



MARCH 2021

# Energy solutions for a better tomorrow

Corporate sustainability report

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Imperial is committed to providing our shareholders and stakeholders with meaningful information about our business. This sustainability report addresses environmental, social and governance (ESG) areas of focus for the company. Performance table and metrics include data up to year-end 2019, unless otherwise stated. Information regarding events and activities from 2020 may also be included.

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# Letter to stakeholders

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## Imperial is developing pathways in support of a net-zero future

Very few periods in history have challenged our industry and the world's economy as significantly as in 2020 — a global pandemic, the unprecedented erosion of oil and natural gas demand, and very challenging market conditions have tested the resiliency of energy companies around the world.

Overcoming adversity of this scale and not only recovering, but embracing the opportunity ahead requires strong resolve and deep collaboration among all stakeholders and a recognition of the intrinsic linkage of a company's resilience to environmental, social and governance performance.

Imperial is committed to providing energy solutions in a way that helps protect people, the environment and the communities where we operate, including addressing the risks of climate change.

Our strategy for collective success and delivering value comes down to three elements: **reducing our environmental impact; capturing high value business efficiencies and opportunities** by making strategic investments in economic, lower emissions energy solutions; and, advancing **social innovation** and engagement by meaningfully supporting and contributing to local and Indigenous communities.

Our teams have successfully reduced operated oil sands GHG emissions intensity (GHGi) by more than 20 per cent since 2013. We continue to focus

on our performance and our target of reducing GHGi by 10 per cent in 2023, compared to 2016 levels, is in sight. A 2020 life cycle assessment study led by Stanford University, the University of Calgary, and the University of Toronto, revealed that our Kearl oil sands operation GHG emissions intensity is better than the global upstream crude average and continues to improve.

In 2020, we also started operation of our newly constructed cogeneration unit at our Strathcona refinery. The unit increases energy efficiency at the facility and reduces greenhouse gas emissions, the equivalent to removing 24,000 vehicles from the road.

And we know it doesn't end there. As we develop pathways in support of a net-zero future, Imperial is exploring next-generation technologies, which when paired with carbon capture and storage, could result in incremental production with net-zero emissions.

Our commitment to innovation extends to our focus on partnership, shared prosperity and capacity building for Indigenous Peoples and our local communities. In early 2020, we surpassed the \$3 billion spend mark with Indigenous businesses in Canada (since 2008). Our innovative Indigenous benefits model was recognized by the Canadian Centre for Diversity and Inclusion with the employer initiative of the year

award for western Canada and we are proud to be the only oil and gas company to sit on an advisory panel supporting the federal government's efforts to increase its own Indigenous business spend.

As we look ahead, we believe we have the tools and expertise to not only create value in a competitive marketplace in a way that's profitable to our shareholders, but also meaningfully contributes to Canada's energy future.

This year's sustainability report provides more detail about Imperial's collaborative efforts to develop energy solutions for a better tomorrow. I appreciate your interest and feedback.



**Brad Corson**

Chairman, President  
and CEO



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## Providing responsible energy solutions

**Reducing environmental impact**  
by using leading-edge technology to lower the greenhouse gas intensity of our operations and by reducing our impact on air, water, and land.

**Capturing business opportunities**  
by making strategic investments in economic lower-emission energy solutions, by developing lower carbon intensity products and by exploring pathways in support of a net-zero future.

**Advancing meaningful social innovation**  
and engagement by contributing to sustainable economic development in Indigenous and local communities.

## ENVIRONMENT

**~30%**  
reduction in flaring at upstream operations since 2016

**1.4**  
million trees planted at Kearl and Cold Lake in the past 10 years

**\$850K**  
contributed to support caribou habitat restoration

- Continued focus on freshwater conservation and efficient use
- Committed to progressive reclamation and returning surplus property to other productive uses faster
- Collaborating and testing new technologies to improve oil sands tailings management
- Continuous focus on air quality improvement and waste management initiatives
- Caribou recovery focused on restoration, tenure flexibility, lease relinquishment and innovation

## Taking action to address the risks of climate change

**>20%**  
reduction of GHGi in operated oil sands since 2013

Target to reduce GHGi in operated oil sands by

**10%** by end of 2023 compared to 2016 levels

- Developing pathways in support of a net-zero future
- Kearl GHG emissions intensity is better than the global upstream crude average <sup>(1)</sup>
- Cold Lake positioned to implement new technologies that will result in less water use and could lower GHGi
- Piloting boiler flue gas heat and water recovery at Kearl to reduce GHGi
- New Strathcona cogeneration to reduce GHGs by ~112,000 tonnes per year

## Solutions in support of a net-zero future



Energy efficiency



Renewable fuels



Next-generation upstream technology



Carbon capture and storage

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## SOCIAL

&gt;\$3B

invested with  
Indigenous business  
since 2008

0.25

total recordable  
incident rate

\$5.3B

paid for goods  
and services

Employees volunteered

&gt;14,000

hours to community  
initiatives

- Creating long-term economic and social benefit for the communities in which we operate
- Collaborating with Indigenous communities for a common vision for progress, environmental stewardship, and sustainable economic development
- Industry leading safety performance — protecting the health and safety of our workforce is fundamental to our business
- Developing and using local suppliers key to business strategy — thousands of Canadian vendors engaged each year
- Emergency preparedness is a priority — plans tested with hundreds of drills every year
- In 2020, saluted healthcare heroes across the country during the pandemic by providing \$2 million in free Esso and Mobil fuel vouchers to frontline workers

## GOVERNANCE

36%

of executives  
are women<sup>(2)</sup>

- Committed to the highest ethical and business standards
- ESG integrated into risk management approach at all levels of the company
- Board oversight of climate related risks

## INNOVATION

&gt;\$2.2B

invested in R&D over  
the past 20 years

- Sustained investment in R&D as technology critical to enable production growth and emissions reduction
- Working to develop products with higher biodiesel content with special additives to improve fuel efficiency
- Advancing digital and AI technologies across the value chain

## Providing a positive, productive and inclusive work environment



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# Company operations

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## Exploring for, producing, refining and marketing products essential to society

For more than 140 years, Imperial has consistently demonstrated unwavering high standards, innovation and leadership in Canada's energy industry. We believe Canadians can have reliable and affordable energy, a strong economy and a lower-carbon future.

In our upstream business, we are contributing to reliable, affordable supplies of oil and natural gas for Canadians. We are Canada's largest refiner of petroleum and we refine crude oil into hundreds of petroleum products essential to customers and businesses including gasoline, diesel, heating oil, natural gas, lubricants, and chemicals used to make plastics. In total, we refine and sell about a quarter of the petroleum products used by Canadians every day.

We are a leading marketer of fuels, lubricants, asphalts and specialty products. Our retail brands, Esso and Mobil, are familiar fixtures across Canada.

### Scope of Imperial's operations in Canada

#### Production



#### Refining and supply



#### Chemical



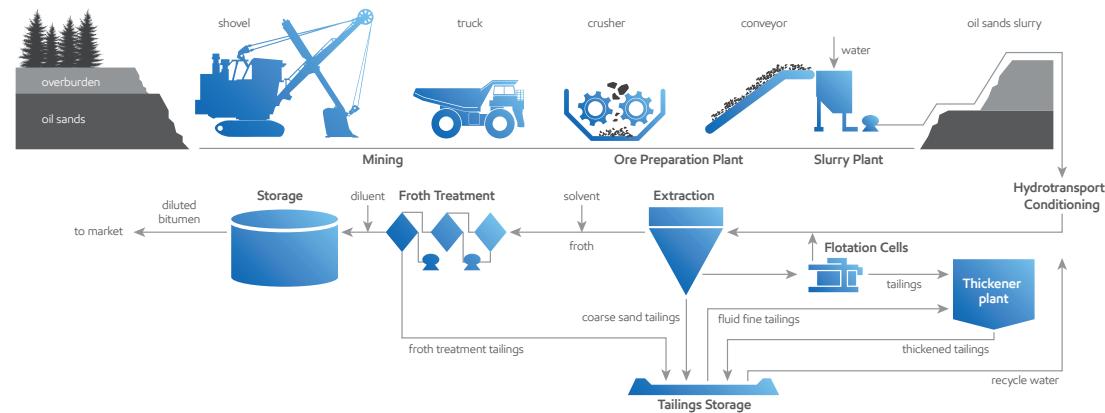
# Canada's oil sands

## A vital energy source for Canada and the world

Canada's oil sands contain about 164 billion barrels of oil recoverable using today's technology and are found in three main regions: the Athabasca region centred around Fort McMurray, Alberta; the Cold Lake area to the south; and the Peace River area to the west. Imperial has operations in the Athabasca and Cold Lake regions.

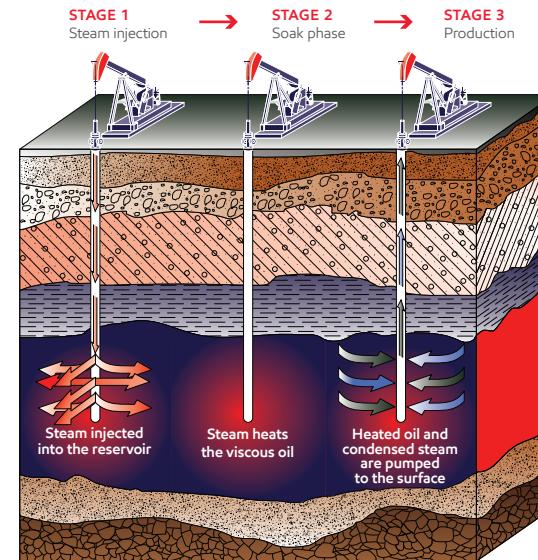
Oil sands deposits are a natural mixture of water, sand, clay and bitumen, which itself is a large and complex mixture of hydrocarbons. In its natural state, bitumen is too heavy and thick to flow. There are two main recovery methods used today:

### Oil sands mining



**Mining** — in areas where the deposits are less than 70 metres from the surface, truck-and-shovel surface mining is used to excavate the oil sands ore. The ore is fed through crushers and then the crushed ore is mixed with hot water to begin separating the bitumen from the other components of the natural mixture. The mixture is then transported to central processing plants, where the bitumen is separated from the sand and fine materials. The separated bitumen is further processed; some oil sands operations have upgraders for this purpose, however, Imperial's Kearl mine uses a leading technology called paraffinic froth treatment (PFT) to create a product that is then diluted with lighter hydrocarbons so it can be moved through pipelines to refineries in Alberta and elsewhere. Today, Kearl's mining operations are better than the global upstream crude average of greenhouse gas emissions intensity (GHG<sub>i</sub>) per barrel and getting better.<sup>(1)</sup>

### In situ oil sands



Cyclic steam simulation (CSS)

**In situ** — about 80 per cent of Alberta's entire oil sands deposits are too deeply buried to mine, so the bitumen is recovered using in situ technologies ("in situ" means "in place," because the bitumen is separated within the deposit not at the surface). There are two predominant technologies for in situ oil sands, cyclic steam simulation (CSS) and steam-assisted gravity drainage (SAGD). Pictured above is CSS that uses a single well and three stages to recover oil.

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# Imperial's key sustainability priorities

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Imperial is committed to providing energy solutions in a way that helps protect people, the environment and the communities where we operate, including addressing the risks of climate change

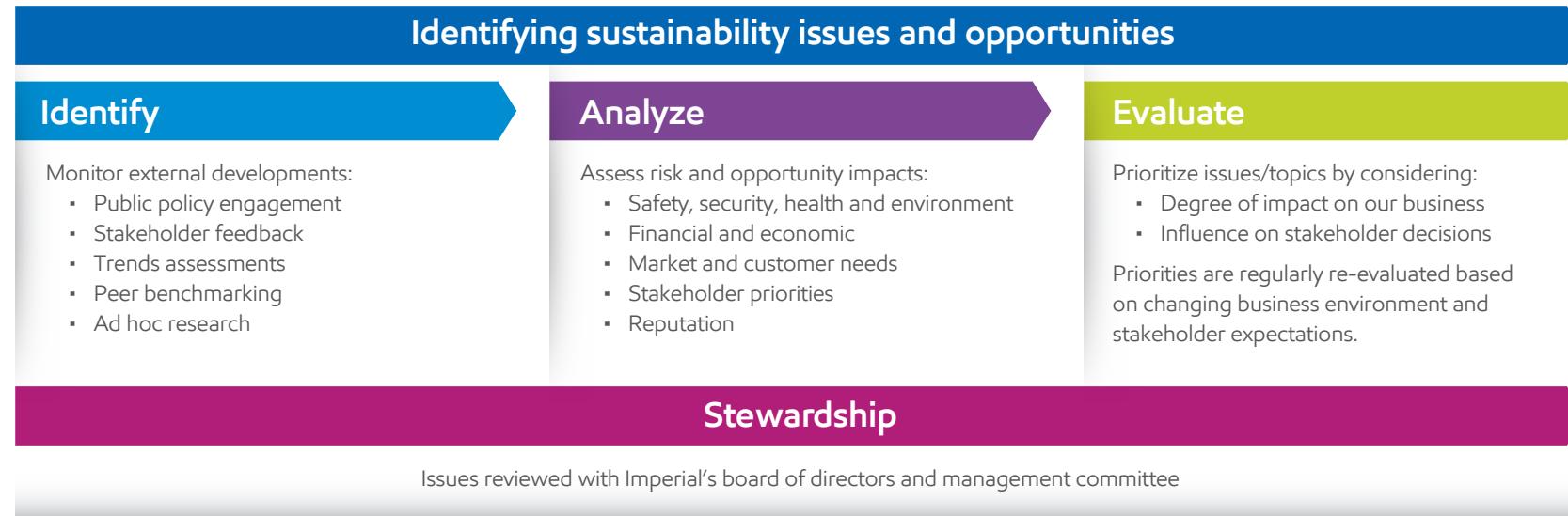
Increasingly, our shareholders, stakeholders and the public regard management of environmental and social risks as integral to running a sound, successful business. This report provides a summary of the key dimensions of sustainability: our environmental, social and governance performance.

The identification of sustainability priorities is a multi-faceted process involving stakeholder input and engagement, issues research, trends assessment and a deep analysis conducted using the company's risk assessment and issues and opportunity management process.

Items identified within this process include potential risks as well as opportunities for the organization. Stakeholder input is captured and brought forward for consideration by subject matter experts and by third-party stakeholder opinion research efforts. We review these topics for our report annually to define issues that are of relative significance to environmental, social and governance priorities and their impacts to both our business and stakeholders.



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**Relevant frameworks**

This sustainability report is guided using the International Petroleum Industry Environmental Conservation Association (IPIECA) and the American Petroleum Institute (API) Oil and Gas Industry Guidance on Voluntary Sustainability Reporting. This report also cross-references Global Reporting Initiative (GRI) G3.1 indicators. Our climate content is guided by the Financial Stability Board's Task Force on Climate-Related Financial Disclosures (TCFD). TCFD elements are flagged throughout the report.

Lloyd's Register Quality Assurance, Inc. (LRQA) has confirmed that our Operations Integrity Management System meets the requirements of

ISO 14001 standard for environmental management systems. LRQA also recognized that OIMS meets all requirements of the Occupational Health and Safety Assessment Series for health and safety management systems (OHSAS 18001) and certified our Global Product Quality Management System meets the ISO 9001 standard.

