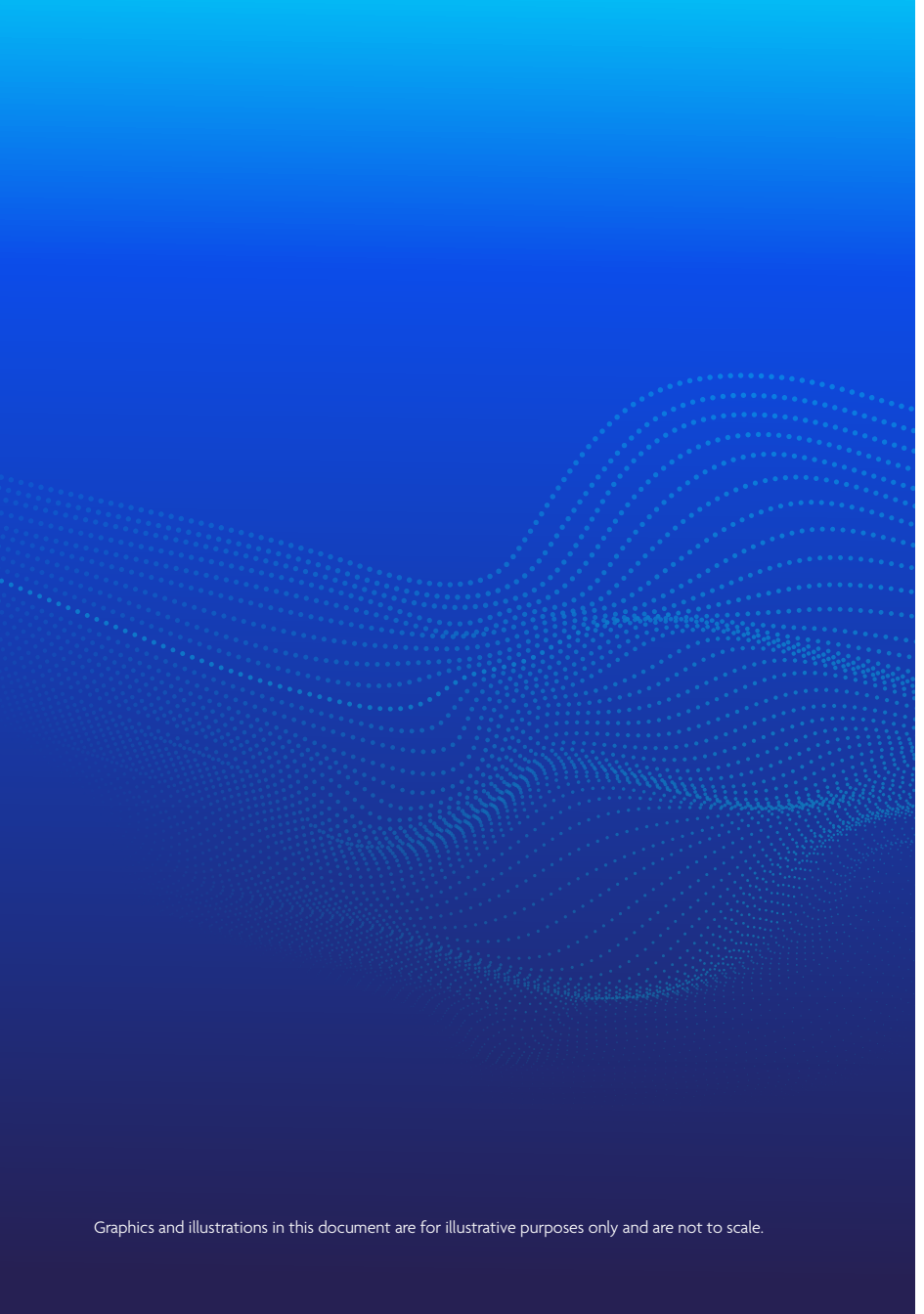
Canada's Oil Sands

A Story of Innovation

OCTOBER 2025

Pathways Alliance



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The oil sands industry exists because of ingenuity, collaboration and persistence—that spirit still drives us. This is the story of our origin and the role we've come to play in the world. It's also the story of how we're advancing to meet the future.

"The world needs secure energy, and Alberta has an opportunity to meet that need. We have the resources, the skills and a strong track record of innovation."

–Kendall Dilling, President of Pathways Alliance

Who we are

Pathways Alliance is made up of Canadian Natural, Cenovus, ConocoPhillips Canada, Imperial, MEG Energy and Suncor Energy, six of Canada's largest oil sands producers.

Canada has long benefited from a healthy energy sector. It helps strengthen Canada's economy, generating critical taxes and revenue for governments that support essential services and infrastructure, while creating thousands of jobs.

Alberta's oil sands are a critical part of Canada's energy sector. We want to ensure our industry can continue to provide benefits to Canadians for decades to come. That's why we're focused on advancing environmental innovation and projects, including carbon capture and storage.

Canadian Natural · cenovus energy · ConocoPhillips Canada · Imperial · MEG Energy · SUNCOR

Land acknowledgement

We acknowledge that what we call Alberta is on the traditional lands of Treaties 6, 7 and 8. We acknowledge the many First Nations, Métis and Inuit who have stewarded these lands through generations. We are grateful for the traditional Knowledge Keepers and Elders who are still with us today and those who have gone before us. We make this acknowledgment as an act of gratitude.

Oil fuels our modern lives

Oil fuels transportation, but it has many other uses in modern life.

Creating products and materials

There are more than a thousand applications for oil, like providing lubricants, greases, waxes and asphalt. It's also the source for petrochemical products, like pharmaceuticals and plastics we use in our daily lives.

Petroleum products


Fuel


Tires


House paint


Rain boots


Golf balls

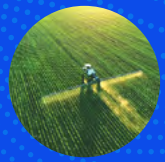

Detergents


Electronics


Diapers


Refrigerators


Toothpaste


Fertilizer


Aspirin


Life jackets


Prosthetics


Roofing


Insecticides

Bitumen Beyond Combustion

Bitumen, the heavy oil that's found in the oil sands, is an excellent source of combustible energy. It also has potential to become a growing source for manufactured products. In 2016, Alberta Innovates, a provincial agency focused on finding new technologies and innovations with a potential benefit to the province, began researching Bitumen Beyond Combustion (BBC).

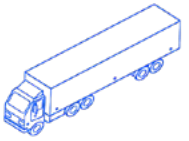
The program encourages the development of technologies that can use bitumen, without burning it, to create new materials and products. BBC products could include carbon fibres, high-quality asphalts, activated carbon, carbon nanotubes, graphene, polyurethanes, polycarbonates and controlled-release fertilizers.

Several Pathways Alliance member companies are participating in BBC research projects with Alberta Innovates as well as the Clean Resource Innovation Network (CRIN), a Canadian network focused on enabling cleaner energy development.

Helping to drive the economy

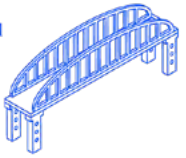
$34.1B paid in royalties and taxes to governments in 2023.

$155.8B of Canada's exports came from the oil and gas industry in 2023.



446,000+ Canadians directly or indirectly employed.[1]

$123B Taxes and royalties for federal and provincial governments. Funds to build Canadian roads, bridges, schools and more from 2017–2023.[2]



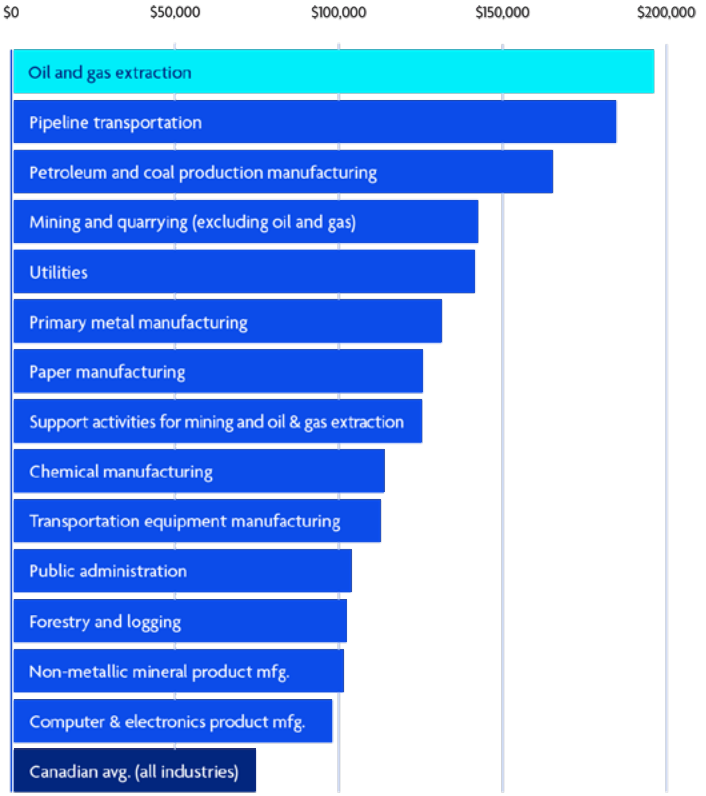
4th largest oil reserve in the world.[3]

About four in five Canadians rate oil and gas as important to Canada's current economy, according to a 2023 public opinion survey conducted by Nanos Research for University of Ottawa's Positive Energy Program.

