to support learning retention and skill development," Campkin says. "And when workers are better able to maintain their knowledge and develop job-related competencies, that drives improved safety performance for the whole industry."

Changing Canadians on The Stigma of Mental Health Illnesses By EPAC Health and Safety Committee



Corey Hirsch, former NHL Goaltender & Olympic Silver Medalist. Now Public Speaker and Advocate for Mental Health & Wellness

What is the first word that comes to mind when you think of an illness like cancer? Perhaps it is brave or resilient. What is the first word you think of when you think of mental illness?

For many Canadians, it's weak or attention-seeking. You may not know that both are physical illnesses and should be treated the same, without the stigma.

Life can have its challenges for all of us, especially during a world pandemic that never seems to end. We live in a time where safety precautions impact your livelihood, routines and indicate who you can spend your time with. For many, these changes have brought new stresses for workforces, families, or maybe even yourself. Consequently, the added stress can develop into various mental health

illnesses like depression, addiction, eating disorders, and anxiety disorders, to name a few¹. According to a recent study with Fardous Hosseiny, national director, research and policy at the Canadian Mental Health Association (CMHA), stated that since 2020, the leading cause of disability in Canada is depression which is an estimated loss of nearly \$50 billion annually in unemployment².

About one in five Canadians are affected by mental illness each year, including those without diagnosis and those unaware they have an illness³. Mental illness can impact anyone and is why the EPAC Health and Safety Committee (HS Committee) has turned its focus on

the importance of mental health in the office and at home as they headway to change the narrative on the stigma that mental health has over society. In June 2021, the HS Committee collaborated with The Mental Health Commission of Canada's (MHCC) program "The Working Mind." Corey Hirsh shared to all EPAC members his story to help educate and break the stigma on mental health in the workplace, self-care, and self-harm. Hirsh generously donated a The Working Mind course to the first 15 people at EPAC member companies. The EPAC Health and Safety Committee encourages its members to join in on the conversation, spread awareness and change the stigma of mental health illnesses.



To get more information, please visit the following links:

- **The Working Mind-Mental Health Commission of Canada**
(www.theworkingmind.ca/working-mind)
- **Canadian Mental Health Association**
(www.cmha.ca)
- **Not myself today**
(www.notmyselftoday.ca)
- **Addiction & Mental Health**
(www.albertahealthservices.ca/amh/amh.aspx)

Feedback or Questions to be sent to
EPAC hs@explorersandproducers.ca

More about Corey Hirsch

“Corey Hirsch is former NHL Goaltender, NHL Coach, and Olympic Silver Medalist. The New York Rangers drafted Corey in 1991. In 1994 he was an active roster member of the New York Rangers Stanley Cup Championship NHL team. He was traded by the New York to Vancouver in 1995, and after a great rookie year during the 1995-96 NHL season, he was named to the NHL’s All-Rookie team. Corey went on to play over 100 NHL games, making stops in Nashville, Washington and Dallas before finishing out his career in Europe.

In New York and Vancouver, Corey battled severe panic attacks and depression. After the 1994 season, when Corey won an Olympic Silver medal and drank out of the Stanley Cup, Corey would make an unsuccessful attempt at his own life. After his shot, Corey would try to hide his mental health issues in the NHL for three more years. When he could no longer play due to the debilitating panic attacks and severe weight loss, he finally reached out to his team trainer. Corey was eventually diagnosed with obsessive-compulsive disorder and got the lifesaving treatment he needed.

Corey has now dedicated his life to becoming a mental health advocate in the battle to end the stigma. He is an engaging speaker that educates, motivates, and inspires his audience. He gives hope to others struggling by showing vulnerability and letting people know they are not alone.

Corey speaks to his audience on topics such as, but not limited to,

- Starting the conversation
- Masculinity
- Mental Health and Parenting
- Signs of mental health issues
- Mental health in the workplace
- Self-Care
- Self-harm

Today Corey is thriving. He has three children and is a Broadcaster for the Vancouver Canucks.”

Reference

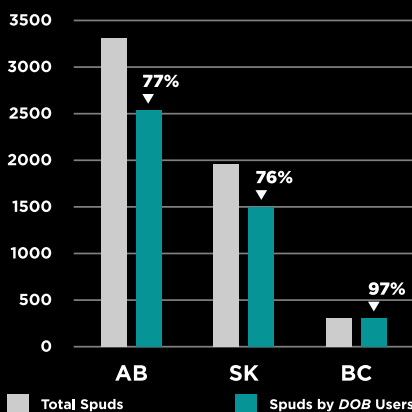
¹ Kowalewski-pizza, para.4, 2022. Mental health issues in Canada are more common than you think. Retrieved January 8, 2022. <https://www.canadianliving.com/health/mind-and-spirit/article/mental-health-issues-in-canada-are-more-common-than-you-think>

² Kowalewski-pizza, para.4, 2022.

³ Kowalewski-pizza, para.3, 2022.