Business controls outlined in our Controls Integrity Management System (CIMS) meet or exceed the requirements of the Sarbanes-Oxley Act and the New York Stock Exchange (NYSE) American listing standards. Assessments are performed annually confirming that our internal controls system is sound.

Our financial reporting is in accordance with regulatory requirements and United States Generally Accepted Accounting Principles.

Imperial recognizes the United Nations Sustainable Development Goals (SDGs) and the symbols featured in this report represent those most relevant to our focus areas.

Greenhouse gas emissions are third-party verified.

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## Corporate governance

Integrity and respect guide our actions

# Corporate governance

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L to R: Jack Mintz, Miranda Hubbs, David Cornhill, David Sutherland, Brad Corson, Krystyna Hoeg, Dave Brownell

## Board leadership

Imperial has an unwavering commitment to high ethical standards, legal compliance and integrity, starting with our board of directors and corporate governance policies. The Nominations and Corporate Governance Committee monitors and recommends implementation of appropriate corporate governance standards and is responsible for identifying and recommending highly qualified directors.

Five of Imperial's seven board members are independent and meet the criteria for independence set by Canadian securities regulators, the U.S. Securities and Exchange Commission (SEC) and the NYSE American LLC. These directors provide thoughtful perspectives and strategic direction in support of the company's interests. All board committees are chaired by independent directors who meet regularly in executive sessions without the presence of management. In 2019, seven independent sessions were held to allow independent board members to raise substantive issues that were more appropriate to be discussed in the absence of management, including assessing potential follow-up required with the chair, discussing what information may be needed from management to perform their duties and seeking feedback about the board processes. Learn more at [imperialoil.ca/en-ca/company/investors](http://imperialoil.ca/en-ca/company/investors).

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## Board committees



### Community collaboration and engagement

Supports public awareness and consultation, government and Indigenous relations, community partnerships and investment programs.



### Audit

Provides oversight of disclosures, financial statements, internal accounting and financial controls, business controls, compliance with legal and regulatory requirements and performance of the audit function (including independence).



### Public policy and corporate responsibility

Assists the board by providing oversight on environmental, health, safety and sustainability performance along with legislative compliance and the assessment of potential long-term effects of public policy, climate change and sustainable business practices on corporate performance. Recommends desirable policies and actions.



### Executive resources

Ensures the compensation system is inherently designed to support the sustainability of the company's operations and the management of risk. Reviews and evaluates goals and objectives relative to compensation.



### Nominations and corporate governance

Monitors and recommends implementation of appropriate corporate governance standards. Responsible for identifying and recommending highly qualified directors including appointments to committees.

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# Board diversity

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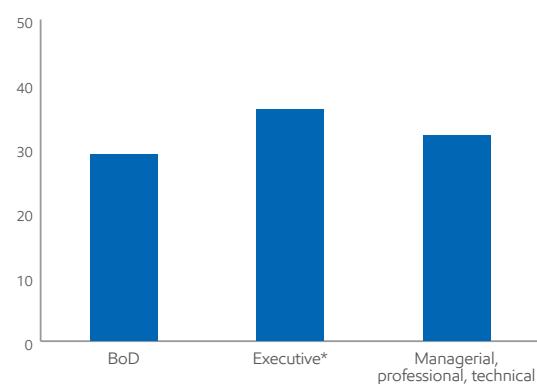
## PERFORMANCE DATA

Differing perspectives within a board of directors support well-rounded decisions that result in superior shareholder return. At Imperial, board positions are filled with the objective of collectively encompassing a diversity of work experience, viewpoints and competencies. When a seat is available, these attributes are evaluated along with diversity of age, regional association and designated groups. Women represent approximately 30 per cent of the directors and a third of the executive officers of the company and its major subsidiary, Imperial Oil Resources.

Developing the experienced executive talent necessary to succeed at Imperial requires a significant investment in time and resources. To support the progression of women within the organization, succession planning includes identifying gaps in diversity for key executive and senior manager positions. This planning provides a pipeline of essential and diverse talents to enable achievement of longer-term strategic objectives. Individuals with executive potential are provided mentorship from senior leaders and leadership opportunities across the organization to support their development.

## Women at various levels in organization

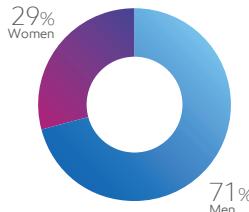
(per cent)



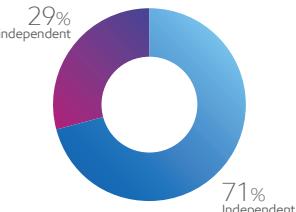
\* Executives include executive officers and executives in senior leadership positions

## Board composition

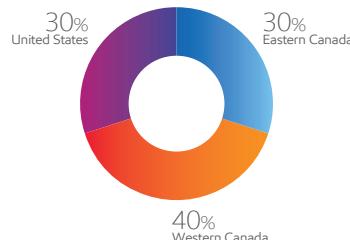
## Gender



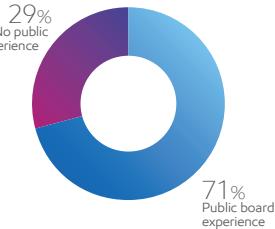
## Independence



## Regional association



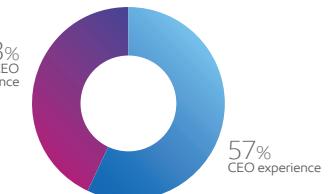
## Public company board experience



## Energy industry experience



## CEO experience



**Board skills, diversity and experience<sup>(4)</sup>**

	D.C. Brownell	D.W. Cornhill	B.W. Corson	K.T. Hoeg	M.C. Hubbs	J.M. Mintz	D.S. Sutherland	CORPORATE GOVERNANCE
Gender	Male	Male	Male	Female	Female	Male	Male	MANAGING THE RISKS OF CLIMATE CHANGE
Age (as of February 12, 2020)	53	66	58	70	53	68	70	ENVIRONMENTAL PERFORMANCE
Director since	November 1, 2018	November 29, 2017	September 17, 2019	May 1, 2008	July 26, 2018	April 21, 2005	April 29, 2010	SAFETY, HEALTH & THE WORKFORCE
Citizenship	United States	Canadian	United States	Canadian	Canadian	Canadian	Canadian	COMMUNITY & INDIGENOUS ENGAGEMENT
Independent director	No	Yes	No	Yes	Yes	Yes	Yes	ECONOMIC DEVELOPMENT
Committee participation	ERC PP&CR N&CG CC&E	AC ERC PP&CR N&CG* CC&E	CC&E	AC* ERC PP&CR N&CG CC&E	AC ERC PP&CR N&CG CC&E*	AC ERC PP&CR* N&CG CC&E	AC ERC* PP&CR N&CG CC&E	PERFORMANCE DATA
Leadership of large organizations	•	•	•	•			•	
Operations/technical	•	•	•				•	
Project management	•	•	•	•				
Global experience	•		•	•	•	•	•	
Strategy development	•	•	•	•	•	•	•	
Environment and sustainability	•	•	•	•	•	•	•	
Audit committee financial expert		•		•	•		•	
Financial expertise	•	•	•	•	•	•	•	
Government relations	•		•			•	•	
Academic/research						•		
Information technology/cybersecurity oversight					•			
Executive compensation	•	•	•	•	•	•	•	
Risk management	•	•	•	•	•	•	•	

AC – Audit Committee

CC&amp;E – Community Collaboration and Engagement Committee

ERC – Executive Resources Committee

N&amp;CG – Nominations and Corporate Governance Committee

PP&amp;CR – Public Policy and Corporate Responsibility Committee

\* indicates chair of that committee.

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We engage with our shareholders frequently to understand investors' interests and concerns, and to obtain their feedback

Imperial has established procedures and communication avenues for interacting with shareholders, including direct interaction with senior leadership, investor relations' direct and virtual engagement, quarterly calls, investor days, the shareholder proposal process, and direct communication at the annual meeting. In addition, a wide range of information is published on Imperial's website to help shareholders manage their shares, such as annual and interim reports, filings, proxy circulars and key dates.

At the annual meeting of shareholders, the board chair and board of directors are readily accessible to investors for questions, feedback and further discussion. Similarly, our chairman, president and CEO and senior vice-presidents participate in investor days, providing further shareholder access to Imperial's Management Committee.

In addition to our ongoing discussion with investors and analysts, members of Imperial leadership teams regularly engage with large investors across the globe. The company's senior management regularly meets with institutional investors and shareholders through industry conferences, road shows and company-hosted investor events. Materials from these conferences and events are available on our website. In addition, the investor relations team proactively reaches out to shareholders to obtain views on matters identified by shareholders, and the team responds to shareholder and investor queries throughout the year.

The company annually solicits questions and comments from registered shareholders on the proxy form, which provides senior management with an indication of the issues that interest shareholders. Senior management reviews shareholder comments, and those requiring a response are answered individually.



*Shareholder engagement creates value both for Imperial and our investors. By proactively engaging in two-way communication, the company can put forward our corporate principles and policies, and share the advancement of our environment, social and governance efforts. We listen to what matters to our investors, and are very interested in understanding the priorities investors have regarding these issues.*

**Jason Luinenburg** – Associate, Investor Relations

# Stakeholder engagement



Imperial works with a variety of internal and external stakeholders, including a broad range of individuals and organizations, Indigenous communities, operating communities, shareholders, customers, employees, suppliers and contractors, governments, regulators, and others. Our stakeholder engagement is guided by our principles of inclusion, respect, professionalism, timeliness, responsiveness and accountability.

Active engagement promotes a better understanding of peoples' concerns, contributes to good decision-making, and helps us to identify mutually beneficial opportunities and resolve issues. Active listening and dialogue help us understand what matters to our neighbours and allows us to share our progress. Engagement takes many forms such as individual meetings, community

presentations, open houses, community investment, newsletters and digital media. To facilitate candid feedback on our performance, Imperial regularly engages third-party firms to conduct confidential, stakeholder surveys.

Effective management of stakeholder relationships is important to enhance the trust and confidence of communities with which Imperial interacts. Emergency planning and preparedness are also essential. The company periodically conducts emergency simulations and drills to ensure our response in a crisis is effectively managed and communications are proactive, transparent and meaningful.



 *Taking the time up front to listen and understand the different viewpoints and dimensions of our diverse groups of neighbours from across Canada is the best investment we can make in ensuring a better quality solution for the long run.*

**Peter Shaw** – Vice President, Public and Government Affairs

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**Stakeholder engagement guiding principles**

Stakeholder	Guiding principle(s)	Engagement
Indigenous communities	<ul style="list-style-type: none"> <li>▪ Conduct business in a manner that respects the land, environment, rights and cultures of Indigenous peoples, in accordance with the laws of Canada and corporate policies.</li> <li>▪ Engage Indigenous communities in open and forthright consultation, seeking to understand Indigenous perspectives on shared prosperity and sustainable economic development.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Local events (open houses, neighbour days)</li> <li>▪ Community benefit agreements and local investment</li> <li>▪ Consultation</li> <li>▪ Liaison program &amp; working meetings</li> <li>▪ Workforce and business development</li> <li>▪ Volunteering</li> <li>▪ Dedicated land agents</li> <li>▪ Website and social media</li> <li>▪ Formal stakeholder opinion research and feedback surveys</li> </ul>
Local communities/landowners	<ul style="list-style-type: none"> <li>▪ Be a good corporate citizen in all places where we operate; dedicated to running safe and environmentally responsible operations.</li> <li>▪ Maintain high ethical standards, obey all applicable laws, rules and regulations, and respect local cultures.</li> </ul>	
Shareholders	<ul style="list-style-type: none"> <li>▪ Enhance the long-term value of the investment dollars entrusted to us by our shareholders.</li> </ul>	<ul style="list-style-type: none"> <li>▪ See shareholder engagement section</li> <li>▪ Direct engagement and feedback</li> </ul>
Customers	<ul style="list-style-type: none"> <li>▪ Offer high quality products and services at competitive prices while being responsive and innovative to meet ever changing customer needs.</li> </ul>	
Employees	<ul style="list-style-type: none"> <li>▪ Strive to hire and retain an exceptional workforce.</li> <li>▪ Support personnel growth through training and development.</li> <li>▪ Committed to 'Nobody gets hurt'</li> <li>▪ Enriched by inclusion and diversity, trust, fair treatment, empowerment and open communication.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Employee forums, digital and social media platforms, training, ongoing communication including feedback</li> </ul>
Suppliers and contractors	<ul style="list-style-type: none"> <li>▪ Select quality third parties based on best total value.</li> <li>▪ Prefer to purchase from Canadian suppliers and Indigenous companies where possible.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Direct relationship including meetings, safety forums and stewardship</li> </ul>
Regulators and government	<ul style="list-style-type: none"> <li>▪ Good corporate citizenship – regular and transparent engagement, positive relationships, provide sound input and solutions in the development of policies and regulations.</li> <li>▪ Maintain high ethical standards, obey all applicable laws, rules and regulations, environmentally responsible operations.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Direct or through trade associations</li> <li>▪ Transparent disclosure/reporting</li> </ul>
Media	<ul style="list-style-type: none"> <li>▪ Provide timely, transparent, accurate information.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Direct, media releases, information sessions</li> </ul>
Others (academia, industry, NGOs)	<ul style="list-style-type: none"> <li>▪ Collaborate to understand alternative perspectives, share learnings and solutions.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Forums, meetings, roundtables</li> </ul>

# Ethics and integrity

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## Our standards of business conduct provide the foundation for how we do business

Imperial expects our directors, officers, employees and contractors to observe the highest standards of integrity in the conduct of the company's business. Our foundation policies collectively express and guide our behaviour. These policies are reviewed periodically by the company's directors, officers and employees to ensure full understanding and adherence. Mandatory training is delivered at a prescribed frequency. No one at Imperial has the authority to make exceptions or grant waivers with respect to our standards. Breaches of the standards are subject to disciplinary action up to and including termination for employees and denial of site access for contractors. In addition, all employees are reminded of the standards of business conduct and are expected to confirm their understanding by certifying their compliance as part of the annual ethics compliance certificate process.

### **Ethics policy**

We comply with all governmental laws, rules and regulations applicable to our business. Where the law is permissive, we choose the course of highest integrity. Directors, officers and employees deal fairly with each other and with the company's suppliers, customers, competitors and other stakeholders. All transactions are accurately reflected in our books and records. We make



full, fair, accurate, timely and understandable disclosure in reports and documents filed with applicable securities regulators and in other public communications. All employees are responsible for reporting material information to senior management accountable for making disclosure decisions.

### **Gifts and entertainment**

Gifts and entertainment provided by Imperial's directors, officers or employees to a third party must not create an improper advantage for the company. All expenditures for gifts and entertainment

provided by Imperial must be accurately recorded. Directors, officers and employees and third parties acting on behalf of Imperial who provide or receive third-party gifts and entertainment in their corporate capacities are expected to follow strict policy and limits regarding the size, nature and appropriateness of gifts and entertainment.