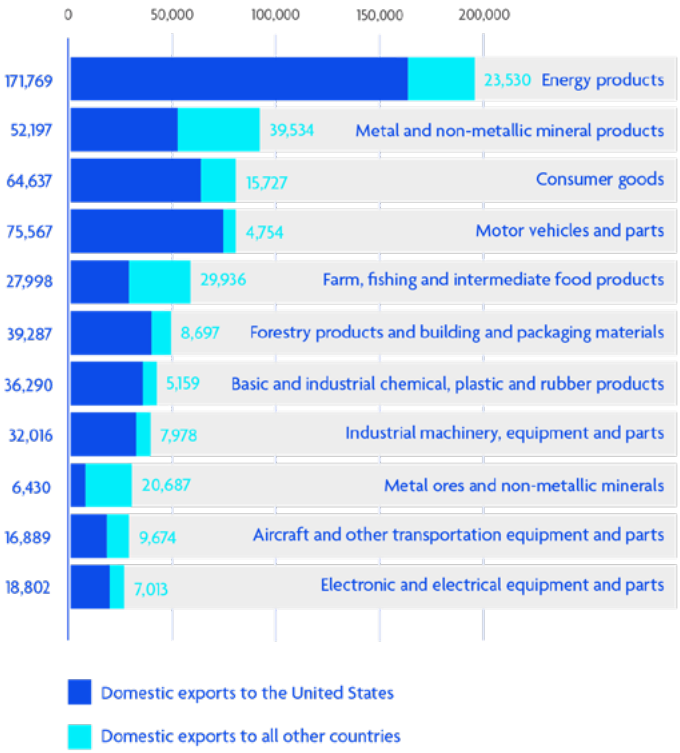
Note: Unless otherwise specified, stats on pp. 14–16 are sourced from Statistics Canada, 2023

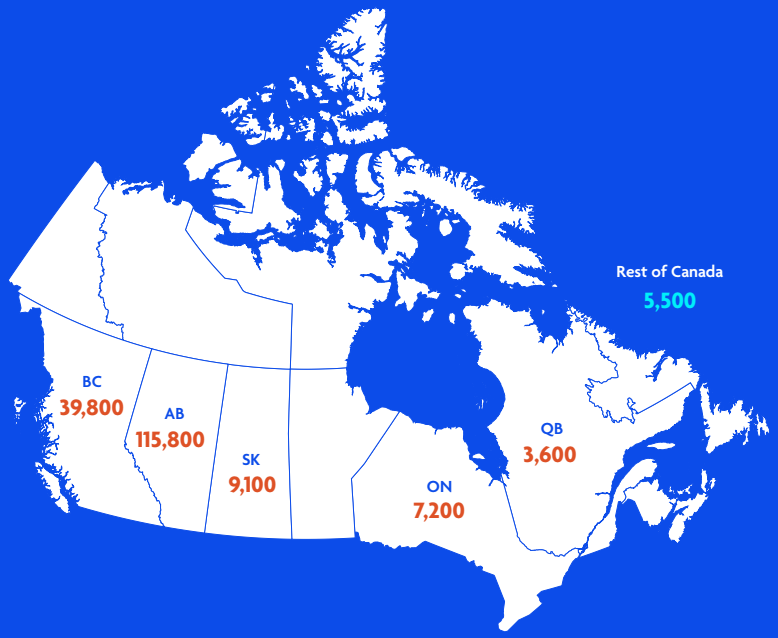
A Careers in Energy labour market report projects the energy sector will need to hire between 110,300 and 116,000 additional workers to fill openings created by growth and retirements. The average direct oil and gas worker's total compensation is roughly two times higher than the Canadian average for goods-producing industries.[4]

Average total compensation in Canada by industry (2023)



2024 Canadian domestic exports (millions of dollars)





~181,000 people

directly employed in the Canadian petroleum sector in 2023.

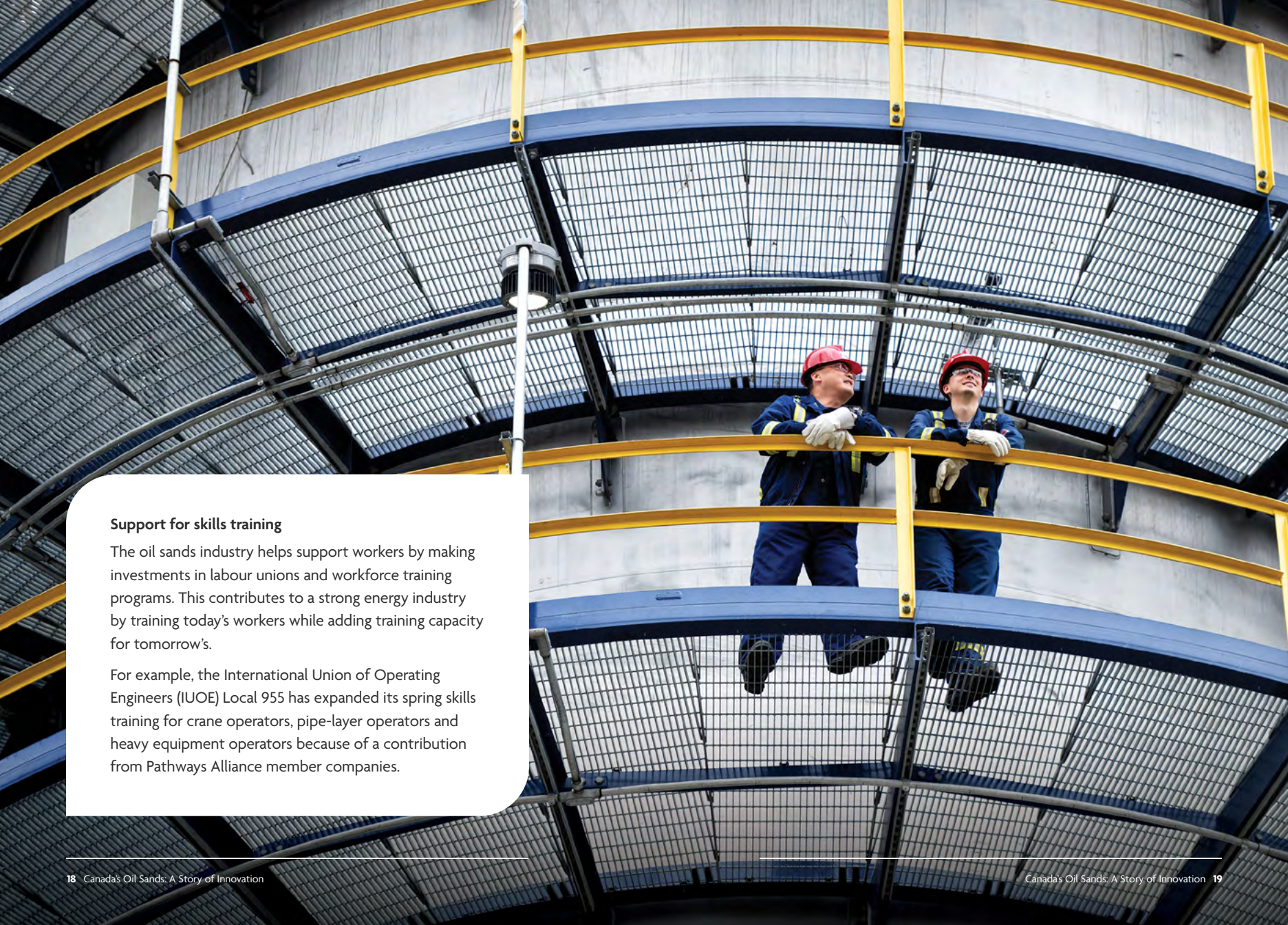
~265,000 indirect jobs in the supply chain.

~10,800 Indigenous people employed in the oil and gas sector, according to Natural Resources Canada.

Source: Energy Fact Book 2024–2025, Canadian Centre for Energy Information.

Direct jobs

Alberta	64%
B.C	22%
Saskatchewan	5%
Ontario	4%
Quebec	2%
Rest of Canada	3%



Support for skills training

The oil sands industry helps support workers by making investments in labour unions and workforce training programs. This contributes to a strong energy industry by training today's workers while adding training capacity for tomorrow's.