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Proton Technologies: A brief history of Canada's leader in clean hydrogen process' By Proton Technologies Canada Inc.



Grant Strem, Chair and Chief Executive Officer Proton Technologies Canada Inc.

Hydrogen (H_2) has become a focus of energy transition conversations for good reason; when used it does not directly produce carbon dioxide emissions.

One difficulty is that hydrogen must be separated from other compounds through concentrated inputs and reactions of other resources. Thus, current hydrogen production methods are costly, complex, and carbon intensive. Lending way for a reluctant adoption of this clean energy source.

In 2015, during a simple conversation, geologist Grant Strem and his friend, the Department Head of the Petroleum and Chemical Engineering Faculty at the University of Calgary, Dr. Ian Gates, realized an opportunity existed to commercialize a new production method. Recalling a research paper on in-situ gasification, an idea combining existing technologies with this new demand for a clean fuel came to life.

In March of 2016, Proton Technologies Canada was created to commercialize clean, low-cost hydrogen production from oilfields. Patents, simulations, lab, and field demonstrations soon followed.

Coined 'Clear H_2 ', the companies patented process and separation technology involves a carbon-free, low-cost opportunity for extracting hydrogen using previously expensed infrastructure. In Canada, existing energy infrastructure such as old oilfields, wells, roads, powerlines, exist in abundance. While these investments have been centered around a carbon-intensive system, Proton can repurpose them to align with clean energy goals.

For example, most oil and gas fields produce well below 50% of the oil or gas in the ground. When oilfields are abandoned, they still contain huge amounts of hydrocarbons that have not been extracted due to commercial or technical constraints. The Proton process includes injecting oxygen into a wellbore, triggering downhole reactions within the hydrocarbon reservoir, and filtering the extraction of the downhole gases.

Infrastructural energy investments that were written off as uneconomic can now become increasingly valuable within the emerging green economy. Existing pipelines, compressor stations, power generation and more energy equipment are slowly shifting towards a hydrogen friendly system.

"Infrastructural energy investments that were written off as uneconomic now become increasingly valuable within the green economy."

Most importantly, this synthesis of old and new infrastructure encourages the development of a cleaner fuel economy, spearheading the energy transition and the opportunity to make significant change in the global fight against carbon pollutants.