Learn more on Imperial's [website](#).

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**Conflict of interest**

Directors, officers and employees are expected to avoid any actual or apparent conflict between their personal interests and the interests of the company. A conflict of interest can arise when a director, officer or employee takes actions or has personal interests that may interfere with their objective and effective work performance.

Further, Imperial restricts officers and employees from holding directorships in non-affiliated, for-profit organizations (with limited exceptions) and prohibits any officer or employee from accepting directorships that would involve a conflict of interest with, or interfere with, the discharge of the officer's or employee's duties. However, any officer or employee may hold directorships in non-affiliated, non-profit organizations, unless that would involve a conflict of interest or obligate Imperial to provide support to such organizations. Officers and employees may serve as directors of affiliated companies and such service may be part of their normal work.

**Open door communications**

Imperial has always encouraged employees to ask questions, voice concerns and make suggestions regarding the company's business practices. Employees are expected to promptly report suspected violations of the law, company policies or internal controls so management can investigate and take appropriate action as soon as possible.

**Ethics and conflict of interest reporting resources**

Imperial publishes an ethics and standards of business conduct booklet which provides several ways for employees to obtain information and advice. Speaking up is one way to eliminate unethical behaviours and practices, security threats, harassment and violence in the workplace, so everyone can feel at ease as they do their work. In early 2020, Imperial introduced a new Integrity and Ethics hotline, run by a third-party provider. The new platform means increased data privacy through anonymous reporting, online reporting and live agents to assist with reporting (available 24 hours a day, 365 days a year).

**International business**

Where the company's international operations are subject to the laws, rules and regulations of foreign jurisdictions, Imperial and our directors, officers and employees comply with such laws, rules and regulations.

**Antitrust competition law**

Imperial's directors, officers and employees comply with the antitrust and competition laws applicable to the company's business in Canada, the United States and any other country or group of countries which are applicable to our business.

**Management and protection of information (MPI) and data privacy guidelines**

Ongoing awareness training is in place to ensure employees understand the importance of proper handling of personal and company information including vigilantly guarding against cybersecurity threats.



**140**  
YEARS  
1880-2020

# Transparency and disclosure

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## Imperial views transparency as a natural extension of our culture of ethical behaviour

Imperial's commitment to sustainability is reflected in enhanced voluntary disclosures to complement our financial reporting. In addition, the *Extractive Sector Transparency Measures Act* (ESTMA) came into force June 1, 2015 to deliver on Canada's international commitments for increasing transparency and deterring corruption in the extractive sector. This Act requires businesses to publicly report certain payments made to all levels of government in Canada and abroad in relation to the commercial development of oil, natural gas and minerals. In addition, Canada's *Corruption of Foreign Public Officials Act* forbids facilitation payments.

### Political contributions

Imperial's practice is to not make contributions to political candidates and political parties, unless permitted by applicable laws and authorized by the board of directors. Since 2018, Imperial no longer makes political contributions.

Directors, officers and employees engaging in political activities do so as private citizens, not as representatives of the company. Personal, lawful political contributions do not influence employees' compensation, job security or opportunities for advancement.

### Trade associations and industry collaboration

Imperial seeks out collaboration opportunities, with industry and business groups, where betterment for our shareholders and stakeholders could result. Examples include education, best practice sharing, developing environmental solutions, networking, and collecting and aggregating industry input as requested by government and regulators.

Engagement where annual fees exceed \$25K:

- Canadian Association of Petroleum Producers
- Canadian Fuels Association
- Canada's Oil Sands Innovation Alliance
- Chemistry Industry Association of Canada
- Strathcona Industrial Association
- Business Council of Canada
- Canadian Plastics Industry Association
- Canadian Chamber of Commerce
- Industrial Power Consumers Association of Alberta
- Canadian Propane Association
- Canadian Manufacturers and Exporters
- Petroleum Technology Alliance Canada
- C.D. Howe Institute

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The company's executive compensation program is designed to:

- Align the interests of its executives with long-term shareholder interests;
- Encourage executives to manage risk and take a long-term view when making investments and managing the company's assets;
- Reinforce the company's philosophy that executives' experience, skill and motivation significantly affects future business success; and
- Promote career orientation and strong individual performance.

The compensation program is aligned with the core elements of the majority shareholder's compensation program, including linkage to short and mid-term aspects of incentive pay, long vesting periods, risk of forfeiture and alignment with the shareholder experience. In addition, our long term incentive program has long term vesting periods to expose executives to the full impact of the commodity cycle taking into consideration the cyclical nature and long term orientation for the business.

Executive compensation is linked to overall company performance and is designed to incent effective management of all operating and financial risks associated with Imperial's business, including risks related to climate change. The Executive Resources Committee reviews and evaluates business performance and basis for compensation, which may include:

- Safety, health and environmental performance;
- Risk management;
- Total shareholder return;
- Net income;
- Return on average capital employed;<sup>(5)</sup>
- Cash flow from operations and asset sales;<sup>(5)</sup>
- Operating performance of the upstream, downstream and chemical segments; and
- Progress on advancing government relations and long-term strategic interests.

The annual report on compensation is reviewed and approved for inclusion in the corporation's management proxy circular in accordance with applicable legal requirements.

# Director compensation

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Each year, the Nominations and Corporate Governance Committee reviews compensation for non-employee directors and makes recommendations to the full board for approval. Directors' compensation is intended to align the long-term financial interests of the directors with those of the shareholders and is designed to:

- Ensure the company can attract and retain outstanding director candidates;
- Ensure alignment with long-term shareholder interests;
- Recognize the substantial time commitments necessary to oversee the affairs of the company; and
- Support the independence of thought and action expected of directors.

Employees and directors are prohibited from hedging against the value of company stock.

## Non-employee director design principles



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## TCFD GOVERNANCE

## TCFD RISK MANAGEMENT

## Enterprise risk

Imperial's board of directors has a fiduciary duty to manage the corporation in its best interests. Our directors act honestly and in good faith in their duty of care. The board provides oversight of risk, which includes physical and transition risk and advancing opportunities arising from energy transition. These risks and opportunities are considered when reviewing management recommendations, corporate plans and strategies and technology reviews, and also inform the company's response to shareholders.

The board contributes to the annual development and approval of strategic plans that consider Canadian and global economic outlooks and management's recommendations regarding major corporate decisions and actions that may have significant societal impact.

The board has access to relevant information to make informed decisions in representation of shareholders. The board evaluates and provides strategic direction on items including but not limited to: strategy, competitive positioning, safety, culture, performance, succession planning, compliance, executive compensation, environmental stewardship, research and technology, public policy, community and Indigenous engagement, stakeholder feedback and disclosure.

The board assesses company performance through a broad range of criteria including site visits, reviews of key reports and the approval of regulatory filings such as oil and gas disclosures under National Instrument 51-101 and interim and annual disclosures under U.S. Securities and Exchange Commission forms. The Public Policy and Corporate Responsibility Committee (PP&CR Committee) assists the board by providing oversight on environmental, health, safety, security and sustainability risk management and performance. This includes compliance with legislation and the assessment of public policy impacts on corporate performance, as well as the risks and disclosure associated with climate change.



# Risk management

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## ESG integrated into business strategies and plans

Imperial uses a comprehensive risk management framework to identify and manage risk to the company. Risk management occurs at multiple levels of the business as part of Imperial's risk management process. The Management Committee, which includes the chairman, president and chief executive officer, ensures risks, including climate risks, are addressed throughout the company. The company provides an annual report to the PP&CR Committee on environmental performance including GHG emissions.

Imperial engages directly with a variety of external stakeholders including policy makers, investors, customers, regulators, academics, Indigenous peoples, non-governmental organizations and industry associations on issues and opportunities of relevance to the company. This engagement provides excellent external input and feedback to our risk management system.

The management of risk is integrated across the organization through our Operations Integrity Management System (OIMS) that outlines expectations in managing personnel and process safety, operational and environmental risks. It is also integrated in our Controls Integrity Management System (CIMS), which is used to manage business control risks.



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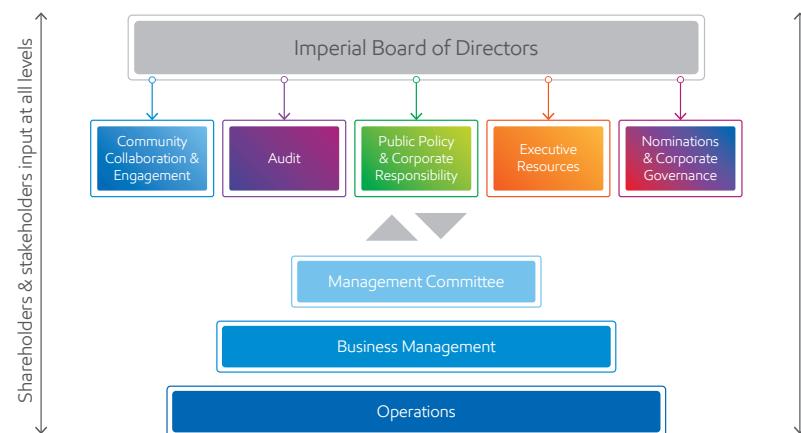
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### Risk management oversight



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## Designing and operating to help protect our people, communities and business

Imperial has extensive experience operating in a range of challenging environments across Canada. The company carefully considers the potential for physical and environmental risks in the design, construction, and operation of facilities. Internal design practices follow industry standards and meet regulatory requirements while incorporating environmental data on extreme events such as forest fires or floods to improve facility design. Procedures are in place to ensure the safety of both personnel and equipment while operating under extreme conditions.

To reduce the potential risk from fire events, facilities are designed to maintain buffer zones appropriate for the forest fire risk associated with the location. The size of the buffer is determined by considering the surrounding vegetation, facility type and construction material.

In the event of a flood, our facilities have infrastructure in place including pumps, ponds, ditches and storm sewers to help manage water.

Temperature extremes – especially cold – can be challenging to all Canadian operations. Winterization of equipment, buildings, instrumentation and piping is considered in facility design to ensure continued operability and maintainability during cold weather conditions.

Emergency preparedness, response and business continuity plans are carefully thought out and maintained. These plans are detailed, practiced and engage external stakeholders and Indigenous communities. In the event of an actual incident, all necessary actions are taken to protect the public, the environment, company personnel and assets. In response to the risk posed by the COVID-19 pandemic, Imperial activated existing emergency and safety protocols at all of our operations and was successful at minimizing impacts to operations during this period. See the emergency preparedness and drills section for more information.



# Our management systems

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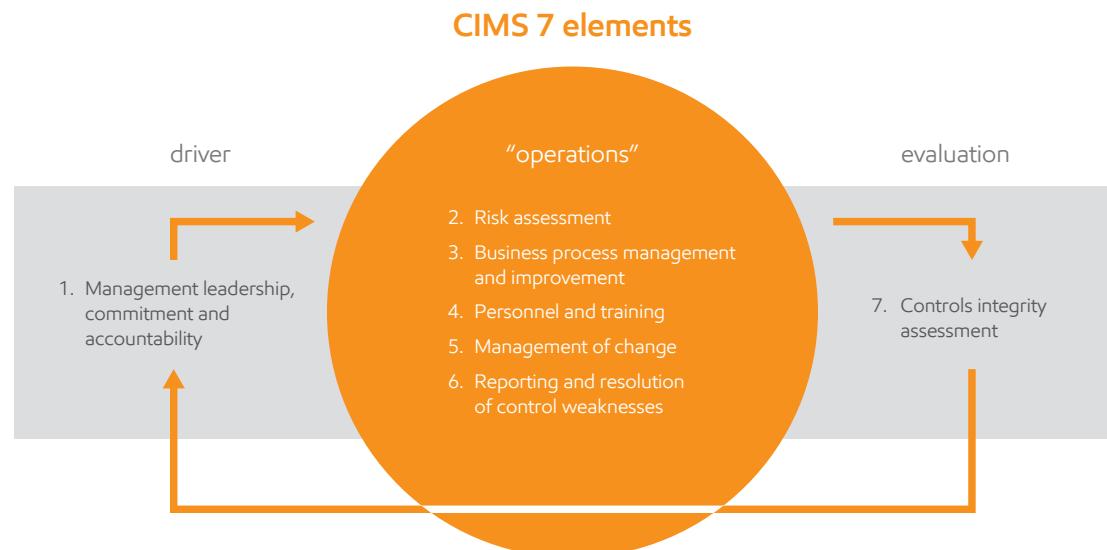
## The backbone of Imperial's operational excellence

Imperial's comprehensive management systems are used to identify and manage both risks and opportunities across the company. This systemic approach is fundamental and is embedded in all aspects of our operations from facility design to daily work processes, plus project management for all types of business functions and services. The company's systems and processes ensure a fact-based, consistent, disciplined approach is taken to risk management.

### All about CIMS

Strong business controls are foundational to Imperial's business conduct as is our focus on continuously monitoring and enforcing compliance and resolving control weaknesses quickly. Imperial's Controls Integrity Management System (CIMS) is a formal system of internal methods and analytical

tools designed to: provide a consistent approach for assessing and cost-effectively mitigating operating, financial and administrative control risks; help implement uniform controls across the organization; and provide a framework for ongoing controls integrity in the day-to-day running of our business.



### Management system approach

- |    |   |
|----|---|
| 01 | Establish underlying principles                               |
| 02 | Define expectations in elements                               |
| 03 | Assess risk and opportunities by structured approach          |
| 04 | Establish practices to mitigate risk or capture opportunities |
| 05 | Monitor compliance (self-check and formal assessment)         |
| 06 | Report results  |
| 07 | Seek input, feedback  |
| 08 | Improve (systems, processes, capability)                      |

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**Protect Tomorrow.  
Today.**

Imperial's Operations Integrity Management System (OIMS) includes 11 elements, each with an underlying principle and set of expectations. OIMS establishes common expectations for addressing

risks inherent in our business and is used to address all aspects of the business that can impact personnel and process safety, security, health and environmental performance. To drive continuous improvement, OIMS is updated periodically.

Risks include, but are not limited to: supply and demand interruptions, extreme weather, government and political factors, and risks associated with exploration and development, operations, and cybersecurity. Imperial conducts risk assessments to identify and address potential hazards using accurate information on processes, facilities, products and regulatory requirements. Assessed risks are prioritized and managed as

appropriate for the nature and magnitude of the risk. Decisions are clearly documented and followed up.

Managers and supervisors are expected to credibly demonstrate leadership and commitment for operations integrity. Imperial also uses sound standards, procedures and management systems

for facility design, construction, startup, operation and other activities. Facilities meet or exceed applicable regulatory requirements. Quality assurance processes are in place and verifications confirm that risk management recommendations have been addressed.

Facilities are operated within established parameters and according to regulations. Unplanned events are promptly investigated and learnings shared to prevent re-occurrence. Environmental performance, including emissions, discharges and wastes are tracked and stewarded to meet performance goals, and the company carefully selects, trains and monitors personnel. Ongoing evaluations are performed to ensure framework expectations are met.