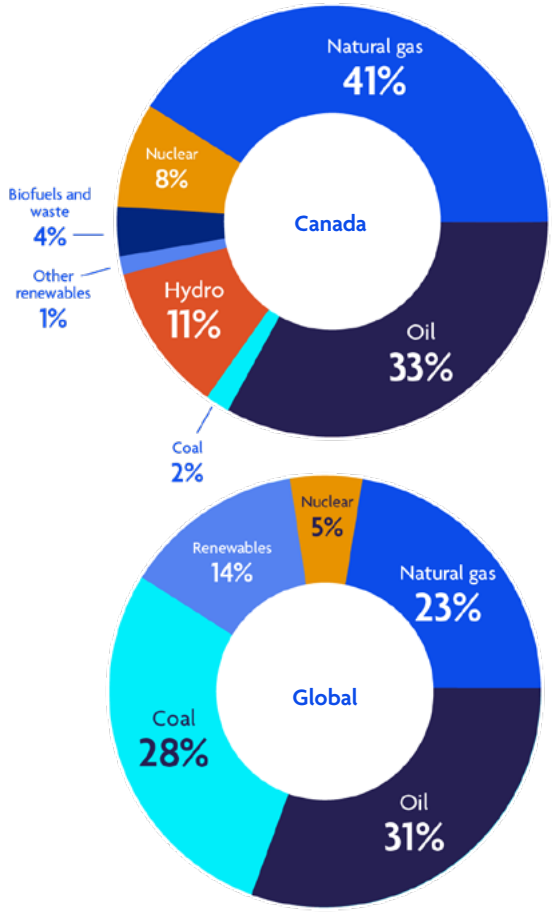
For example, the International Union of Operating Engineers (IUOE) Local 955 has expanded its spring skills training for crane operators, pipe-layer operators and heavy equipment operators because of a contribution from Pathways Alliance member companies.

The role of Canada's oil sands

Our country's contribution to global energy supply is possible because of the oil sands. Between 2001 and 2023, Canadian oil production rose 2.8 million barrels per day. Nearly all this growth came from the oil sands.[5] By 2022, Canada's oil sands produced 3.1 million barrels per day.[6] Today, the oil sands remain an immense economic driver for Canada and Alberta, and a secure source of energy for the world.

Total energy supply by source (2022)

Source: Natural Resources Canada Energy Fact Book, 2024–2025



Note: Percentages shown are rounded and may not be exact.

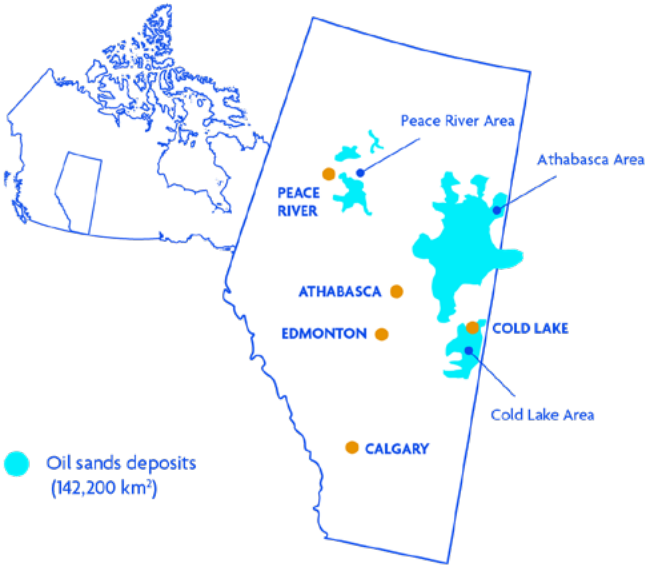
Demand for oil has never been higher, and oil and gas will continue to be an important part of the energy mix.

What are oil sands?

Oil sands are a naturally occurring mixture of sand, clay, water and bitumen (also called heavy oil). Oil sands can also refer to an area where oil sands exist, e.g. the Alberta oil sands.

Where are Canada's oil sands?

Canada's oil sands are found in three deposits in Alberta and Saskatchewan: the Athabasca, Peace River and Cold Lake deposits.



Oil sands: A timeline

Archeological evidence suggests that the relationship between humans and bitumen began thousands of years ago. Sometimes used as an adhesive or a waterproofing material, this substance has long been a valuable tool—and getting it from the ground to the market has been a fascinating challenge.

1700s First written recording of the oil sands. The substance was described by a Chipewyan woman as "gum" or "black pitch" and found along the banks of the Athabasca River.

1800s Canada's federal government begins expeditions to map out oil sands resources.

1913 Engineer Sidney Ells concludes that bitumen can be extracted using hot water, and identifies road paving as its most promising commercial application.

1926 Oil expert Jacob Absher experiments with in-situ extraction methods. His efforts are unsuccessful, but they attract the attention of others.

1929 Dr. Karl Clark of the University of Alberta patents a hot water separation technique for extracting bitumen from oil sands.

1929 Bitumount, an industrial site on the east bank of the Athabasca River, becomes Canada's first commercial oil sands facility.

1960s Imperial Oil begins an experimental program to extract bitumen from the oil sands in Cold Lake, Alberta.

1967 Great Canadian Oil Sands (a precursor to Suncor) starts the first large-scale oil sands mine and upgrader. This would eventually become Suncor Energy's Base Plant.

1978 Syncrude's Mildred Lake facility begins production in the Fort McMurray area, becoming the largest commercial oil sands operation in Alberta.

1978 Chemical engineer Dr. Roger Butler develops the concept of steam-assisted gravity drainage (SAGD) for in-situ bitumen recovery.

1985 Imperial Oil commercializes the first cyclic steam stimulation (CSS) thermal project in Cold Lake.

1987 The Alberta government opens the Underground Test Facility (UTF), a site for testing underground oil sands extraction methods like SAGD.

1993–2013 This 20-year period sees several companies using the new science of bitumen extraction to launch major oil sands projects in Alberta. These projects include Canadian Natural's heavy crude operations (1993), MEG Energy's multi-phased Christina Lake project (1999), EnCana's SAGD Foster Creek operation (2001), Petro-Canada's MacKay River in-situ facility (2002), Suncor's Firebag in-situ facility (2004), ConocoPhillips's Surmont SAGD facility (2007), Canadian Natural's Primrose East project (2008) and Kirby South SAGD project (2013), and Imperial Oil's Kearl project (2013).

2015 Shell Oil opens the Quest Carbon Capture and Storage (CCS) facility, the world's first commercial-scale CCS facility for oil sands operations; ConocoPhillips begins operations for Phase 2 of the Surmont oil sands project.

2021 Pathways Alliance is formed. The organization is a coalition of some of Canada's largest oil sands companies, created to help advance a CO_2 emissions strategy and a proposed carbon capture and storage project. Member companies initially include Canadian Natural, Cenovus Energy, Imperial, MEG Energy and Suncor Energy, with ConocoPhillips Canada joining later in 2021.

2022 Canada's Oil Sands Innovation Alliance (COSIA) becomes part of Pathways Alliance. Formed in 2012, COSIA focuses on collaborative action and innovation in oil sands environmental technology.

2024 Imperial Oil's Grand Rapids project in Cold Lake begins production. It's the industry's first commercial application of solvent-assisted SAGD technology.

2024 On behalf of Pathways Alliance members, Canadian Natural begins filing regulatory submissions for the Pathways CO_2 Transportation Network and Storage Hub Project. When operational, it will transport carbon dioxide (CO_2) from multiple oil sands facilities to a capped, sandstone formation in the Cold Lake area of Alberta for underground storage.

From deposit to product

Bitumen from the oil sands is the building block for a wide variety of products we use in our daily lives. How does it go from being underground to becoming something usable like gasoline? For oil sands producers, it's a multi-stage process.