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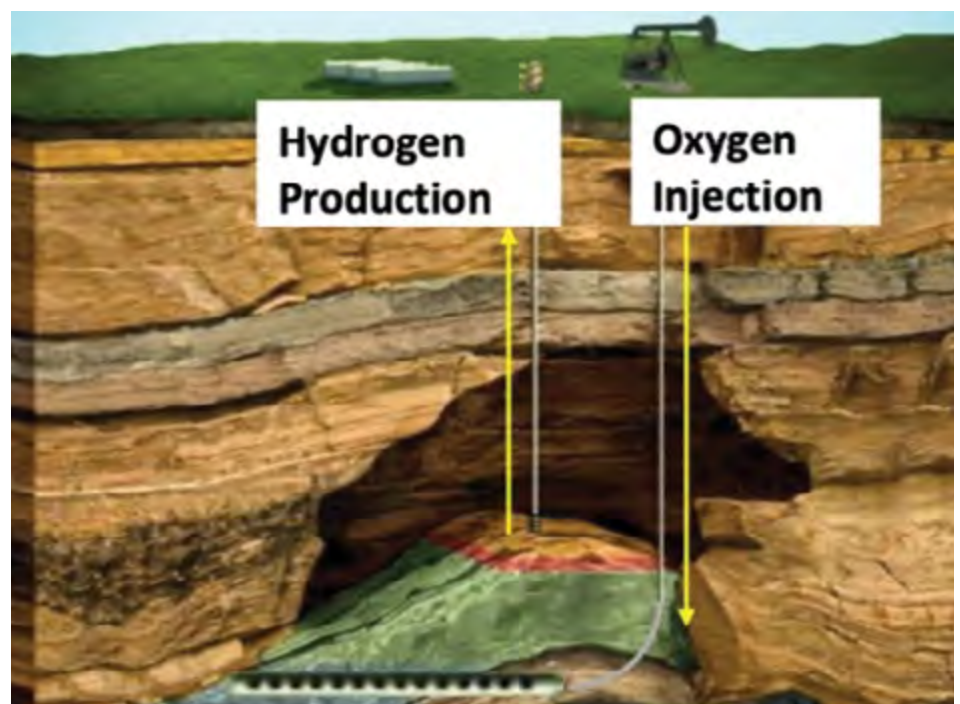
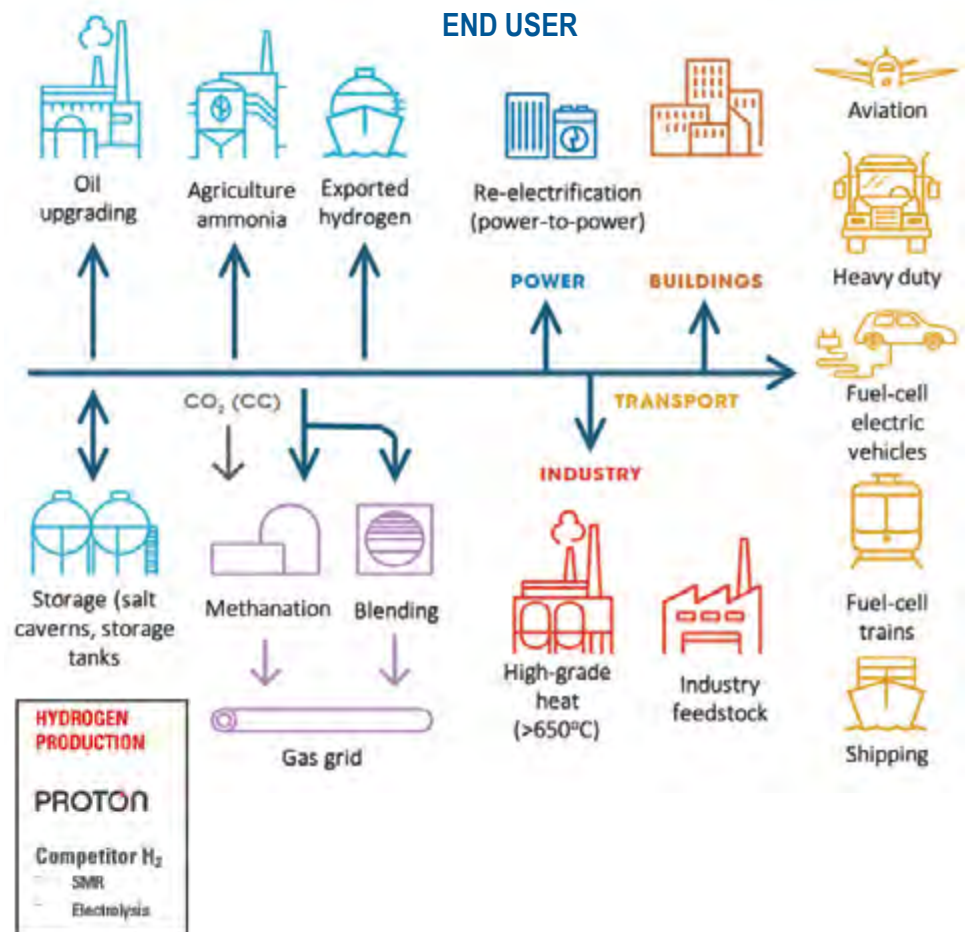
In addition to securing the infrastructure and producing assets within which to implement the technology, Proton has had the privilege of assembling an experienced technical and operational team, alongside a global support network. In fact, Canada leads the world in expertise of down-hole combustion and integrated reservoir management. This foundation of knowledge and experience underlies Protons industry leadership in the rapidly expanding hydrogen sector.

“Today, Proton Technologies is positioned as a global thought leader in the transition to clean fuels.”

Today, Proton Technologies is positioned as a global thought leader in the transition to clean fuels. As the global energy market continues to transform, hydrogen is now at the epicenter of the conversation. We believe that clear hydrogen will become a critical component of the global movement to decarbonize the energy industry by turning decommissioned oil and gas fields into highly prized, lucrative sources of clean energy.

Born and raised in Calgary, Alberta, Canada, Grant Strem has a B.Sc. in Geology and an M.Sc. in Reservoir Characterization, both from the University of Calgary.

Grant considers himself an explorationist and worked for various producers including Paramount, Burlington Resources, ConocoPhillips, Total E&P, and Husky. Grant also worked as a Reserves Evaluator for GLJ Petroleum Consultants, and as a Research Analyst at TD Securities covering the oil sands sector. He also started his own oil company focused on light oil, helium, and geothermal resources.



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“ — WHAT OUR E&P PARTNERS ARE SAYING



At this critical point in time, it is imperative Canada's energy industry work collaboratively to further define its role as a world leader. The CAOEC is proactively shaping this conversation, and we commend them for strengthening their influence through a membership expansion. This important initiative will help bring our industry closer together, bring new ideas forward, and help protect Canada's energy future.

- **Dave Humphreys** | Vice-President, Operations, Birchcliff Energy, Former EPAC Chairman



Membership with the CAOEC is a valuable resource for producers. By joining the association, the energy service sector and producers work together to ensure we stay ahead of our common policy objectives and strengthen our industry's voice. Membership provides the chance to build on our success and generate new ideas as leaders in Canada's energy future. I recommend joining the CAOEC and look forward to progressing our collaborative efforts to help build a thriving energy industry focused on technological innovation and entrepreneurial spirit.

- **Tristan Goodman** | President & CEO, The Explorers & Producers Association of Canada



To learn more, visit
caoec.ca/associate_membership

To become an Associate Member, contact us today
at membership@caoec.ca or **403.264.4311**

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