## OIMS 11 elements



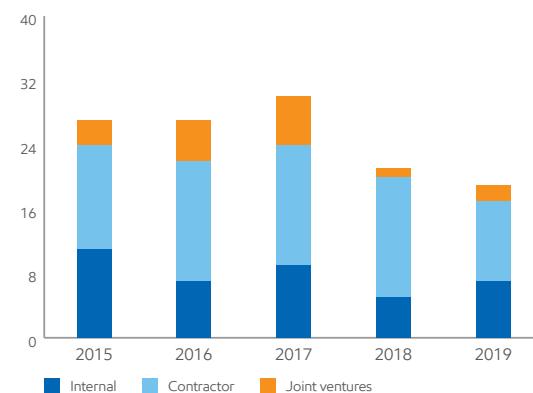
# Audits

The Board Audit Committee, made up of independent directors, oversees the company's system of internal accounting and financial controls. The committee is responsible for:

- Overseeing internal and external auditors;
- Assessing the integrity of the company's financial statements, compliance with legal and regulatory requirements, and the quality and effectiveness of internal controls; and
- Reviewing results of monitoring activities under the company's business ethics compliance program.

The corporation's management is responsible for preparing the corporation's financial statements. To ensure the integrity of our accounting and financial controls, the committee recommends appointment

## Audits conducted on or by Imperial



of and oversees external auditors, independent of the company, to conduct annual audit programs, approves the scope of the audit program and assesses the results. Responsibilities include but are not limited to: audit of the company's annual financial statements, internal control over financial reporting, and a review of the quarterly financial statements. The auditor's report is available on Imperial's [website](#).

Audits are also performed on:

- Internal company departments, to assess the adequacy and effectiveness of controls and to evaluate compliance with company policies, standards and procedures;
- External contractors, to assess their compliance with contract terms and conditions, and the adequacy of the responsible internal department's contract administration and oversight; and
- Joint ventures to assess compliance with applicable agreements.

Audits are typically completed in each business unit every three years. In 2019, Imperial completed seven internal audits, ten contractor audits and two joint interest audits. Internal audits were performed on the upstream and downstream, while contractor audits focused on Kearl, Cold Lake and refinery operations.

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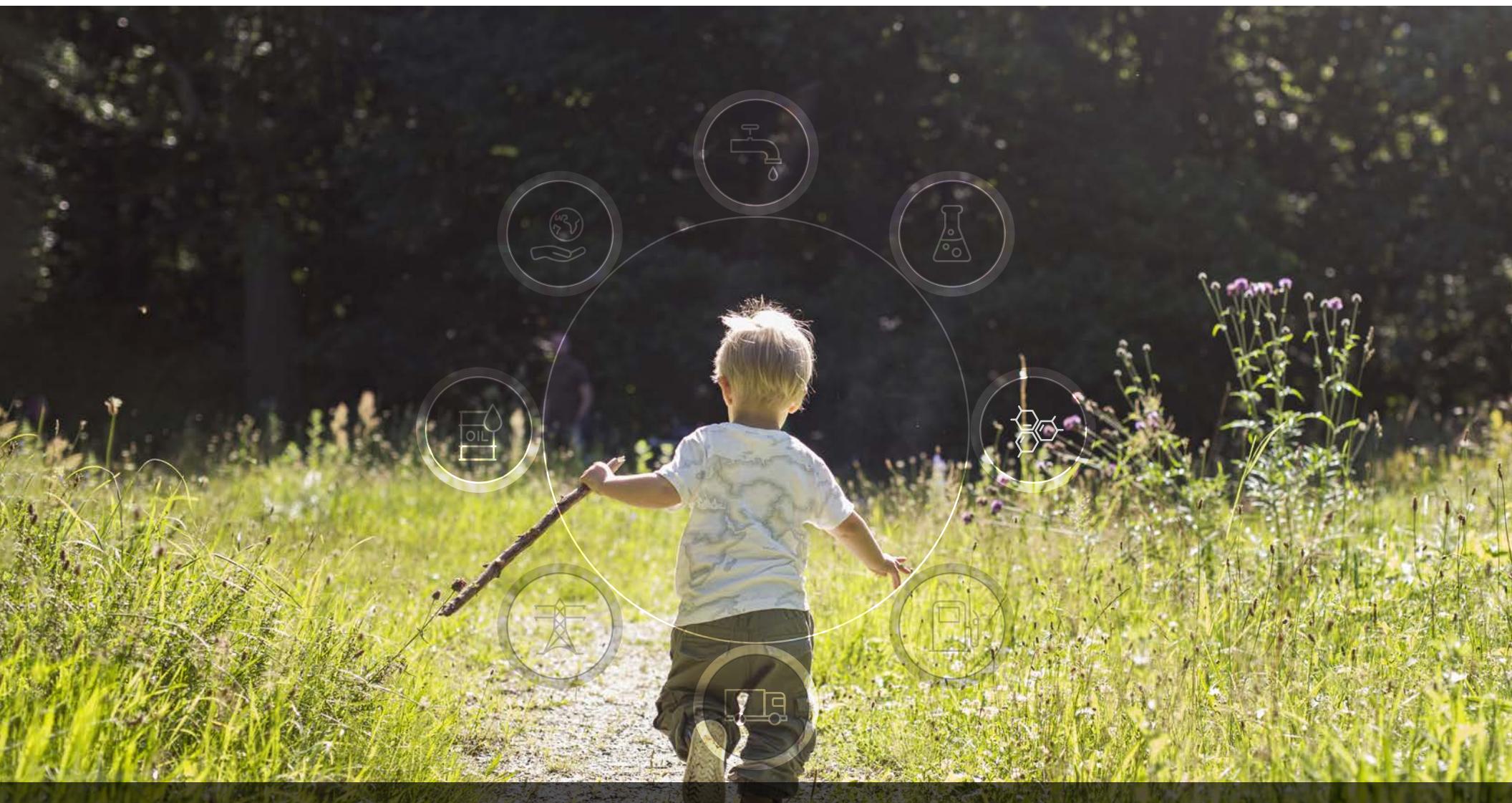
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*Imperial is committed to financial statement integrity and strong internal controls. These commitments are supported by robust processes and a culture of high ethical standards and transparency.*

**Dan Lyons** – Senior Vice President,  
Finance and Administration



## Managing the risks of climate change

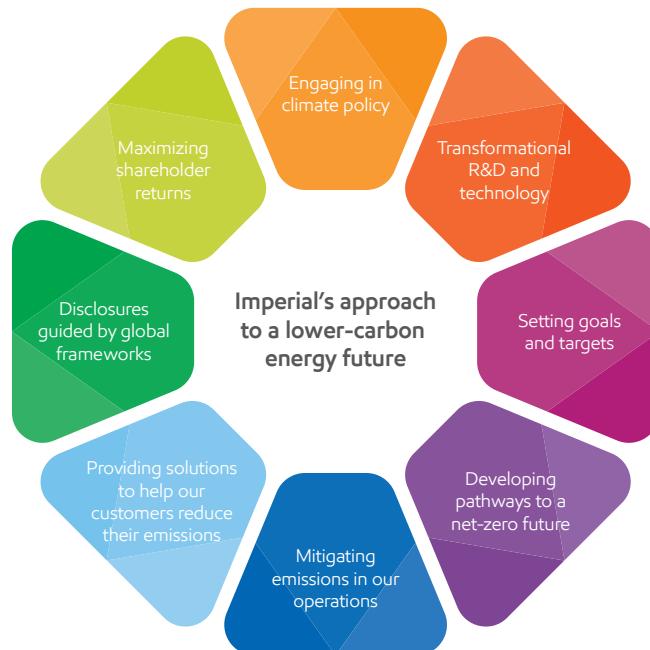
Developing pathways in support of a net-zero future

# Imperial's climate strategy

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## Economic, lower-emissions solutions can deliver real value to shareholders

Imperial is taking action toward addressing the risks of climate change by reducing our greenhouse gas emissions intensity, supporting research that leads to technology breakthroughs, providing solutions for our customers to reduce their emissions, collaborating in research through our relationship with ExxonMobil and other third parties and participating in constructive dialogue on policy options to support the transition that is needed for a net-zero future.



50 years of Canadian oil sands innovation



'Bending the curve' on emissions with next generation oil sands technologies



Cogeneration units



Renewable fuels



TCFD guided disclosure with third-party verified GHGs

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# Unlocking our potential

## Returns-focused ESG for a lower-carbon energy future

Imperial's business strategy is underpinned with a deep understanding of energy fundamentals, top environmental, social and governance performance, 140 years of technology innovation, a fully integrated business model, comprehensive management systems, and an unwavering commitment to delivering superior shareholder return and sustainable prosperity for Indigenous and community neighbours.

Imperial is applying these strengths to responsibly develop our flagship oil sands assets at Cold Lake and Kearl. Today, Kearl's mining operations are better than the global upstream crude average of GHG emissions intensity (GHGi) per barrel and getting better.<sup>(1)</sup> The mine returns the carbon intensive portion of the barrel back to the ground, which allows the crude to be transported to refineries across North America without the need for upgrading. Next-generation in situ oil sands technologies, using light hydrocarbons instead of steam to recover bitumen, offer promise to result in intensities below the North American average where applied. These technologies will have a smaller footprint, use less water and could lower GHGi (up to 25 to 90 per cent improvement).

The global pandemic shocked the energy system in 2020 with oil demand falling by eight per cent, natural gas by three per cent and investment down by one third.<sup>(6)</sup> Although the timeline for a full recovery remains uncertain, Imperial considers a range of scenarios to inform our business strategies. As society recovers and long-term fundamentals drive energy demand again, oil and natural gas will continue to play an important role in the world's energy mix as projected in both the International Energy Agency's (IEA) stated policies (STEPS) as well as in its sustainable development scenarios (SDS) in 2040. Between \$12 trillion and \$17 trillion of additional oil and natural gas investment will be needed by 2040<sup>(6)</sup> to support rising global prosperity.

There is a choice of where oil and gas will be produced for decades to come. Canada has what it takes to meet these energy needs as one of the most responsible oil producing nations in the world.<sup>(7)</sup> Our near-term outlook indicates a shortfall in oil production is anticipated in the coming years as a result of under-investment to replenish natural field decline. Longer-term, rising oil demand will be driven by commercial transportation and the chemical industry, while fuel demand for cars and heavy-duty vehicles will reflect efficiency improvements and growth in alternative fuels.

### Formula for collective success and delivering real value



# Technology is key to the future

## Imperial respects and supports Canada's ambition to achieve net-zero emissions by 2050

Imperial supports the goals of the Paris Agreement<sup>(8)</sup> as an important framework for addressing the risks of climate change. The *Energy Outlook*<sup>(9)</sup> forecasts the world to meet, in aggregate, the Nationally Determined Contributions (NDCs)<sup>(10)</sup> of the 2030 Paris Agreement Pledges. Further technology breakthroughs and advances are required across all sectors to achieve the goals of the Paris Agreement. The Government of Canada has proposed the *Canadian Net-Zero Emissions Accountability Act* to formalize Canada's target to achieve net-zero emissions by 2050. Shifts to the energy landscape will require even greater acceleration of technology development and deployment and changes in relative cost of new technology when compared against existing or alternative energy sources to ensure Canadians continue to have access to reliable, affordable energy.

Since 2013, Imperial has reduced the GHG emissions in our operated oil sands by greater than 20 per cent. Building on this performance, we are taking the following actions:

### Near term

#### Ongoing

- Cogeneration
- Renewable fuels
- Advanced fuels and lubricants
- LASER<sup>(11)</sup>

#### Underway

- SA-SAGD
- Boiler flue gas heat and water recovery

### Medium term (developing)

- Next-generation in situ technologies
- New production – CSP,<sup>(12)</sup> EBRT<sup>(13)</sup>
  - Existing production – ELP,<sup>(14)</sup> NCG<sup>(15)</sup>

#### Carbon capture and storage

#### Expanded renewable fuels and new product offerings

### Long term (evaluating)

- Product diversification
- Blue hydrogen
  - Carbon fibre from bitumen
  - Advanced biofuels
  - Carbonate fuel cell technology
  - Small modular (nuclear) reactors
  - Direct air capture

#### Energy efficiency



#### Next-generation upstream technology



#### Renewable fuels



#### Carbon capture and storage



#### Emissions offsets



### Solutions in support of a net-zero future

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# Global oil and natural gas demand fundamentals

## From COVID-19 recovery to 2040

### 2040 global energy needs driven by growing middle class

Reliable and affordable energy is a critical enabler to higher living standards, including a longer and healthier life. For developing (non-OECD)<sup>(16)</sup> nations, serious challenges accessing energy negatively impact health and prevent many from reaching their full potential. Between now and 2040, the world's population is expected to grow from 7.5 billion to more than 9 billion people with global GDP increasing about 75 per cent. Billions of people in developing economies are expected to see their incomes grow to levels considered middle class.<sup>(17)</sup>

A transition to lower-carbon energy is underway, and many factors will shape the world's energy future. Efficiency gains and a shift in the energy mix – including rising penetration of less carbon-intensive energy sources – are likely to enable a 45 per cent improvement in the carbon intensity of global GDP.<sup>(9)</sup> What will not change, however, is how essential energy will continue to be to society's progress.

### Oil demand recovery from COVID-19 underway

The crisis unleashed by COVID-19 resulted in shocks to global economies and energy systems. Access to energy for the world's most vulnerable was set back. Countries under lockdown experienced energy demand reductions between 18 and 25 per cent and 2020 oil and natural gas investment was down one third from 2019 levels.<sup>(6)</sup> Oil markets have gradually stabilized from the historic lows of April 2020. Although future uncertainties remain, Imperial's strategies and plans are informed by a range of near and long-term scenarios.

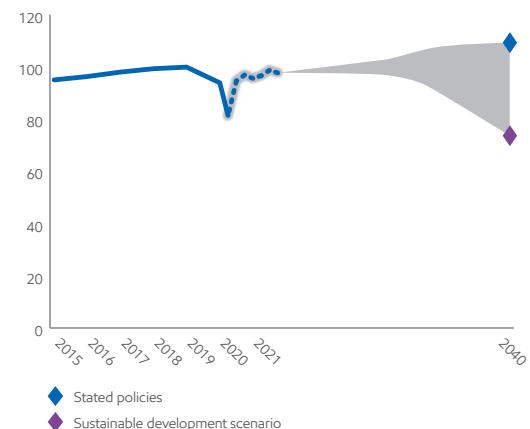
The line on the figure to the right, shows the IEA's<sup>(6)</sup> near-term forecast for oil demand recovery based on the assumption that COVID-19 is brought under control in 2021. The IEA's stated policies scenario (STEPS) sees oil demand recovering to levels similar to pre-pandemic levels by 2023. In addition, the IEA's delayed recovery scenario (DRS) estimates recovery could take until 2025 if the pandemic is more difficult to get under control than anticipated.