Oil sands: A multi-stage process

1 Exploration

2 Planning and approvals

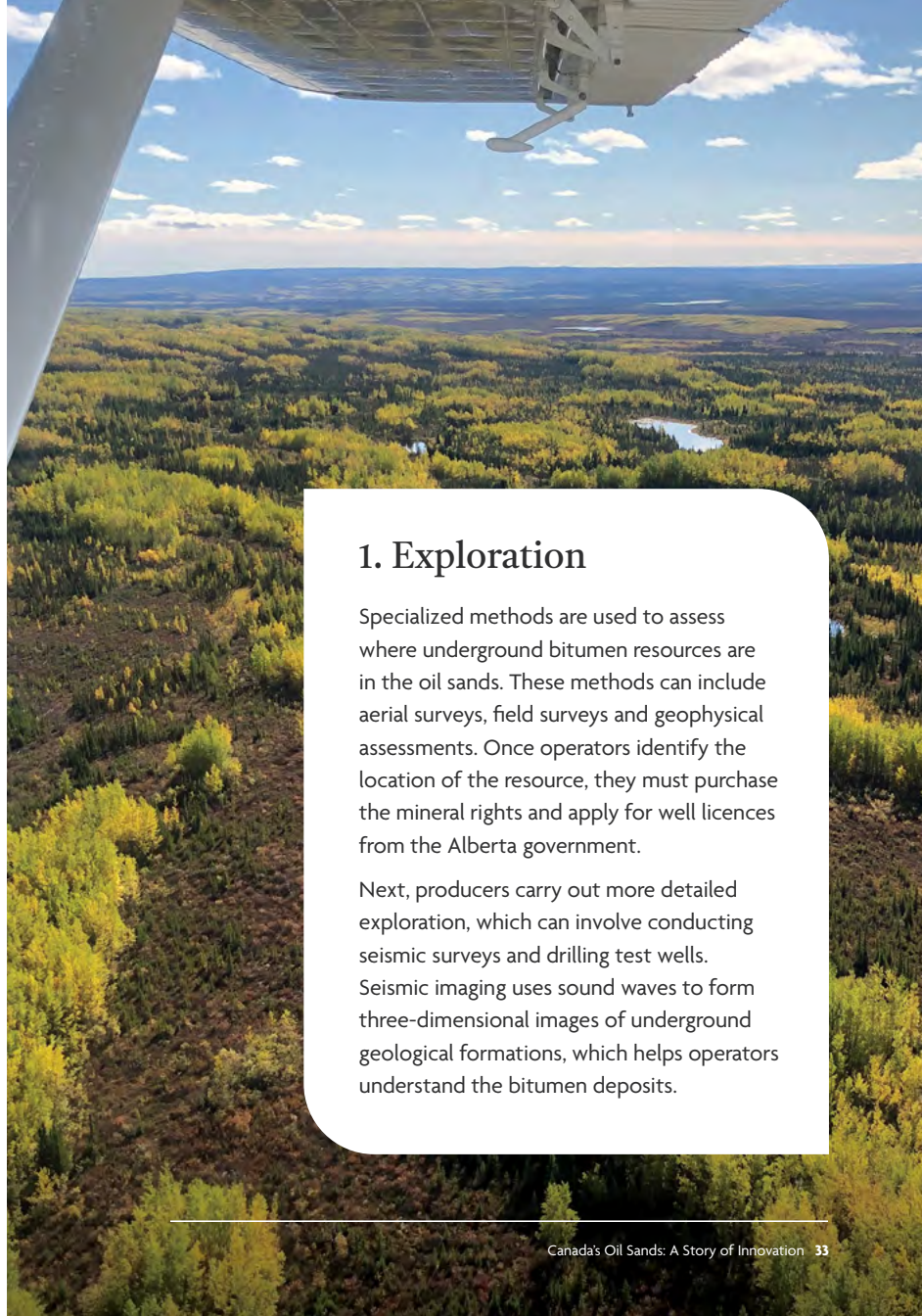
3 Construction

4 Production
- Mining
- In-situ

5 Upgrading

6 Refining, marketing and transportation

7 Reclamation and closure



1. Exploration

Specialized methods are used to assess where underground bitumen resources are in the oil sands. These methods can include aerial surveys, field surveys and geophysical assessments. Once operators identify the location of the resource, they must purchase the mineral rights and apply for well licences from the Alberta government.

Next, producers carry out more detailed exploration, which can involve conducting seismic surveys and drilling test wells. Seismic imaging uses sound waves to form three-dimensional images of underground geological formations, which helps operators understand the bitumen deposits.

2. Planning and approvals

Before operations begin, producers develop integrated plans. These plans map out the life cycle of the planned project, from operations through to reclamation and closure. Once complete, the plans are filed with the Alberta Energy Regulator (AER).

As part of the application process, producers consult with Indigenous groups and local communities in order to identify and mitigate concerns related to the project. Community engagement is an iterative process, which continues throughout the project. Producers may also be required to complete an environmental impact assessment, which gauges the potential environmental effects of the planned project.

Once the AER grants approval, producers must continue to meet all regulations and requirements through the full project life cycle. They must submit annual plans and reports detailing project progress and providing updates about new data, techniques or other information that could inform future practices and approaches.

3. Construction

After a project receives the appropriate regulatory approvals, producers can begin to construct extraction facilities. This could include building access roads, well pads, mine sites and processing infrastructure.

4. Production

Traditional techniques won't extract bitumen from the oil sands. One challenge is that bitumen is mixed in with sand and clay. Another challenge is that bitumen is almost solid at room temperature (about the same consistency as peanut butter) and doesn't flow. There are two methods of recovering oil from oil sands.

Mining

About 20% of Alberta's oil sands reserves are very near to the surface and can be mined (less than 75 metres deep). During mining, large shovels scoop the oil sands into heavy haul trucks. The trucks then transport the oil sands ore to a crusher, where it's broken down into smaller pieces and mixed with hot water and hot air, which help separate the bitumen from the rest of the materials. This mixture is sent through a pipeline to an extraction plant. Once at the plant, the mixture passes through a pipeline loop in the facility to help break up particles and ease separation. Next, the mixture goes to a separation tank, where the bitumen is freed from the other materials.

In situ

Otherwise known as in-place extraction, in situ describes a process where bitumen is extracted directly from the underground deposit. This method is used when bitumen in the oil sands is too deep underground to be mined, which is the case in about 80% of all deposits.

Steam-assisted gravity drainage (SAGD) and cyclic steam stimulation (CSS) are two of the technologies used for in-situ extraction. In both cases, steam is injected into the underground bitumen deposit, heating the bitumen so it becomes less thick and can be pumped to the surface for processing.

5. Upgrading

Once bitumen is recovered using mining or in-situ techniques, it goes to an upgrader. Since bitumen from the oil sands is made up of many complex molecules, it usually needs to be broken down before going to a refinery. Upgrading helps break up the molecules and reduce the bitumen's viscosity so it can be transported through pipelines across long distances. In some cases (depending on how the bitumen is processed by the operator after separation), further upgrading isn't needed and bitumen can go directly to the refinery.

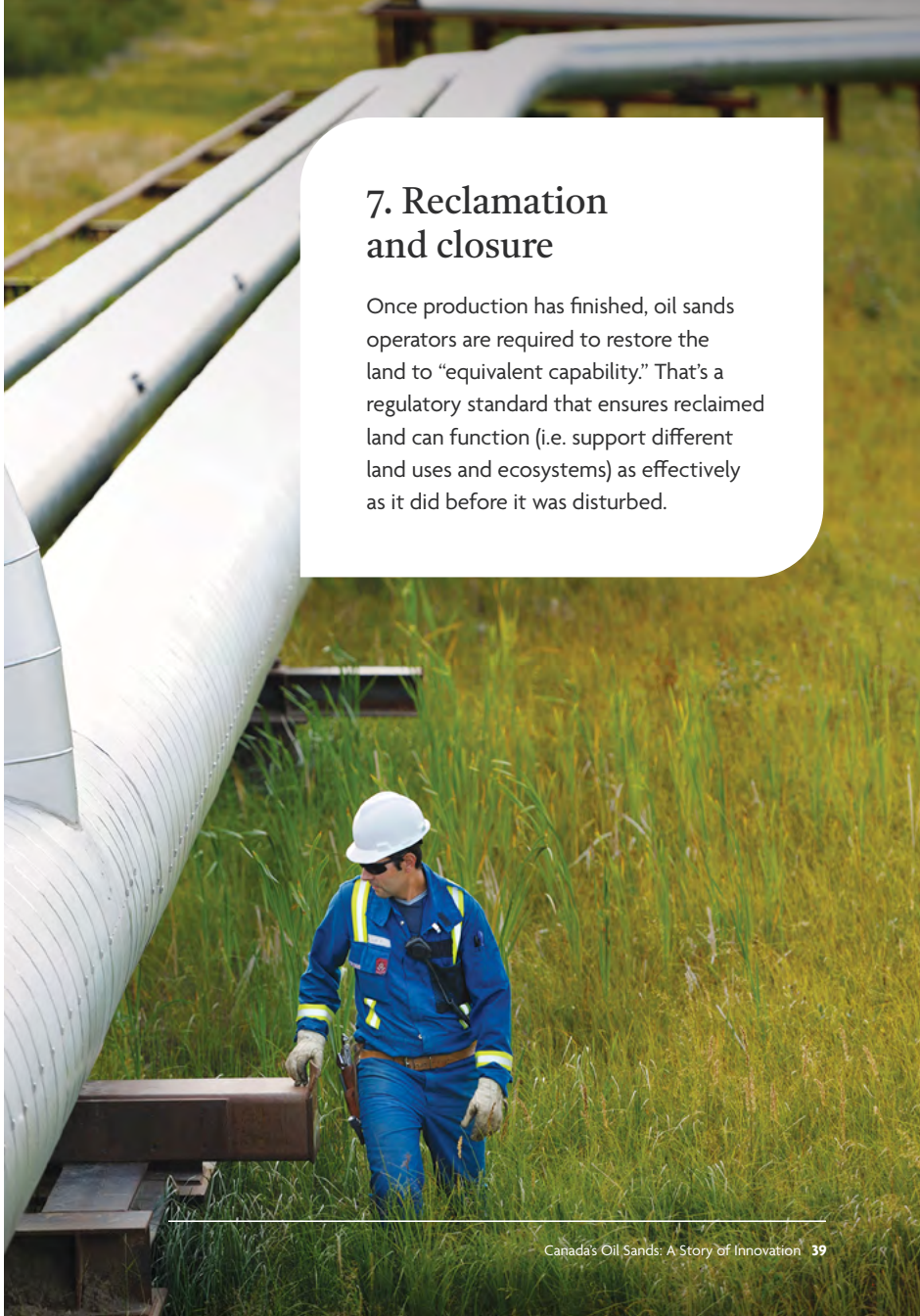
Upgraders also help remove water, solids, impurities and residue from the bitumen. The end product of upgrading is called synthetic crude oil, and this is what's sold to refineries. Alberta's bitumen upgraders produced 1.1 million bbl/day of synthetic crude (SCO) in 2019.[7]

Most Canadian refineries don't have the capability to process heavy oil. The majority of Alberta's bitumen is sold to the U.S., mostly the Midwest and Gulf Coast, which are better equipped to process our oil.[8]

6. Refining, marketing and transportation

Once at the refinery, crude oil is broken down further into different hydrocarbons, which are then blended into final products like fuels or feedstock for other chemicals.