The diamonds represent future IEA 2040 demand scenario outlooks (including biofuels):

- **Stated policies scenario (STEPS)** Reflects today's stated NDCs, policies and targets.
- **Sustainable development scenario (SDS)** Assumes the energy system is on track to meet the Paris Agreement, energy access and air quality goals. Assumes a surge in clean energy investment over the next ten years.<sup>(6)</sup>

### IEA 2020 liquids demand outlook

(mb/d)



# Oil and natural gas continues to supply energy needs

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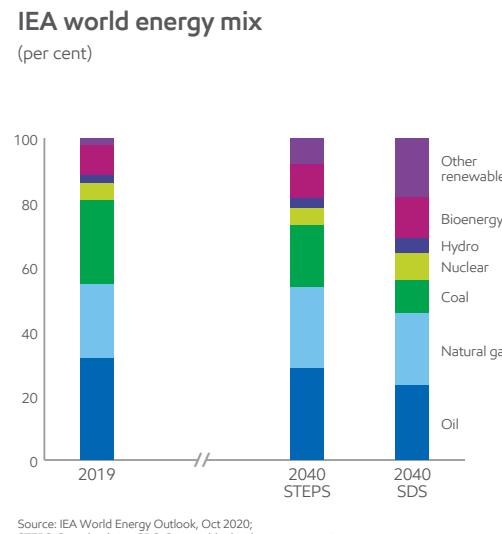
## Global investment needed to meet future demand

The IEA scenarios to 2040 consider the future energy mix and the following can be derived from both the STEPS and SDS scenarios:

- Renewables and nuclear energy see strong growth;
- Coal's share will likely decrease as the world shifts to lower-emission energy sources;
- Oil and natural gas will continue to play an important role in the world's energy mix as commercial transportation (e.g. trucking, marine) and chemicals sectors support demand growth.

As the chart to the right demonstrates, oil and natural gas are about 55 per cent of the energy mix today. The STEPS and SDS scenarios forecast oil and gas will be a key part of the energy mix in 2040 at approximately 54 and 46 per cent respectively.

In 2020, dramatic drops in energy demand created ample oil and natural gas supply. Data suggests oil and gas investment over the past few years has been inadequate to replenish natural field decline. As demand recovers, it is anticipated a potential oil and natural gas supply shortfall could occur in the coming years. The IEA estimates between \$12 and \$17 trillion of additional oil and natural gas investment is needed by 2040 to meet the SDS and STEPS supply scenarios respectively.



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# Considering 2°C scenarios

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## Many pathways enabled by technology

ExxonMobil's *Outlook for Energy (Outlook)*<sup>(9)</sup> provides a global view of energy demand and supply through 2040. Importantly, it provides an update to reflect recent energy trends and developments, notably technology and policy. Imperial uses the *Outlook* along with other third-party sources to help inform its long-term business strategies and investment plans.

According to the IEA, a "well below" 2°C pathway implies "comprehensive, systematic, immediate and ubiquitous implementation of strict energy and material efficiency measures."<sup>(18)</sup> Given a wide range of uncertainties, no single pathway can be reasonably predicted. A key unknown relates to yet-to-be-developed advances in technology and breakthroughs that may influence the cost and potential availability of certain pathways toward a 2°C scenario. Scenarios that employ a full complement of technology options are likely to provide the most economically efficient pathways.

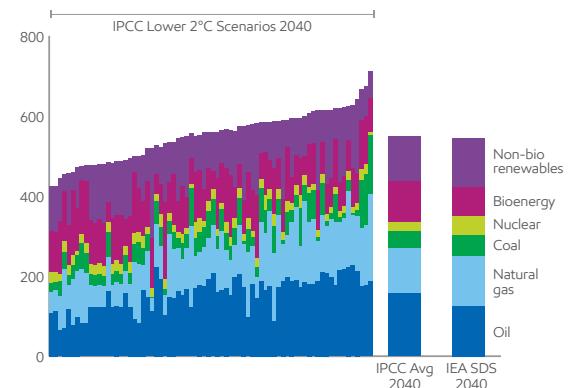
Considerable work has been done in scientific and economic communities to explore potential energy pathways to meet a 2°C target. For example, the Stanford University Energy Modeling Forum 27 (EMF27)<sup>(19)</sup> provided a range of full technology scenarios to meet a 2°C target. In previous

publications, ExxonMobil has tested the expected energy mix that could exist under these scenarios. In October 2018, the Intergovernmental Panel on Climate Change (IPCC) published a Special Report on "Global warming of 1.5°C" (IPCC SR1.5)<sup>(20)</sup> and utilized more than 400 emissions pathways with underlying socioeconomic development, energy system transformations and land use change until the end of the century. The IPCC report identified 74 scenarios as "Lower 2°C," which are pathways limiting peak warming to below 2°C during the entire 21st century with greater than 66 per cent likelihood. The chart depicts the range of global energy demand in 2040 across these IPCC Lower 2°C scenarios. As the chart illustrates, predicting absolute 2040 energy demand levels in total and by energy type carries a wide range of uncertainty, and particular scenarios are heavily influenced by technology and policy assumptions.

For comparison purposes, the chart also includes energy demand projections in 2040 based on the IEA's SDS. The IEA specifically notes that its SDS works backward to examine actions needed to achieve the United Nations' energy-related Sustainable Development Goals, including the objectives of the Paris Agreement.<sup>(21)</sup>

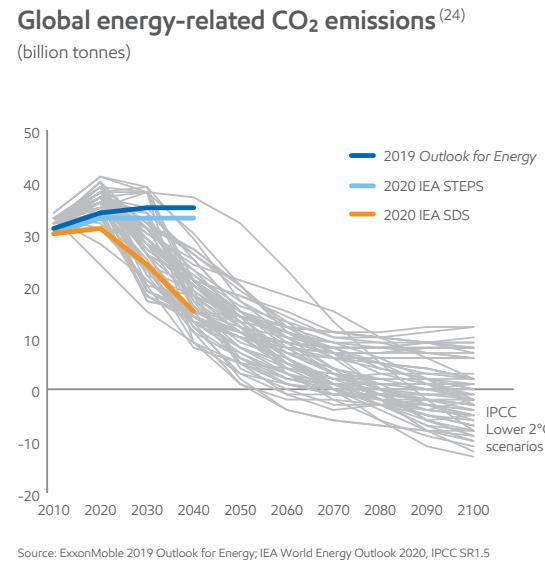
### 2040 global energy demand mix across IPCC Lower 2°C scenarios

(Exajoules)



Source: IEA World Energy Outlook 2020, IPCC SR1.5

The chart on the right illustrates potential global CO<sub>2</sub> emissions trajectories of the IPCC Lower 2°C scenarios and the IEA's SDS and STEPS, relative to ExxonMobil's *Outlook for Energy*. In aggregate, the *Outlook for Energy* projections align with the Nationally Determined Contributions (NDCs)<sup>(22)</sup> submitted by Paris Agreement signatories, which represent each country's plan to reduce its emissions. The IEA STEPS projects emissions at a comparable level generally in line with the 2030 NDC submissions. The 2020 United Nations Emissions Gap report concluded that the NDCs remain inadequate to meet the Paris Agreement.<sup>(23)</sup> New NDCs have been submitted recently and more are expected in 2021.



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The IPCC Lower 2°C scenarios produce a variety of views on projected global energy demand in total and by specific types of energy. The average of the scenarios' growth rates per energy source has been used to consider potential impacts on energy demand for this report.<sup>(25)</sup>

Based on this analysis, primary energy demand on a worldwide basis is projected to increase about 0.3 per cent per year on average from 2010 to 2040. Expected demand and technologies deployed in 2040 vary by model and energy type (see upper right chart):

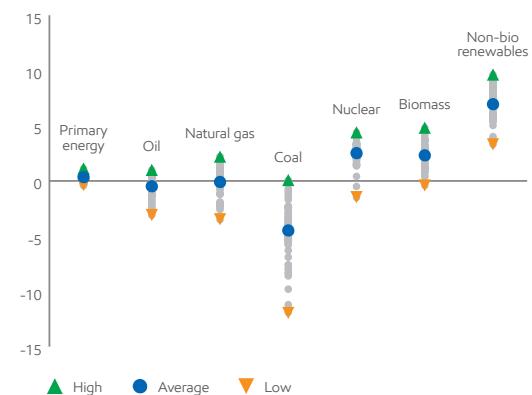
- Natural gas demand is expected on average to be similar to 2010, while oil demand is projected on average to decline by about 0.5 per cent per year. Together their share of energy demand is projected on average to still be almost 50 per cent by 2040.
- Non-bio renewables, such as wind, solar and hydro, are expected to increase on average by almost 7 per cent per year, while nuclear power should increase about 2.5 per cent per year.
- Coal demand is expected to decline by an average of 4.5 per cent per year, representing a roughly 75 per cent decrease from 2010 to 2040.
- Bioenergy demand is projected on average to grow at about 2.3 per cent per year.

- Carbon capture and storage (CCS) is a key technology to address CO<sub>2</sub> emissions, enabling lower emissions from industrial and power sectors. In the IPCC Lower 2°C scenarios, CCS would need to be deployed to a scale equivalent to about 10 per cent of the world's energy demand (table bottom right).

All energy sources remain important through 2040 across all the IPCC Lower 2°C scenarios, though the mix of energy and technology shifts over time. Across these scenarios, a wide range of outcomes can be observed for the various fuel sources (table bottom right). Nevertheless, oil and natural gas remain essential components of the energy mix, even in models with the lowest level of energy demand. Oil demand is projected to decline modestly on average, and much more slowly than its rate of natural decline from existing producing fields. Natural gas demand holds steady due to its many advantages, including lower greenhouse gas emissions. As a result of these growing energy demand trends coupled with natural field decline, substantial new investments are required in both oil and natural gas capacity, even under the IPCC Lower 2°C scenarios that contemplate substantial reductions in greenhouse gas emissions.

### Range of growth rates across IPCC Lower 2°C scenarios from 2010 to 2040 (CAGR)

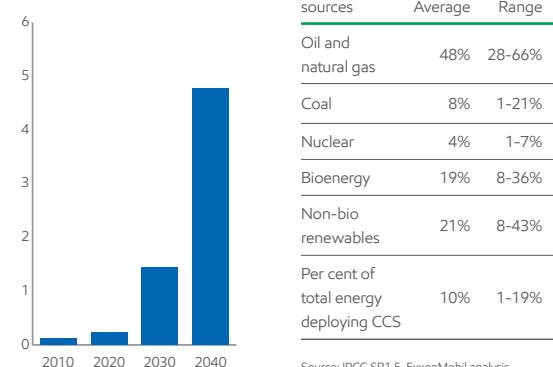
(per cent change per year)



Source: IPCC SR1.5, ExxonMobil analysis

### Average need for CCS in IPCC Lower 2°C scenarios

(billion tonnes CO<sub>2</sub>)



Source: IPCC SR1.5, ExxonMobil analysis

### Wide variety of 2040 energy mix in IPCC Lower 2°C scenarios

Share by sources	2040 Average	2040 Range
Oil and natural gas	48%	28-66%
Coal	8%	1-21%
Nuclear	4%	1-7%
Bioenergy	19%	8-36%
Non-bio renewables	21%	8-43%
Per cent of total energy deploying CCS	10%	1-19%

Source: IPCC SR1.5, ExxonMobil analysis

# Canada's role as a responsible citizen

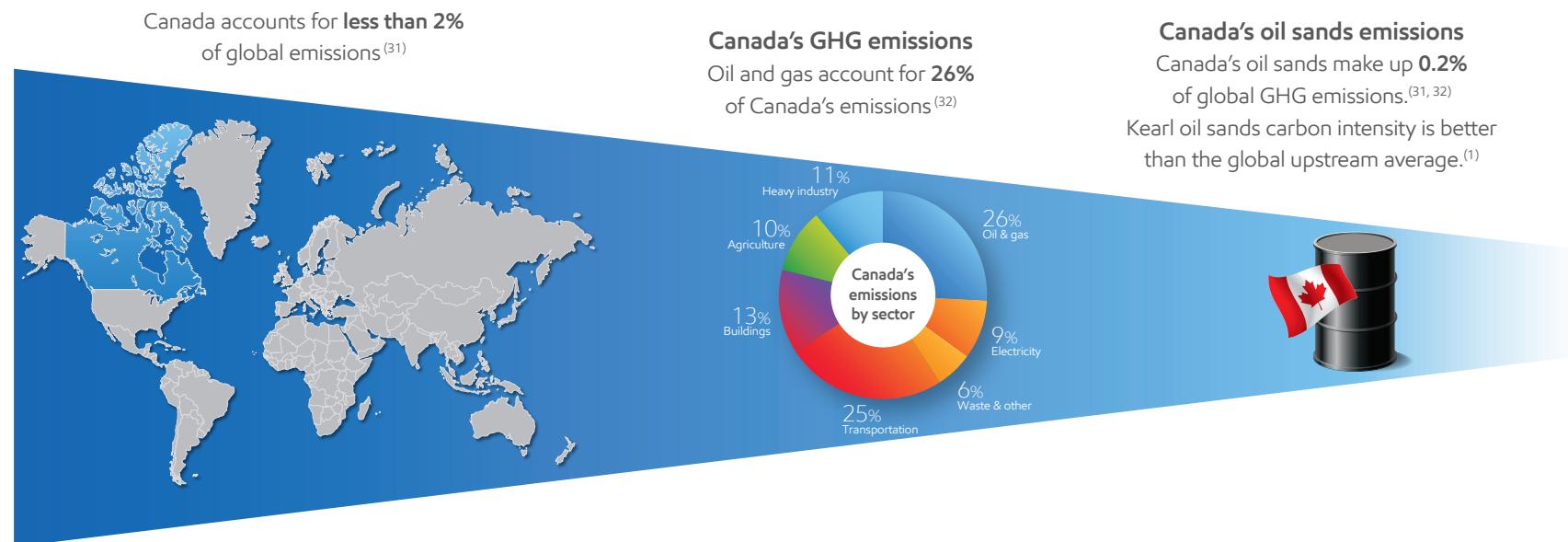
## A global ESG leader

Canada is a globally advanced jurisdiction that leads by example – exemplary human rights, robust regulatory systems, and global leadership in environmental, social and governance practices for the top 10 countries with the largest oil and natural gas reserves.<sup>(7)</sup> Canada is among the leaders with 82 per cent of Canada's electricity currently coming from non-GHG emitting sources<sup>(26)</sup> and an objective to increase to 90 per cent. In addition, 100 per cent of Canada's oil and gas sector is subject to carbon

pricing while only 10 per cent of oil and natural gas in the rest of the world has a price on carbon.<sup>(27)</sup> With world-class reserves (third largest) and a strong resource-based economy, Canada plays a significant role in providing energy security to others by exporting 65 per cent of its oil and natural gas production.<sup>(28)</sup> This efficiency is reflected in emissions per GDP better than the global average and oil sands GHG that have dropped 32 per cent per barrel since 1990.<sup>(29)</sup>

### The energy industry is the largest funder of clean tech in Canada<sup>(30)</sup>

Canada has what it takes to be the responsible energy provider to people world-wide – renewables, oil and natural gas. Our ability to ensure Canada's long-term success, however, lies in our collective commitment to innovation, global competitiveness, supportive public policy and open and ongoing dialogue on constructive solutions. And as the world recovers from the impacts of COVID-19, globally competitive oil sands can help support Canada's economic recovery.



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## STRATEGY

# Potential upstream impacts on proved reserves

## Testing the energy landscape

Sensitivity analysis, including deployment of new technology and its relative cost, is used to test how changes to our assumptions could impact the future. The projections in sensitivity analysis do not represent Imperial's viewpoint but can provide context to our analysis. Demand sensitivities can be found in our *Energy and Carbon Summary*.<sup>(33)</sup>

Monitoring technology advancements, market behaviour and evolving policy can identify signposts<sup>(34)</sup> related to cost reduction, technology deployment and policy targets indicating how a different outcome may materialize.

Considering the 2°C scenarios discussed, oil and natural gas will continue to play a key role in meeting the world's energy demand. The following is intended to address the potential impact to Imperial's upstream assets through 2040 and beyond, considering the average of the assessed 2°C scenarios' oil and natural gas growth rates.<sup>(35)</sup>

At the end of 2019, Imperial's proved reserves totaled about 3.6 billion oil equivalent barrels<sup>(36)</sup> predominantly consisting of oil sands resources. These proved reserves are assessed annually and reported on National Instrument 51-101. Based on currently anticipated production schedules, Imperial estimates that in 2040 more than two thirds of its year-end 2019 proved reserves will have been produced. As Imperial continues to develop projects over time, we expect that annual production estimates will change.

## Significant investment still needed in 2°C scenarios

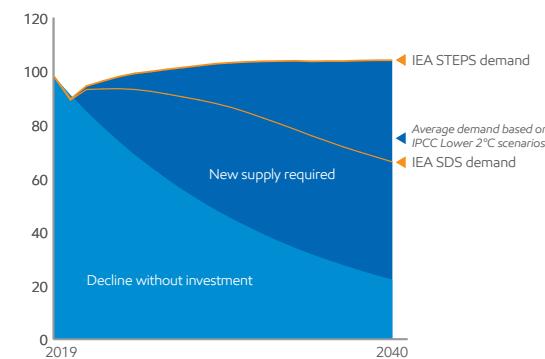
Considering the IPCC Lower 2°C scenarios average, global liquids demand is projected to decline from 98 million barrels per day in 2019 to about 75 million barrels per day in 2040. However, without future investment and due to natural field decline, world liquids production would be expected to drop to about 22 million barrels per day in 2040, greatly exceeding the potential demand reduction.

With this potential 2040 imbalance (absent future investment), the substantial portion of Imperial's proved reserves projected to be produced by 2040, are supported by ample demand and therefore face low risk related to the average of the IPCC Lower 2°C scenarios provided they remain globally competitive. Considering the IEA's SDS (a well below 2°C scenario), the IEA estimated that almost \$12 trillion of investment will be needed for oil and natural gas supply for 2020 – 2040.<sup>(37)</sup> Additionally, the IEA has reported that current industry levels are well below what is needed in these IEA scenarios, indicating a critical need for oil and natural gas investment versus 2020 levels.<sup>(38)</sup>

Although Imperial's upstream assets<sup>(36, 39)</sup> may be subject to more stringent climate policies in the future, it is the company's view that these assets will continue to improve in both financial and GHG competitiveness. Operational knowledge gained over time, and a relentless focus on efficiency, cost reductions and deployment of pace-setting technologies, matched to high quality resources will help sustain the company's strong competitive position.

## Global oil supply estimates

(million oil-equivalent barrels per day)

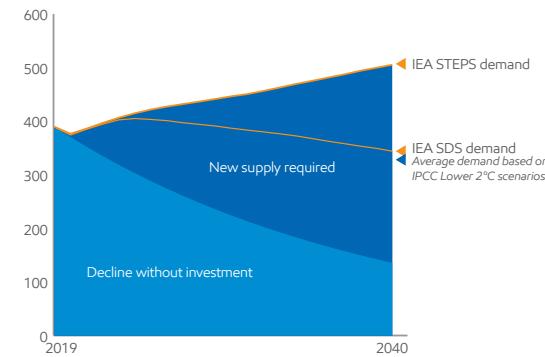


Excludes biofuels; Source: IHS, IEA, IPCC SR1.5, ExxonMobil analyses

2°C scenarios based on IPCC Lower 2°C scenarios

## Global natural gas supply estimates

(billion cubic feet per day)



Source: IHS, IEA, IPCC SR1.5, ExxonMobil analyses

2°C scenarios based on IPCC Lower 2°C scenarios



# Innovation

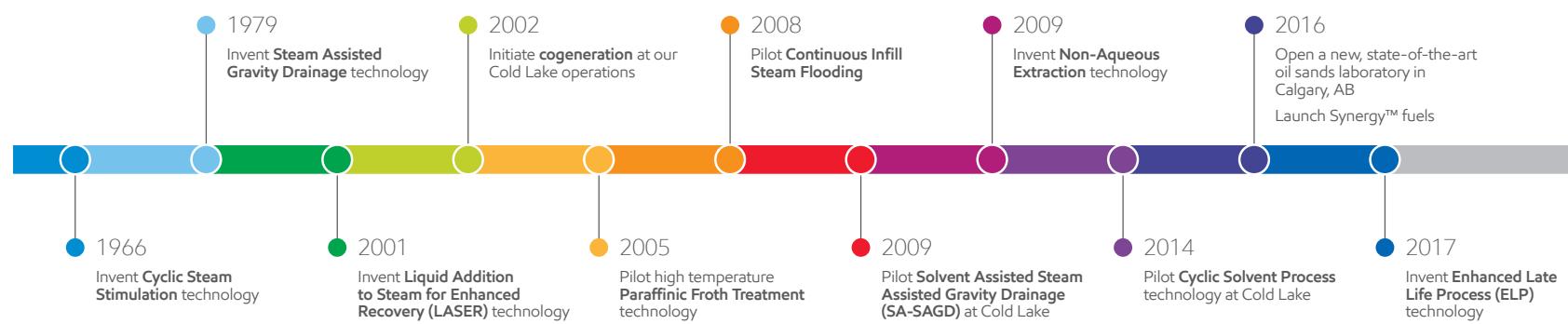
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## Imperial's inventions at work

Imperial's future technology plans are supported by nearly a century of commitment to research and technology development (R&D). We opened Canada's first petroleum research department in 1924 and continue to be among Canada's top R&D spenders – in any industry. Imperial is committed to in-house, next-generation technology development in Canada with research centres in Calgary, Alberta and Sarnia, Ontario. Over the past 20 years, we have invested more than \$2.2 billion in R&D. Imperial has developed technology breakthroughs that could lead to step-change performance in oil sands GHG emissions intensity.



### 50 years of oil sands innovation



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# Developing pathways to reduce GHGi

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## Imperial's sustained investment in research and development (R&D) plays an important role

Third-party outlooks for energy assume continued progress on policy and technology advancements. Imperial's strategy includes the development, scale-up and deployment of lower-emissions energy solutions at our operations. As great ideas come from many sources, we approach technology development with in-house R&D, by accessing industry-leading technologies through our

relationship with ExxonMobil<sup>(40)</sup> and by partnering with academic institutions, industry peers and other third parties to accelerate the pace of technology deployment for our company.

Imperial is developing pathways in support of a net-zero future. We believe technology is critical to enable production growth and emissions reduction.

Deploying next-generation in situ technologies, such as cyclic solvent process (CSP) to reduce emissions, coupled with carbon capture and storage could result in incremental barrels at net-zero emissions. There are multiple pathways to reduce emissions that could leverage the technologies below, that are in varying stages of R&D and commercial deployment.



short term

### Renewables and GHGi

#### Ongoing

- Cogeneration
- Renewable fuels
- Satellite methane emissions monitoring
- Advanced fuels and lubricants
- LASER

#### Underway

- Heat recovery from boiler flue gas
- SA-SAGD



medium term

### Next-generation upstream technologies

#### Developing

- Advanced in situ technologies
  - ELP
  - EBRT
  - NCG
  - CSP
- Carbon capture and storage
- Next-generation in situ technologies paired with CCS could result in incremental production at net-zero emissions
- Expanded use of renewable fuels and new product offerings



long term

### Energy diversification

#### Evaluating

- Blue hydrogen
- Advanced biofuels
- Carbon fibre from bitumen
- Carbonate fuel cell technology
- Small modular nuclear reactors (SMR)
- Direct air capture

Potential solutions in support of a net-zero future



# Imperial's in situ technology strategy

## Transition to lower GHGi bitumen production

Imperial is investing in our oil sands future by developing a suite of game-changing in situ technologies. By matching the right technology to the appropriate reservoir type and production phase, we are able to deliver economically efficient production with lower GHGi through the use of light hydrocarbons (solvents) instead of steam.

- Reservoirs operated at low pressure require **gravity drainage processes** that continuously inject steam/solvent through a horizontal well with oil recovered through a separate parallel well.
- Reservoirs operated at high pressure utilize **cyclic processes** that use a single well and cycle between steam/solvent injection and production.
- As a follow-up to cyclic processes, **late life processes** are used to enhance production; steam/solvent is injected in wells to flood the reservoir and recovered from other wells.

### Legend (11, 12, 13, 14, 15)

	Could be applied to existing production
	Could be applied to new production at existing/new fields
	Potential to unlock new resources or increase recovery at existing
	Anticipated reductions

Gravity drainage process	steam based		solvent based		MANAGING THE RISKS OF CLIMATE CHANGE
	SAGD	SA-SAGD	EBRT		
Applicability					ENVIRONMENTAL PERFORMANCE
Technology readiness	Commercial ready	Commercial ready	Pilot		SAFETY, HEALTH & THE WORKFORCE
Potential benefits	Base case	up to 25%	up to 60%		COMMUNITY & INDIGENOUS ENGAGEMENT
Cyclic process	CSS	LASER	CSP		ECONOMIC DEVELOPMENT
Applicability					PERFORMANCE DATA
Technology readiness	Deployed	Deployed	Commercial ready		
Potential benefits	Base case	up to 25%	up to 90%		
Late life process	Steamflood	NCG <sup>(41)</sup>	ELP		TCFD STRATEGY
Applicability					
Technology readiness	Deployed	Commercial ready	Pilot		
Potential benefits	Base case	10 to 20%	up to 70%		

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# From pilot to commercialization

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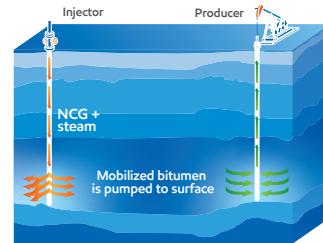
## STRATEGY

## CSP



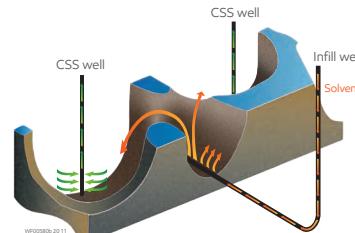
Pilot initiated for this non-thermal process in 2014, with ongoing optimization

## NCG

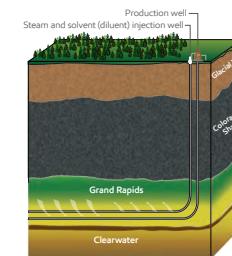
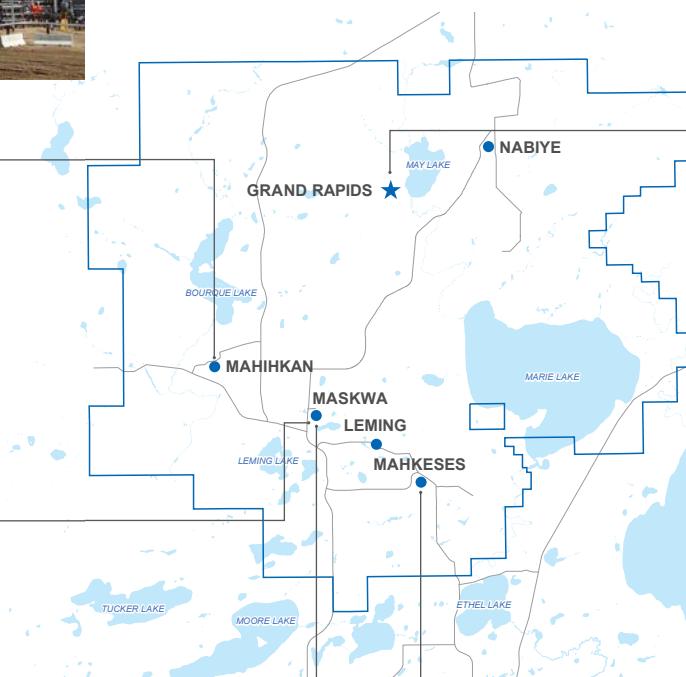


Two year field test planned to begin in 2022

## ELP



Pilot is under construction with anticipated startup in 2021



## SA-SAGD

Deployment at Grand Rapids anticipated ~2023

EBRT<sup>(42)</sup>

Evaluating potential pilot opportunities

## LASER



Expanding commercial application in 2021  
Cold Lake to the Mahkeses field

# Carbon capture and storage (CCS)

## Critical enabler in the transition to a lower-carbon future

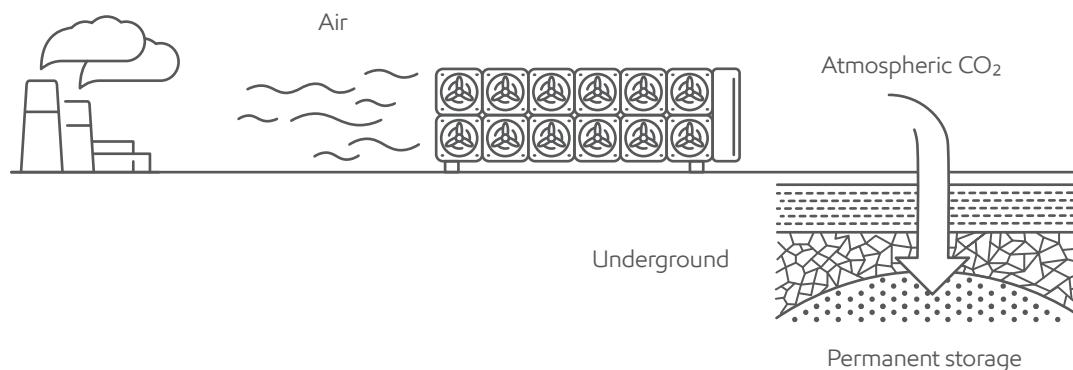
CCS is a technology that captures CO<sub>2</sub> emissions from industrial processes, and the production or use of fossil fuels or biomass, and stores them deep underground in dedicated geological storage, preventing CO<sub>2</sub> from entering the atmosphere. This technology has wide applicability to oil and natural gas production, power and industrial sectors. The 2020 IEA, Energy Technology Perspectives report, stated the importance of rapid deployment of carbon capture, from more than 25 million tonnes captured in 2019 to more than almost 10,000 million tonnes per year by 2070<sup>(43)</sup> emphasizing that carbon capture technologies are critical in the emerging areas of low-carbon hydrogen, bioenergy,

and synthetic fuels. Ongoing innovation and breakthroughs to commercialize carbon capture technologies are needed to achieve these targets at an acceptable cost to society.