After being refined, the various petroleum products are placed in storage tanks and eventually shipped to markets using pipelines, trains, tankers or ships.



7. Reclamation and closure

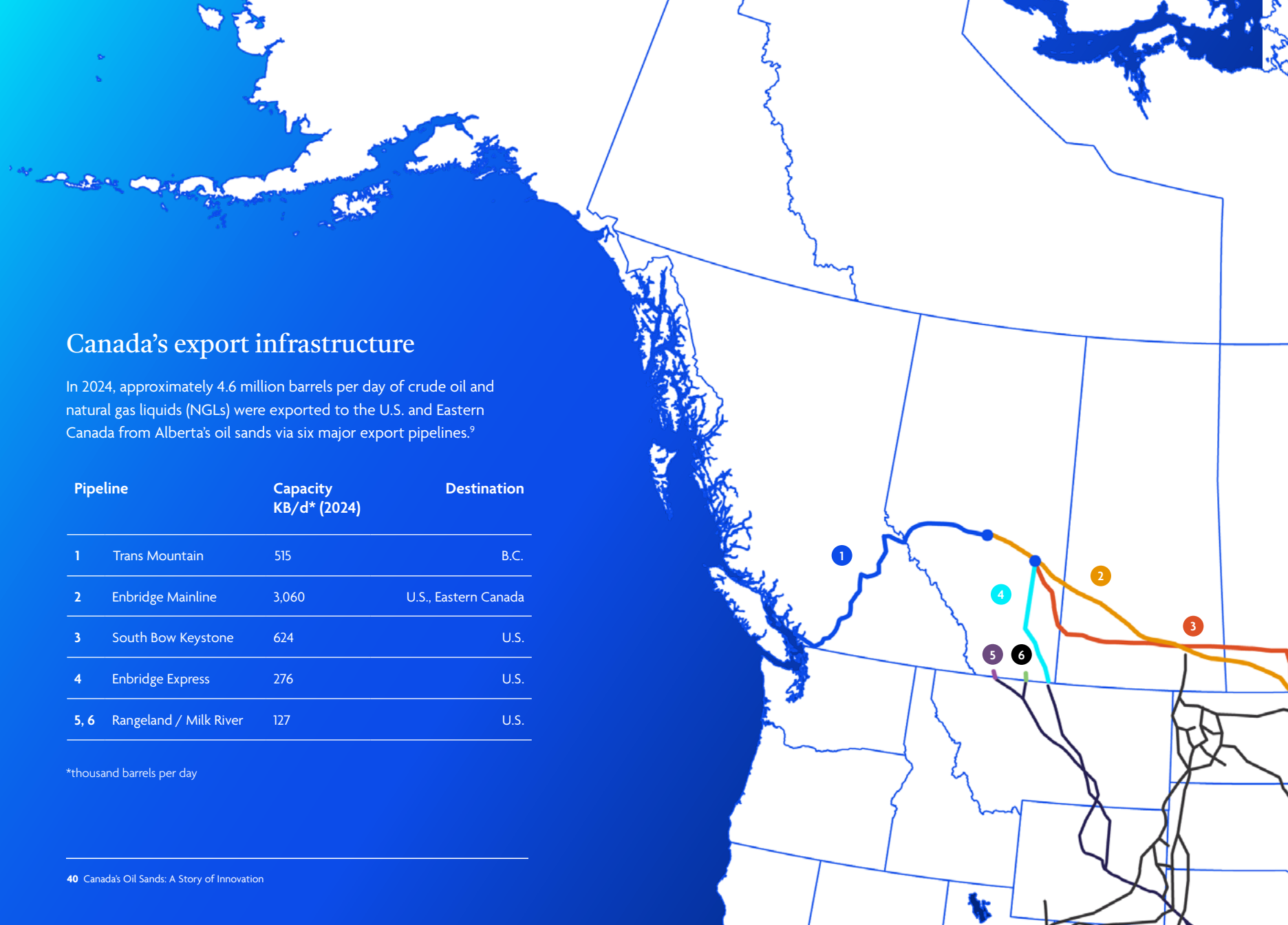
Once production has finished, oil sands operators are required to restore the land to "equivalent capability." That's a regulatory standard that ensures reclaimed land can function (i.e. support different land uses and ecosystems) as effectively as it did before it was disturbed.

Canada's export infrastructure

In 2024, approximately 4.6 million barrels per day of crude oil and natural gas liquids (NGLs) were exported to the U.S. and Eastern Canada from Alberta's oil sands via six major export pipelines.[9]

	Pipeline	Capacity KB/d* (2024)	Destination
1	Trans Mountain	515	B.C.
2	Enbridge Mainline	3,060	U.S., Eastern Canada
3	South Bow Keystone	624	U.S.
4	Enbridge Express	276	U.S.
5, 6	Rangeland / Milk River	127	U.S.

*thousand barrels per day



A story of innovation

Technology and innovation have been essential ingredients in establishing the modern petroleum industry in Canada.

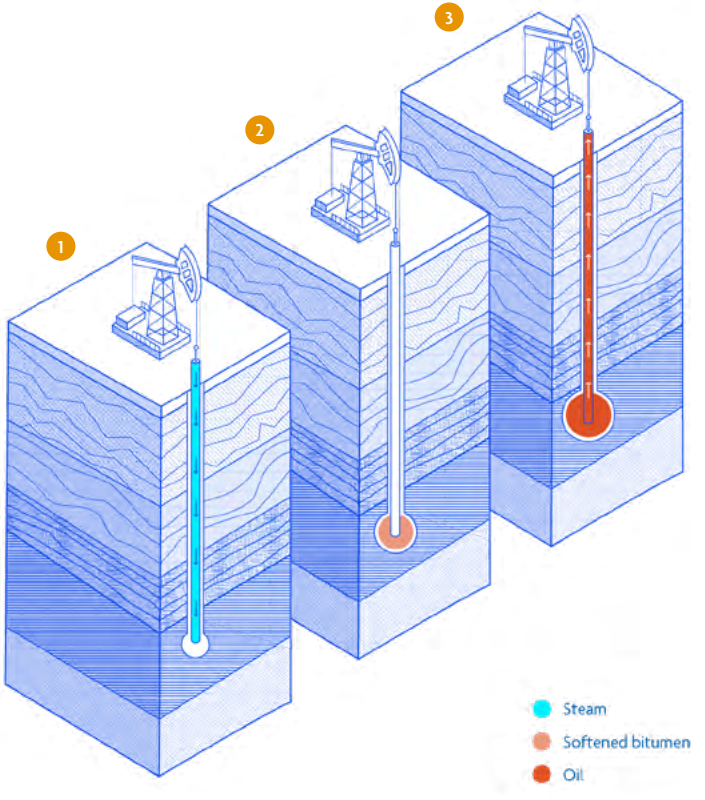
Production technologies

About 80% of the bitumen in the oil sands is too deep underground to be mined. What's more, most of the oil in Alberta is thick, with a peanut butter-like consistency that's difficult to get out of the ground. Innovations have made it possible to extract even the deeper oil sands from the ground, and to separate bitumen from other materials.

Cyclic steam stimulation (CSS)

Attempts to extract oil resources too deep for mining began in the early 1900s, using underground wells and various methods to heat and liquefy the bitumen so it could be pumped to the surface. In the 1960s, Imperial Oil was the first to test a method that is now known as cyclic steam stimulation, eventually running a pilot program before successfully commercializing the technology in the Cold Lake region in 1985. The CSS process includes the following steps:

1. Steam injection: A vertical well is drilled deep underground into the bitumen formation. Steam is injected into the well to help soften the bitumen.
2. Soak phase: Steam is injected and then left to 'soak' in the underground formation until the bitumen is soft enough to flow.
3. Production: The same well is then used to bring the bitumen and condensed steam mixture to the surface. New steam is then injected to begin a new cycle when oil production rates fall below a critical threshold because of the cooling of the reservoir.



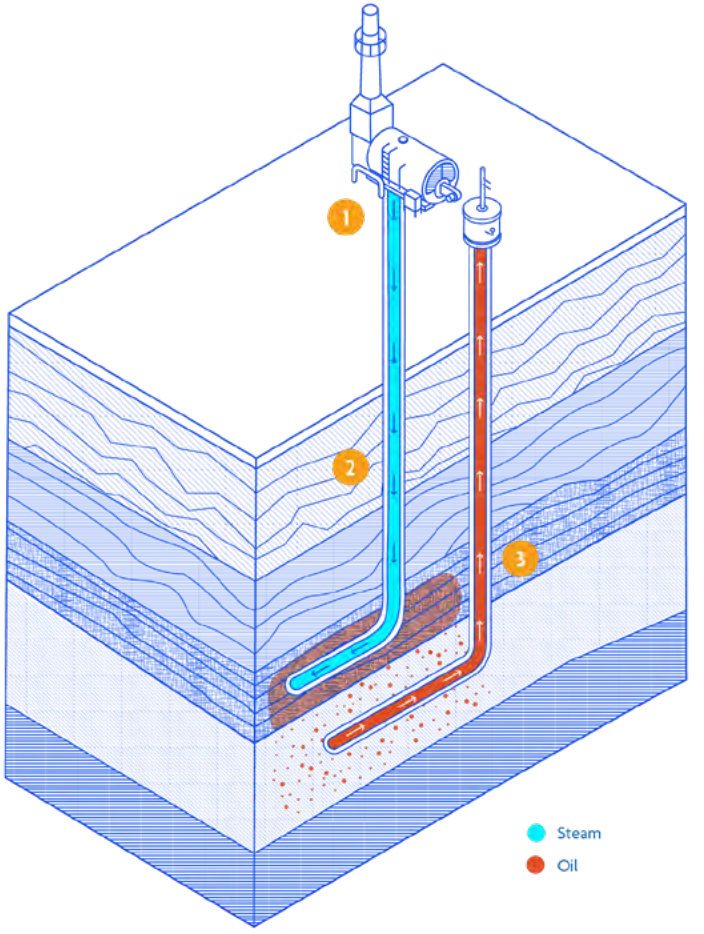
Steam-assisted gravity drainage (SAGD)

In the 1970s, retired Imperial employee Dr. Roger Butler began work on another technology that would eventually become critical to the oil sands industry: steam-assisted gravity drainage. By the 1980s, a test facility was built near Fort McMurray to further develop SAGD technology, which led to the first SAGD pilot projects in the 1990s.

Like CSS, the SAGD process uses steam to liquefy the bitumen. However, instead of one vertical well, in SAGD two horizontal wells are drilled one above the other, creating separate wells for steam and bitumen. The introduction of two wells opened up the potential for continuous production. In SAGD:

1. Two horizontal wells are drilled deep underground into the bitumen formation.
2. Steam is injected into the top well to help soften the bitumen in the surrounding reservoir.
3. As the bitumen softens, gravity causes it to flow into the bottom well, where it is brought to the surface.

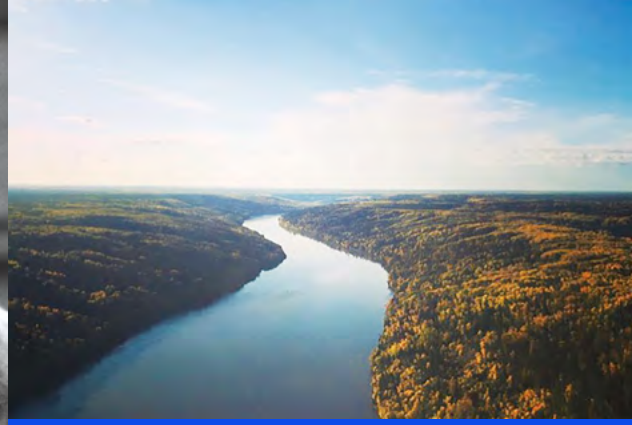
The resulting substance is a mixture of oil and condensed steam, which is sent to a plant for separation and treatment. The separated water is reused to create steam in the SAGD process.



Hot water separation

Oil sands are a mixture of bitumen, sand, clay and water. Until the bitumen is separated from the other materials, it can't be used for fuel or other applications.

In 1929, Dr. Karl Clark of the University of Alberta received a patent for a separation method using hot water and chemical agents. When oil sands are mixed with hot water, they separate into layers. Clark's research focused on finding a way to separate the bitumen from this mixture.



Alberta Oil Sands Technology and Research Authority (AOSTRA)

In the 1970s, the Alberta government formed a Crown corporation to kick-start research and development on in-situ extraction in the oil sands. It started with a $100-million investment from the government that eventually led to additional funding from both the public and private sectors.

In 1984, AOSTRA developed an underground facility near Fort McMurray, where a version of the SAGD process was tested and eventually proven to be commercially viable.

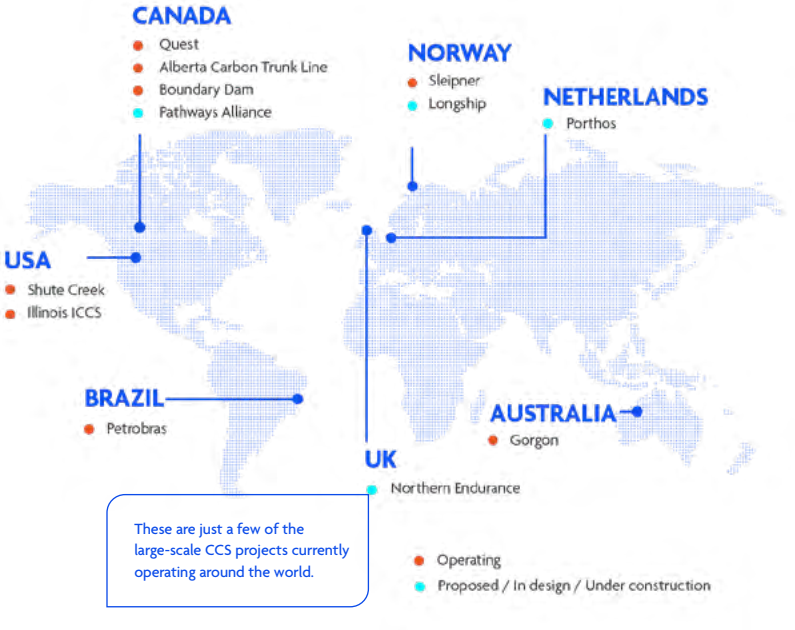
Environmental technologies

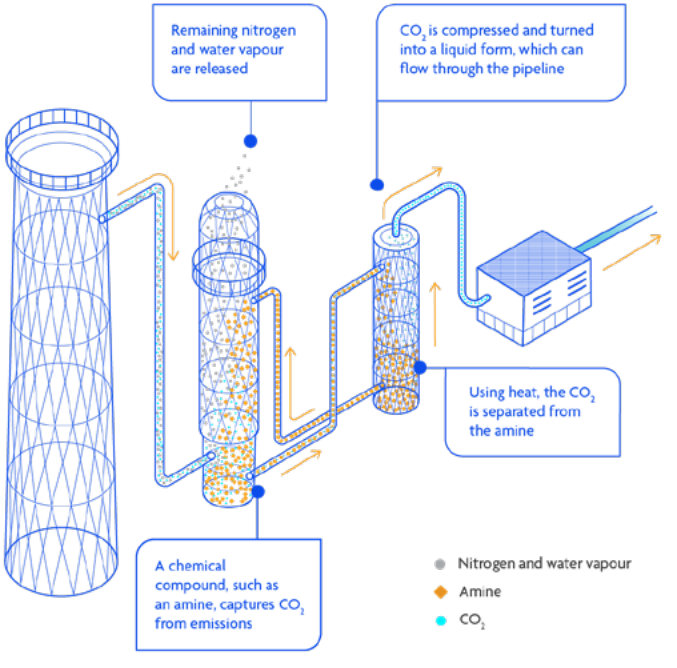
Today, oil sands innovation continues. Pathways Alliance member companies are currently advancing dozens of emerging environmental and emissions-related technologies, and forming technical working groups to study and advance more technology development projects with the potential to reduce emissions intensity.

As a result of investments by Pathways member companies in new technologies, innovations and operational improvements, CO_2e per barrel of oil produced dropped about 26% in the Canadian oil sands from 2011 to 2023.[10]

Carbon capture and storage (CCS)

Carbon capture and storage, or CCS, is a proven technology used around the world. It has the potential to help prevent CO_2 created by industrial activities from entering the atmosphere. The International Energy Agency has recognized CCS as an important technology to help reduce CO_2 emissions in the energy sector. According to the Global CCS Institute's 2024 report, there are 50 carbon capture and storage projects operating worldwide, with an additional 44 projects currently under construction.





In the CCS process:

1. Capture technologies are fitted to a large emission source, which makes it possible to capture CO_2 emissions.
2. Captured CO_2 is compressed and turned into liquid form, which can flow through a pipeline to a storage facility.
3. CO_2 is stored deep underground, typically between 1,000 and 2,000 metres beneath the Earth's surface.