### Leveraging global CCS research

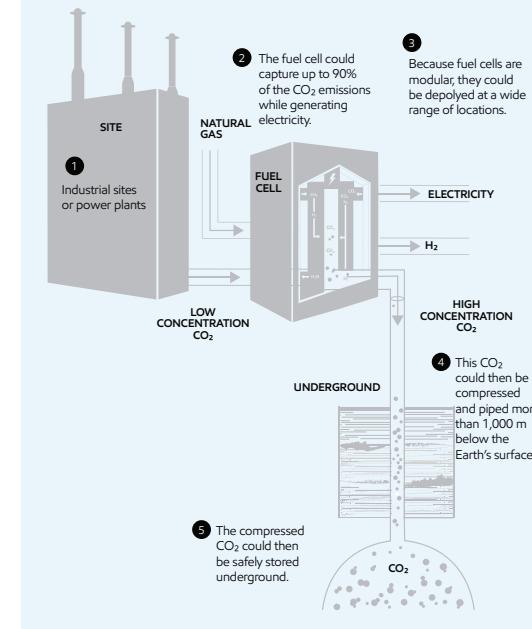
Through our relationship with ExxonMobil, Imperial has access to industry-leading technologies. ExxonMobil is a leader in CCS with more than 30 years of experience in developing and deploying CCS technologies. Featured are technologies in the ExxonMobil CCS R&D portfolio that are applicable to Imperial.

### Direct air capture



### Fuel cell technology

In 2019, ExxonMobil extended its five-year relationship with FuelCell Energy to further enhance carbonate fuel cell technology for the purpose of capturing CO<sub>2</sub> from power plants and industrial facilities.



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# CCS flexible for many applications

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## Potential to be commercially viable through technology and policy

Carbon capture technology is not “one size fits all” and as a result, the costs associated with this technology can vary considerably, based on the specifics of each stage of the carbon capture supply chain.

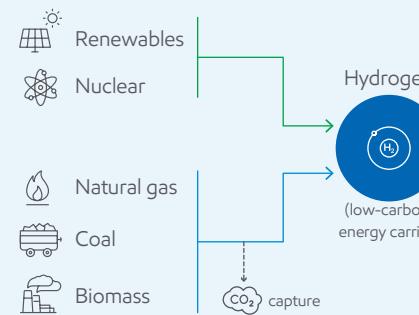
- **Capture technology readiness or commercialization** impacts both project risk and cost. First-generation technologies, such as amine absorption, are currently commercial. Next-generation technologies such as carbonate fuel cells, require advancements on scalability and applicability to certain sources. Capture technology can represent the majority of the capital costs of a project and therefore presents the greatest opportunity to reduce costs through innovation.
- **The CO<sub>2</sub> source stream** volume, concentration and impurities could influence the type of technology selected.
- **Transportation:** CO<sub>2</sub> is typically compressed into a dense liquid phase and transported in pipelines, but can also be transported by rail and trucks. The distance and terrain will impact project costs.
- **Storage costs and disposition** vary depending on the location, depth and properties of the storage formation. Alternative end uses incorporating CO<sub>2</sub> will also impact the technology required.

Although most developments face several challenges today, CCS has the potential to be commercially viable through the convergence of advantaged technologies with a supportive public policy environment.

Low-carbon hydrogen (H<sub>2</sub>) from natural gas has strong cost and scale advantages compared to H<sub>2</sub> from electrolysis in the near and medium term<sup>(44, 45)</sup>

Hydrogen, as a low-carbon energy carrier, has received a great deal of attention recently. We anticipate policies incentivizing low-carbon H<sub>2</sub> for a variety of clean energy applications. Low-carbon H<sub>2</sub> can be produced from low-carbon electricity via electrolysis of water or natural gas reforming coupled with CCS and can be used in hard-to-decarbonize sectors, such as heavy-duty truck fuel and high temperature industrial heat for steel, refining and chemical industries.<sup>(46)</sup>

## Primary energy



## Energy uses

- |           |   |
|-----------|---|
| Fuel      | <ul style="list-style-type: none"> <li>• Transportation</li> <li>• Industrial</li> <li>• Residential/commercial</li> <li>• Power</li> </ul> |
| Feedstock | <ul style="list-style-type: none"> <li>• Refining</li> <li>• Chemicals</li> <li>• Synthetic fuels</li> </ul>                                |

# Managing energy use and reducing emissions at Strathcona refinery

## Successful cogeneration unit start-up

Cogeneration technology is a critical part of our efforts to increase energy efficiency at our operations, reduce the need to purchase electricity and reduce greenhouse gas emissions. The technology is an energy efficient process that simultaneously generates electric power and steam, by recycling waste heat from gas turbine generators (these produce electricity).

A dedicated team of more than 300 worked tirelessly on the Strathcona cogeneration project for two years, and just as it was nearing its final stages — COVID-19 hit. The pandemic impacted day-to-day operations, forcing the local team to become more self-reliant as remote teammates were no longer able to travel to the site.



A look inside the gas turbine generator hall, part of the Strathcona cogeneration unit in Alberta, Canada

Nonetheless, in 2020, Imperial successfully started operation of the newly constructed cogeneration unit, which will supply up to 80 per cent of the refinery's electricity needs and reduce province-wide GHGs by approximately 112,000 tonnes per year.<sup>(47)</sup>

The Strathcona cogeneration unit is Imperial's third in Alberta, with cogeneration technology also used at the Kearl and Cold Lake oil sands operations. In 2019, Kearl and Cold Lake contributed to a reduction of approximately 660,000 tonnes in greenhouse gas emissions,<sup>(47)</sup> similar to having nearly 143,000 fewer vehicles on the road each year.<sup>(48)</sup>



Suresh Joshua and his team worked creatively to navigate challenges presented by COVID-19 to bring the Strathcona cogeneration unit online on time and on budget

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# Collaborating to reduce GHG emissions

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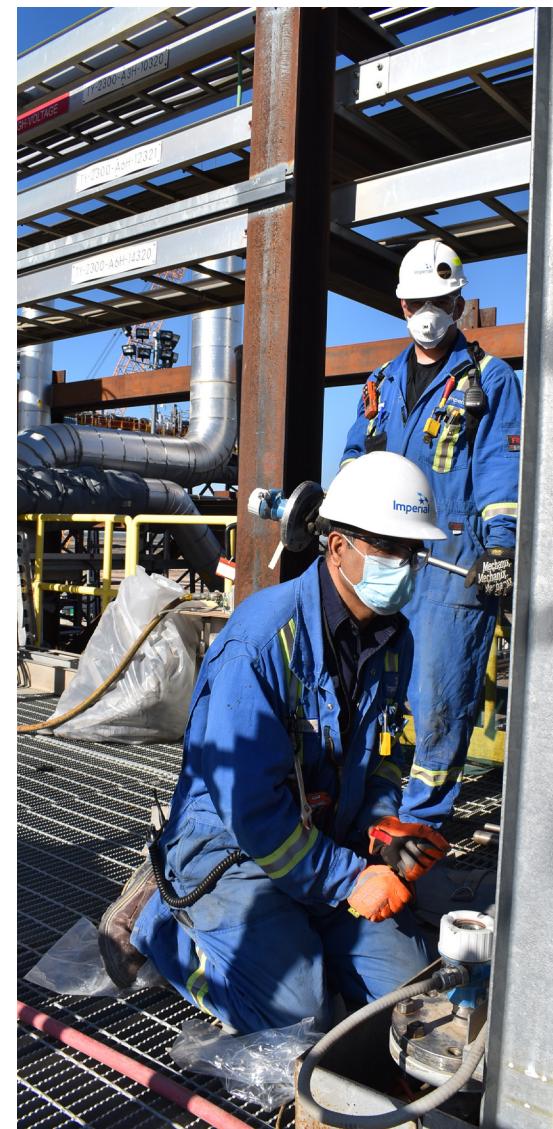
## Kearl boiler flue gas progress report

### Working through cold weather conditions

In 2018, we identified the Kearl boiler flue gas heat and water recovery project as an opportunity to reduce up to 30,000 tonnes/year of carbon dioxide equivalent (CO<sub>2</sub>e) and recover up to 150,000 m<sup>3</sup>/year of water for each boiler unit installed using this Canadian ConDex technology. Typically, oil sands mining operations use natural gas to create steam to heat process water. This new technology recovers waste heat from a boiler's combustion exhaust to preheat process water, resulting in less steam usage and lower GHG emissions.

Through collaboration between Foresight Cleantech Accelerator Centre, Canada's Oil Sands Innovation Alliance (COSIA) and Alberta Innovates, Kearl remains the first in Alberta's oil sands to attempt full-scale field demonstration of this boiler flue gas technology.

In order to validate operating capability, the first boiler flue gas unit was commissioned at Kearl in early 2020. Pending successful demonstration of this technology in tough northern Alberta conditions, we have the potential to deploy the technology to another five boilers at Kearl with a potential prize of reducing 180,000 tonnes/year of GHG emissions, which equates to more than 38,000 cars off the road for a single year.<sup>(48)</sup> In addition to usage at Kearl, this collaboration offers the potential for broader industry to benefit in reducing fuel usage and GHG emissions.



# Digital technology

## Accelerating value capture for our businesses

Imperial is taking action to be a leader in advancing digital and artificial intelligence across the value chain, while supporting GHG reductions and emissions avoidance. 'Digital technology' includes all types of electronic equipment and applications that use information in the form of numeric code to promote innovation and creativity, easy access to information and improved communication. 'Artificial intelligence' makes it possible for machines to learn

from experience, adapt and perform human-like tasks. Our team of data science experts, IT and business professionals are working together to leverage digital technology and data-driven decision making for the purpose of maximizing resource recovery and production through capital-efficient opportunities and enhancing mitigations to keep our workforce safe.

### Digital at work



#### Drones and robotics

Drones are used for internal vessel inspections resulting in less scaffolding and simplified vessel preparation.

A digital twin of Kearl has been created using advanced laser scanning and drone imagery to enable remote maintenance planning, engineering design, and quality assurance checks.



#### Steamflood optimization

Machine learning algorithms and advanced analytics have enabled optimization of steam with potential GHG reductions up to 0.5 per cent at Cold Lake.



#### Autonomous haul system (AHS)

Accelerated implementation of autonomous hauling from waste to ore has resulted in both safety and productivity gains at Kearl. Imperial's autonomous haul fleet currently stands at 25 trucks. Anticipated full automation in 2023 could result in approximately 20,000 tonnes of emissions avoidance per year.

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# Helping our customers reduce their emissions

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## Advanced fuels help customers improve their fuel efficiency for passenger vehicles and trucking applications

For passenger vehicles, Imperial's Synergy™ gasoline is designed to help provide better fuel economy, lower emissions and improve engine responsiveness.<sup>(49)</sup> For trucking applications, Synergy Diesel Efficient™ improves fuel consumption (two per cent on average) and lowers emissions (11 per cent NOx and two per cent CO<sub>2</sub>).<sup>(50)</sup> Claims are also applicable for light-duty vehicles on average.<sup>(50)</sup> Our lubricants help minimize operational costs through energy efficiency and extended equipment life.

## Renewable fuels

Fuels for heavy-duty transportation (trucking, aviation and marine) require an energy density that liquid hydrocarbons provide. Biofuels and renewable fuels are petroleum alternatives made from renewable materials including natural plant oils and fats. These fuels have the potential to significantly reduce GHG emissions for our customers and meet this energy need. We currently blend renewable fuel content into our gasoline and diesel and anticipate expanded renewable fuel content in our product offerings. In addition, we are working to develop products with higher biodiesel content with special additives to improve the fuel efficiency of traditionally high content biodiesel fuels.

Imperial's Sarnia research centre primarily supports our downstream operations including Imperial's evolving fuel offering.



Canada's climate presents some distinct challenges for biofuels as current renewable fuel options have temperature limitations in cold weather. Our team is pushing past barriers and investigating new ways to produce fuels that not only reduce carbon intensity but improve fuel quality for our customers, even during Canada's harsh winters.

**Greg Rockwell – PhD Sarnia Research**

# Collaboration in renewable fuels

## Advanced biofuel research and development

Imperial is a member of the Canadian General Standards Board and contributes to a number of technical committees focused on ensuring product quality. Our team of scientists created a biodiesel quality testing methodology currently used by producers across Canada.

Through our relationship with ExxonMobil, Imperial has access to industry-leading advanced biofuel technologies. ExxonMobil continues to progress research to transform algae and cellulosic biomass into liquid fuels (biofuels) for the transportation sector. These advanced biofuels have the potential to reduce GHG emissions by more than 50 per cent compared to today's heavy-duty transportation

fuels.<sup>(51)</sup> ExxonMobil is making progress towards first demonstrations of advanced biofuels production with the following programs:

- **Cellulosic biodiesel:** Through key collaborators, ExxonMobil has made significant progress that has more than doubled the yield of biodiesel from a variety of cellulosic sugars.
- **Algae:** ExxonMobil has been working with Synthetic Genomics Inc. (SGI) for a decade to develop strains of algae that will convert CO<sub>2</sub> and sunlight into energy-rich bio-oil, which can then be processed at existing refineries (similar to crude oil) into renewable fuels.

### Research with University of Toronto: from CO<sub>2</sub> to solar fuels

Imperial has partnered with U of T to support research to convert CO<sub>2</sub> from manufacturing processes to chemical feedstocks or fuel. The U of T team of material chemists and engineers has developed nanomaterials that use solar light to convert CO<sub>2</sub> to methanol. This technology, if scalable, has the potential to reduce GHGs by 23 megatonnes per year in Ontario.<sup>(52)</sup>

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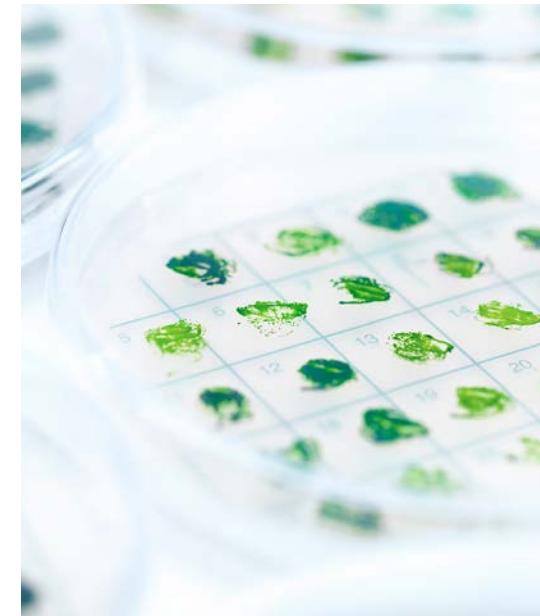
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# Engaging on climate-related policy

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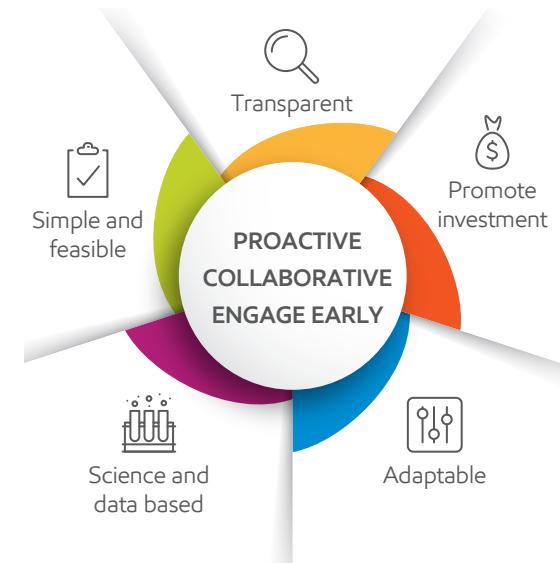


Climate change is a global issue that requires collaboration among governments, companies, consumers and other stakeholders to create meaningful solutions. Effective climate policy should promote global participation, allow market prices to drive the selection of solutions, ensure uniform and predictable costs of GHG emissions across the economy, minimize complexity and cost, maximize transparency and provide flexibility for future adjustments to react to developments in technology, climate science and policy. Imperial engages with governments, industry associations and other third parties to contribute to the development of effective laws and regulations for desired outcomes.