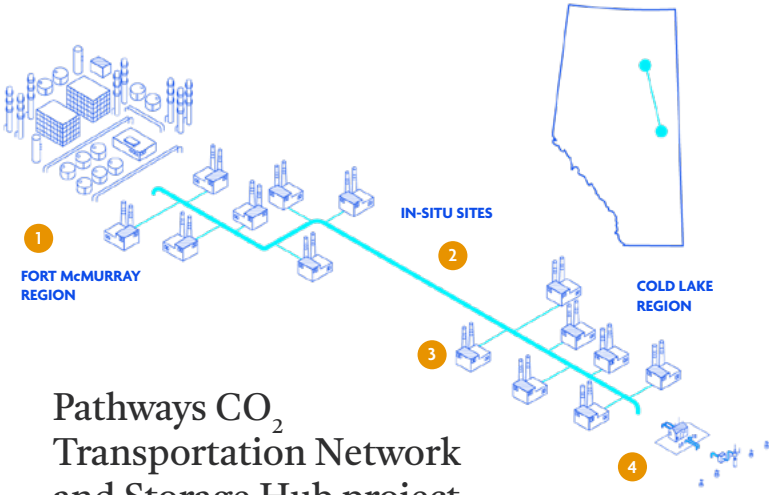
CCS in Canada

Expertise in the construction and operation of large-scale CCS projects exists here in Canada. According to the International CCS Knowledge Centre, Canada accounts for approximately 15% of the world's current CCS capacity, even though our nation contributes less than 2% of global CO_2 emissions. CCS projects in Canada have securely stored more than 50 million tonnes of CO_2.[11]

CCS facilities currently operating in Canada:

1. Quest CCS facility
2. SaskPower Boundary Dam Carbon Capture Project
3. Wolf Alberta Carbon Trunk Line
4. Entropy Glacier CCS
5. Weyburn-Midale CO_2 storage facility

Photos (clockwise from top): Quest CCS facility, SaskPower Boundary Dam, Quest CCS facility, SaskPower Boundary Dam



Pathways CO_2 Transportation Network and Storage Hub project

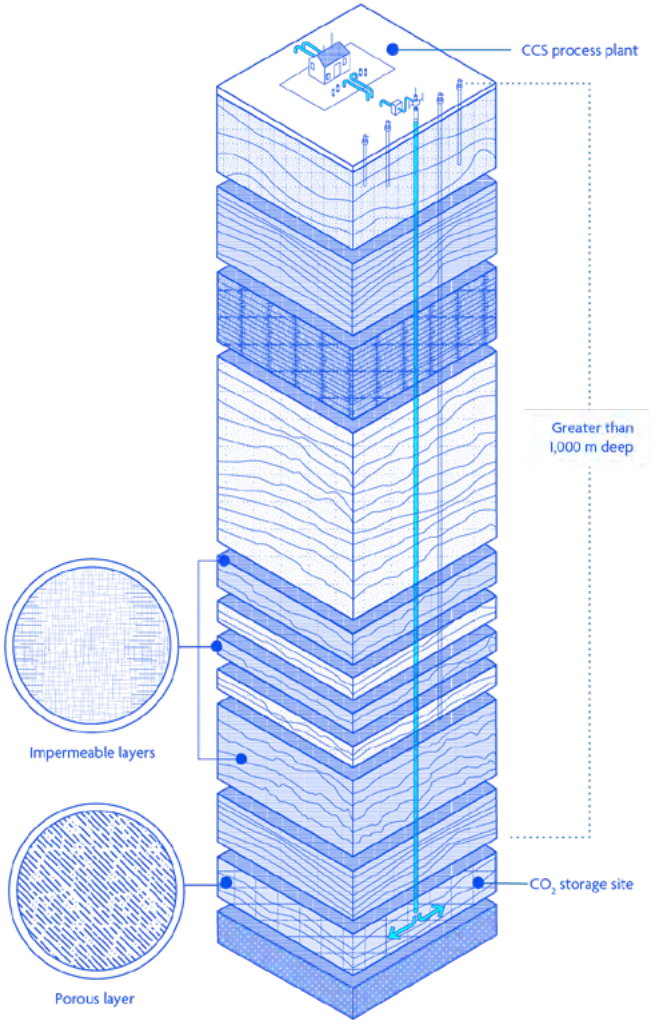
The Pathways Alliance members have proposed a carbon capture and storage network and pipeline. Pathways members are working with governments to obtain sufficient levels of fiscal support and the required regulatory approvals that are necessary to make this project a reality.

When operational, the Pathways CO_2 Transportation Network and Storage Hub project would transport CO_2 from multiple oil sands facilities to a capped, sandstone formation in the Cold Lake area of Alberta for underground storage. Eventually, the pipeline and hub could be made available to other oil producers and industries seeking CO_2 emissions sequestration.

1. Oil sands upgraders, mining and in-situ area
2. 400+ km CO_2 transportation line
3. Oil sands in-situ recovery area
4. Joint carbon storage hub

Emission source

CO_2 transportation line



Above: Rock formations that have securely stored oil and gas for millions of years can also safely and permanently store CO_2. These multiple overlying layers of impermeable rock formations act as natural seals.

An economic driver

Construction on the proposed CCS project is anticipated to drive direct, indirect and induced economic activity.[12]

$16.5B in GDP

$12.2B
in labour income

129,000+
full-time jobs (between 18,500 and 43,000 annually) during project construction

Advancing CCS technology

Pathways Alliance members are also advancing several CCS technology development projects that have the potential to be used by member companies and other industries, and exported globally.

Enhancing conventional carbon capture technology to improve energy and cost efficiency.

Assessing and piloting next-generation CCS technologies, such as those developed by Svante and Ionada (companies that specialize in climate technology, including CCS).

Conducting a direct air capture landscape study to assess and understand the potential for future use.

Evaluating the feasibility of CO_2 sequestration in depleted natural gas fields.

Steam reduction

Steam-reduction technologies reduce the need for steam, which is a major driver of emissions from in-situ oil sands production. Pathways member companies are piloting technologies using solvents (lighter hydrocarbons) for SAGD optimization. These processes have the potential to lower costs, reduce steam-to-oil ratios and lower greenhouse gas emissions per barrel from oil sands production.

Collaboration driving innovation

Canada's Oil Sands Innovation Alliance (COSIA) is the innovation arm of Pathways Alliance. COSIA is focused on fostering innovation in oil sands environmental technology in four key environmental priority areas: tailings, water, land and greenhouse gases.

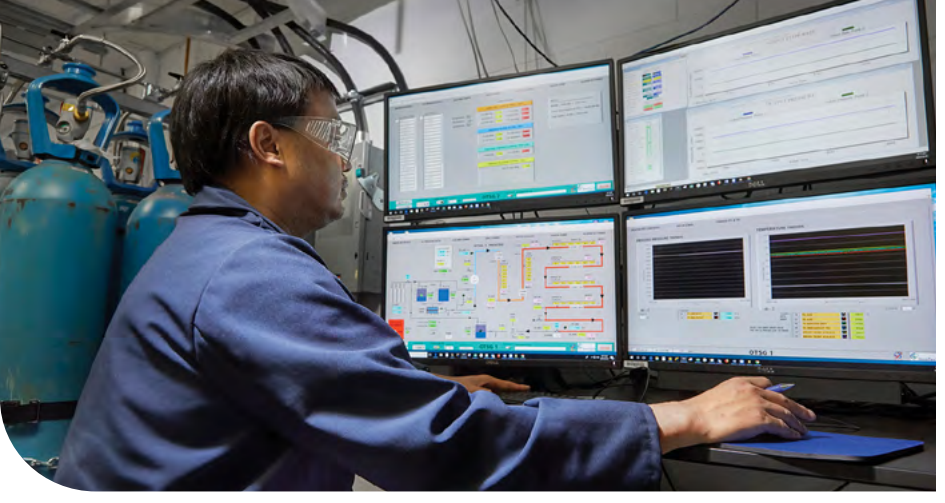
Innovation hub

COSIA works with oil sands companies to identify technical hurdles in their operations. Those challenges then become opportunities for innovators, who are invited to submit proposals for new processes and technologies through an Environmental Technology Assessment Portal. COSIA identifies and collaborates with promising innovative organizations, supporting their journey to commercialization. By collaborating with innovators at all stages of development, COSIA identifies the resources they need to advance to the next stage of product development.

NanoWaterTech

By working with NanoWaterTech (NWT), COSIA helped move this energy-transition company's technology from initial lab tests to field trials in only two years.

Using global thought leadership in nanotechnology from the University of Calgary, NWT pioneers solutions for industrial water treatment. NWT's products feature customized nanoparticles that help enhance the efficiency of water-processing systems.



OTSG research project

COSIA is engaged in a five-year, $2-million research project. The research focuses on reducing buildup, erosion and corrosion in Once-Through Steam Generators (OTSGs), boilers that generate superheated steam used in in-situ extraction processes. The project is overseen by SAIT's Centre for Energy Research and Clean Unconventional Technology Solutions. It's a true collaboration involving the University of Calgary, the University of Alberta and the Southern Alberta Institute of Technology (SAIT), and supported in part by funding from the Natural Sciences and Engineering Research Council of Canada.

Researchers have access to three pilot-scale OTSGs in a new energy research lab called the Imperial Energy Innovation Centre. This 40,000-square-foot, $37-million facility was funded by a historic donation from Pathways Alliance member Imperial in 2025. The lab is intended to connect researchers with industry professionals, providing a space to find solutions to industry challenges and progress applied energy research.

TechScout

TechScout is a Paris-based firm that specializes in sourcing cutting-edge industrial technologies. COSIA worked with the firm to help find anti-fouling technologies for water boilers in oil sands operations. Boiler fouling happens when buildup collects on the inside of steam generators (a bit like cholesterol in the human body). This buildup reduces the efficiency of the boilers, which can increase emissions.

The TechScout team included 12 technical experts and a project leader with a PhD in industrial water chemistry. Together, they embarked on a 16-week journey, identifying promising solutions in mechanical, chemical and coatings categories from an initial pool of 40 technologies. COSIA then narrowed down the selection to eight technology providers, each with new ideas and concepts for our water technology teams to explore.

Expenditures on hydrocarbon technology research, development and demonstration (including CCS)[13]

$96M
Federal
(2022–23)

$63M
Provincial & territorial
(2022–23)

$830M
Industry
(2021)

Working with Indigenous groups

Engagement, community relations and economic inclusion

Having a strong and constructive relationship with communities where we operate is vital. Pathways Alliance member companies have a long history of collaborating with Indigenous groups to enable them to acquire equity and share in the benefits of resource development.

Pathways Alliance members recognize the importance of working with Indigenous communities and taking steps towards economic reconciliation through building long-term relationships.

Indigenous businesses

Indigenous-owned businesses have become an integral part of the oil sands industry throughout the past four decades.

Bouchier

This 100% Indigenous-owned company in Fort McKay, Alberta, is one of the largest contractors in the oil sands industry. It employs nearly 1,400 people, 38% of whom self-identify as Indigenous, working at sites for Canadian Natural, Cenovus, Imperial Oil and Suncor.

"Economic reconciliation isn't just a policy, it's a practice. Our story isn't just about contracts. It is about leadership, skill building and creating space for the next generation to rise."

–Nicole Bourque-Bouchier, co-owner and CEO of Bouchier Group

Indigenous spend and agreements

Canadian Natural

Secured around $855 million in contracts to 212 Indigenous businesses in 2024.

Cenovus

Spent more than $5 billion with Indigenous-owned businesses since 2010.

ConocoPhillips Canada

Signed a Cooperation and Mutual Benefits Agreement (CMBA) in 2024 with an Indigenous group in its Surmont project region. The CMBA provides greater certainty around project scheduling, as well as benefits and contract opportunities to the community. The company now has agreements with all the Indigenous and Métis groups it engages with in Surmont.

Imperial

Invested more than $6 billion with Indigenous business since 2008, with over $900 million in 2024 alone.

MEG Energy

Spent $94.7 million on goods and services provided by Indigenous businesses in 2023.

Suncor

Announced three equity partnerships with First Nation and Métis communities since 2017, in the Regional Municipality of Wood Buffalo in Alberta and the James Bay region in Quebec.

Cenovus Indigenous housing initiative

Cenovus has spent more than $50 million to build homes in six Alberta First Nations and Métis communities near its oil sands operations: Beaver Lake Cree Nation, Chard Métis, Chipewyan Prairie First Nation, Cold Lake First Nations, Conklin Métis and Heart Lake First Nation. To date, 161 homes have been funded.

"The best word to describe the impact of the initiative is transformative. In my career, I cannot point to any program or industry initiative that has been this powerful and successful in elevating the quality of life of vulnerable people."

–Scott Duguid, CEO of Conklin Resource Development Advisory Committee

Partnership Accreditation in Indigenous Relations (PAIR) program

The Canadian Council for Indigenous Business has a program called Partnership Accreditation in Indigenous Relations (PAIR), which offers formal certification to companies based on an assessment of their Indigenous-inclusion initiatives. PAIR certification recognizes companies that are demonstrating commitment to Indigenous communities in four main areas: leadership action, employment, business development and community relationships. Pathways members Imperial and Suncor are both PAIR-accredited.

The future of oil

Forecasts vary, but what's certain is that global energy demand hasn't peaked yet. The global middle class is currently growing at a pace of 100 million people per year.[14] Today, worldwide oil consumption is just over 100 million barrels per day.[15] To meet demand, oil will continue to be a major part of the energy mix.

Global consumption of oil is just over

100M

barrels per day

Global middle class is growing by

100M

people per year

With the

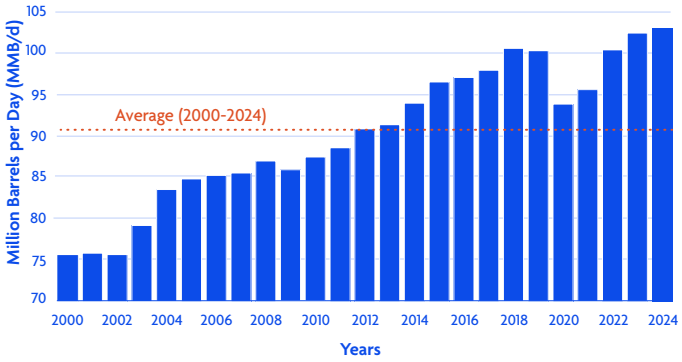
4th largest

oil reserves in the world, Canada has an important role to play

In 2025, Ipsos conducted a survey commissioned by Pathways Alliance, which involved more than 14,000 adults in 18 countries. Respondents were asked to rank suppliers of imported oil. Canada was the top preferred supplier of oil to G7 countries, as well as in North America. The preference may be attributed to Canada's stable political situation, reliable supply, environmental measures and established trade relationships.[16]

In a public opinion survey, 82% of respondents said they view the oil sector as important to Canada's long-term economic future. More than half said they were proud of Canada's role in supplying oil and natural gas to the world.[17]

Global oil demand



Source: U.S. Energy Information Administration

"These results speak to Alberta's growing reputation and profile as a secure, responsible energy producer with the resources and expertise our partners around the world are looking for."

–Danielle Smith, Premier of Alberta

Acronyms and industry terms

AER

Alberta Energy Regulator. The AER is an independent government agency that regulates the development of energy resources in Alberta.

bbl/day

Barrels per day. One barrel is equivalent to 42 U.S. gallons.

CAPP

Canadian Association of Petroleum Producers. An industry association that advocates on behalf of its member companies, which include Pathways Alliance members Canadian Natural, Cenovus, ConocoPhillips Canada, Imperial and Suncor Energy.

CCS

Carbon capture and storage. An established, proven process that captures CO_2 emissions caused by industrial activities and stores them permanently underground.

CO_2e

Carbon dioxide equivalent. A standard unit for measuring the effect of greenhouse gases on climate change. Different types of emissions are converted to the equivalent amount of CO_2.

COSIA

Canada's Oil Sands Innovation Alliance, the innovation arm of Pathways Alliance. COSIA focuses on advancements in four environmental priority areas: land, water, air and tailings.

CSS

Cyclic Steam Stimulation. An extraction method that uses steam to help heat and soften bitumen.

EIA

Environmental Impact Assessment. Required by the Government of Alberta, an EIA is a detailed evaluation of the potential effects a proposed project could have on the environment.

G7

The Group of Seven. An informal grouping of countries, including Canada, France, Germany, Italy, Japan, the United Kingdom and the United States, as well as the European Union.

In situ

Sometimes called in-place extraction, in-situ processes are used when bitumen in the oil sands is too deep underground to be mined.

KB/d

Thousand barrels per day.

MMB/d

Million barrels per day.

OTSG

Once-Through Steam Generator. A boiler used in in-situ extraction processes that generates superheated steam.

PAIR

Partnership Accreditation in Indigenous Relations. Developed by the Canadian Council for Indigenous Business, this certification program assesses and confirms corporate performance in Indigenous relations at the Bronze, Silver or Gold level.

SAGD

Steam-Assisted Gravity Drainage. An in-situ extraction method that recovers bitumen from deep oil sands deposits using pairs of horizontal wells.

Additional reading

Alberta Energy Regulator

Government agency that oversees the development of energy resources in Alberta.
AER.ca

Canadian Association of Petroleum Producers

Industry news, research and reports.
CAPP.ca

Canadian Centre for Energy Information

Energy-related publications, data and information.
Energy-Information.Canada.ca

Careers in Energy

Information and resources about the energy industry and labour market.
CareersInEnergy.ca

CCS Knowledge Centre

Non-profit organization dedicated to advancing large-scale CCS projects.
CCSKnowledge.com

Additional reading

Government of Alberta

Datasets, publications and information.
Open.Alberta.ca

Oil Sands Magazine

Digital knowledge-sharing platform focused on the oil sands and Canada's energy patch.
OilSandsMagazine.com

Natural Resources Canada

Government of Canada department responsible for Canadian resource development.
Natural-Resources.Canada.ca

S&P Global Commodity Insights

Market data, benchmarks and insights for global energy markets.
SPGlobal.com

Footnotes

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4 "The Economic Impact of Canadian Oil and Gas." *CAPP*, April 2025.

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6 "Canadian Oil Sands Production and Emissions History." *S&P Global Commodity Insights,* June 2023.

7 "Refining and Marketing." *Oil Sands Magazine.*

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9 "Canadian Oil and Gas Export Infrastructure." *CAPP,* April 2025.

10 "Alberta Oil Sands Greenhouse Gas Emission Intensity Analysis." *Government of Alberta,* June 4, 2025.

11 "Addressing Key Questions About Carbon Capture and Storage in Alberta." *International CCS Knowledge Centre,* August 2024.

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15 "Oil Analysis and Forecast to 2030." I*nternational Energy Agency*, 2024.

16 Ispos poll conducted on behalf of Pathways Alliance between April 25 and May 9, 2025.

17 2025 report from an ongoing online survey conducted by Innovative Research Group on behalf of Pathways Alliance.

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