Imperial is committed to taking action on climate change and encourages policymakers to focus on reducing the greatest amount of emissions at the lowest cost to society, recognizing the importance of safe, reliable, affordable and abundant energy for global economic development. We actively monitor policy to inform our business planning and to assist policymakers seeking expertise about energy markets, technology and market competitiveness including policy options to support the transition that is needed for a net-zero future.

## Imperial's approach to engagement

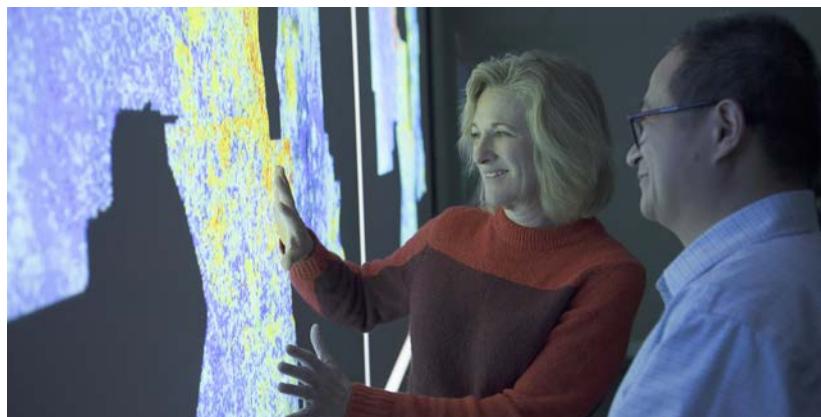


## Public policy is a key enabler to technology development and deployment

Effective public policy should minimize overall societal costs and allow markets to determine the technologies that will be most successful, while aligning with differing national priorities as well as adapting to new global realities. Sound policy could accelerate the deployment of technologies in support of Canada's NDC at the lowest cost to society if it:

- Is sufficiently broad to capture a wide range of technologies;
- Is technology-neutral;
- Uses a common approach to assess and quantify benefits;
- Supports a level playing field for quantification of emissions reductions and associated credit generation; and
- Facilitates efficient review and approval of projects.

Imperial supports an economy-wide price on carbon dioxide emissions as an efficient policy mechanism to address GHG emissions.

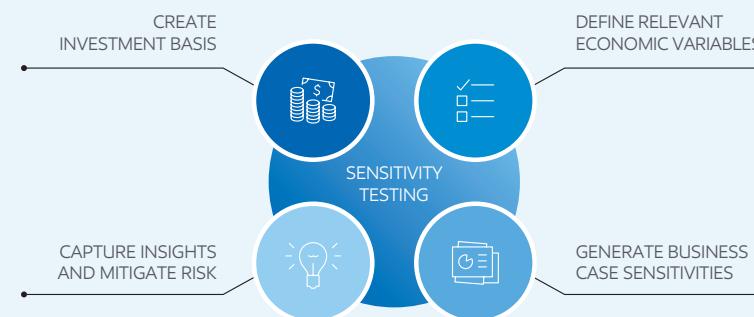


### Investment sensitivity testing considering climate public policy

Imperial has an objective of strengthening its competitive position and focusing on increasing cash flow while delivering industry-leading environmental performance enhancements and economic returns over the business cycle.

We test our capital investments against many uncertainties, which may include but are not limited to: technology, cost, geopolitics, material services, labour availability, infrastructure and logistics, regulatory, and environment including carbon pricing.

As part of Canada's NDC, Canadian federal and provincial governments will define the price on carbon into future years. Imperial's significant investments include and consider these inputs.



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# Life cycle assessment (LCA)

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## Helping customers better understand their choices

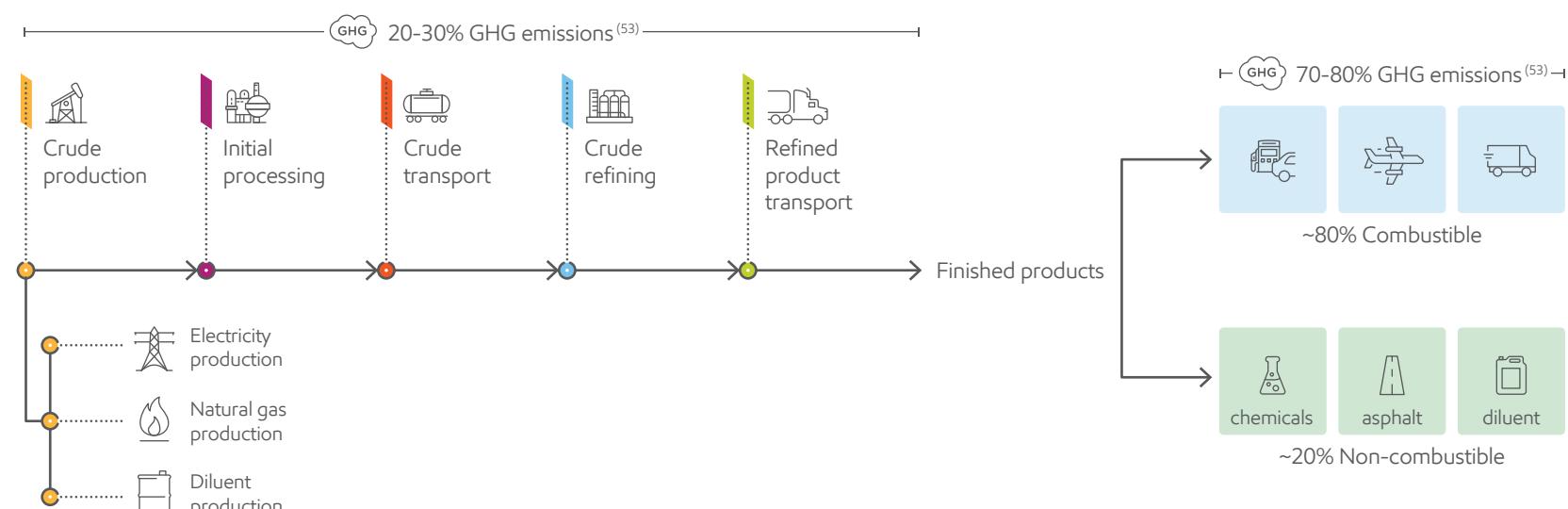
LCA is the preferred methodology to estimate the environmental impact of energy processes and products. If looking at the full life cycle, it is important to include all emissions across the life cycle of each option when comparing different energy technologies. Every step that emits any type of GHG emission would therefore be included to properly estimate the GHG emissions impact. This may help consumers better understand the choices they are making based on the full impact of a good or service.

For the full life cycle of petroleum products, LCA includes GHG emissions associated with production of the resource, refining and transportation steps and lastly consumption of the product by the end user (e.g., fuel in a vehicle or power plant).



Imperial's Cold Lake operations produce crude ideally suited for asphalt production. In 2019 Imperial expanded our Strathcona facilities to grow our asphalt production in Canada.

### Life cycle assessment (GHG emissions) for petroleum-based products



# Imperial's oil sands technology competes globally

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## Exciting new study on upstream life cycle assessment

Imperial is pleased to have participated in a life cycle assessment study lead by scientists from the University of Calgary, Stanford University and the University of Toronto in collaboration with government agencies (Alberta Innovates, Emissions Reduction Alberta, and Natural Resources Canada), LCA experts, industry groups and other oil sands producers.<sup>(54)</sup> This study, using real operational data to improve upon open source model GHG estimates or "ground truthing", could not have been successful without the collaboration of these knowledgeable

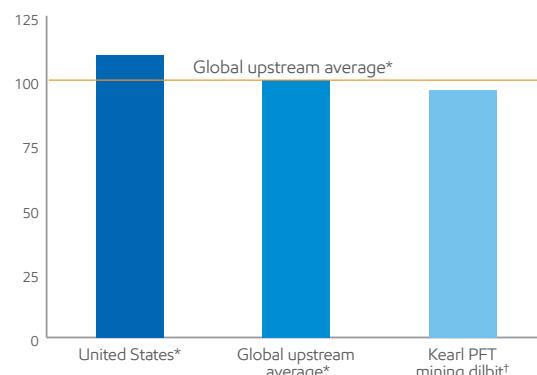
participants. The published report, demonstrating GHG performance of various oil sands technologies including Imperial's paraffinic froth treatment (PFT) and solvent assisted-steam assisted gravity drainage (SA-SAGD) processes, was released in December 2020.

The results showcase Alberta's global leadership in transparent reporting of its emissions and operational data with improved modelling outputs demonstrating positive correlation (96 to 99 per cent)

with actual operational and regional data. The carbon intensity (CI) of Kearl's oil sands mining operation is better than the global upstream average and continues to improve. Among the facilities modelled, the Kearl PFT dilbit had the lowest upstream GHG emission intensity, estimated at 54.7 kg CO<sub>2</sub>e/bbl of crude. Of significance, next-generation in situ technologies using light hydrocarbons (solvents) instead of steam to recover bitumen are anticipated to result in intensities lower than the global upstream average.<sup>(1)</sup>

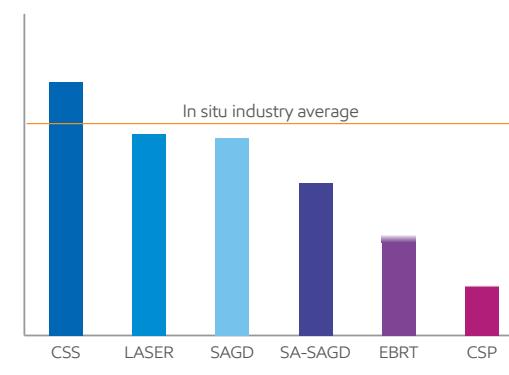
### Global upstream carbon intensity

(normalized)

<sup>\*</sup> Masnadi et al. (Science, 2018)<sup>†</sup> Sleep et al. (Journal of Cleaner Production, 2021)

### Imperial's in situ technologies

(normalized)



Source: Modified from Boone World Heavy Oil Conference, 2012

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# Reducing operated oil sands GHG intensity

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Imperial has consistently reported Scope 1 and 2 GHG emissions as they provide an accurate reflection of the company's direct effort to manage, measure and reduce emissions in our operations. The criteria for reporting these emissions is well-established, transparent and consistent across sectors.

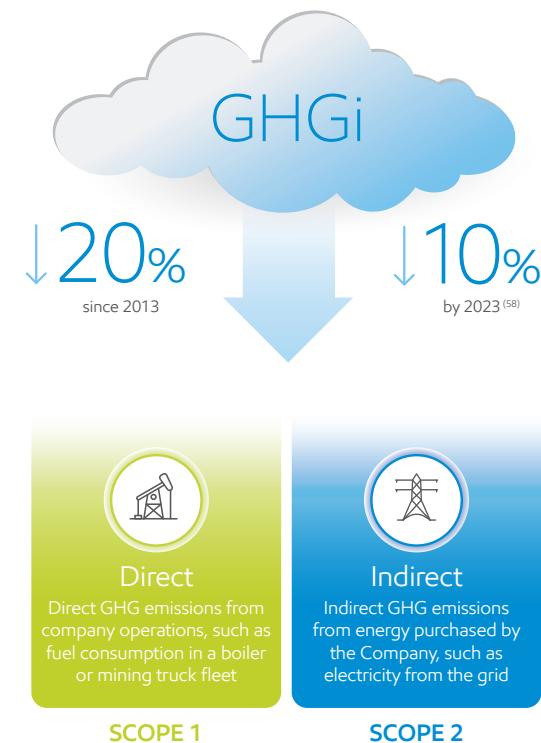
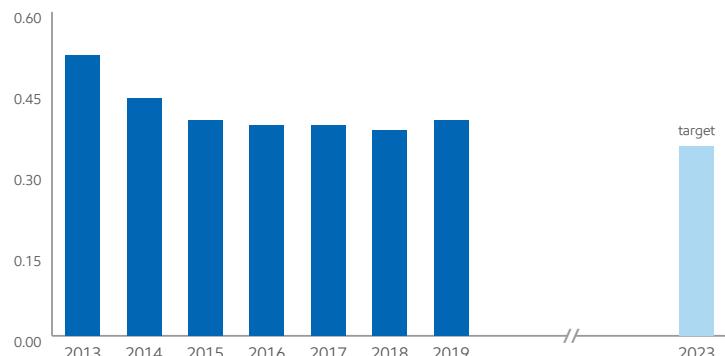
Imperial has reduced greenhouse gas emissions intensity in our operated oil sands by more than 20 per cent since 2013. We have plans for more improvement and are focused on the achievement of our target to reduce GHGi by 10 per cent by the end of 2023 relative to 2016 levels (Scope 1 and 2).

Our near term efforts include:

- Implementing reliability and energy efficiency improvement projects at our Kearl oil sands mine including start-up of supplemental crushers in 2020.
- Piloting boiler flue gas heat and water recovery to use less energy resulting in GHGi reductions and water recovery at Kearl.
- Expanding deployment of LASER (liquid addition to steam for enhanced recovery) to Cold Lake Mahkesees. This technology enables GHGi and water intensity reductions by adding low concentrations of diluent to injected steam.

## Operated oil sands GHG emissions intensity<sup>(55, 56, 57)</sup>

(metric tonnes CO<sub>2</sub>e/m<sup>3</sup> upstream production)



# Scope 3 emissions

Scope 3 emissions are GHGs that are generated across the value chain that are not included in Scope 1 and 2. Scope 3 estimates can include many things such as employee travel and commuting, transportation and distribution, purchased goods and services, and the use of sold products for example. We have opted to focus our Scope 3 emissions estimate on the indirect emissions resulting from the consumption and use of the company's products as they represent the majority of our estimate.<sup>(59)</sup> Scope 3 emissions are a function of the demand for energy products and consumer choices on how and when to use energy products. Consumer actions, including efficient use, are necessary to drive meaningful Scope 3 reductions. As they are indirect and occur outside of our control, the reporting of Scope 3 emissions is less certain and consistent. Imperial is providing solutions to help customers reduce their emissions, which includes advanced fuels and renewable fuels in our product offerings.

Evaluating a company's Scope 3 emissions and comparing them to others can be challenging due to inconsistent reporting methodologies, as well as potential duplication, inconsistencies and inaccuracies that may occur when reporting emissions that are the result of activities from assets not owned or controlled by the reporting organization. The International Petroleum Industry Environmental Conservation Association (IPIECA) acknowledges these issues.<sup>(60)</sup>

## Scope 3 emissions



### Indirect

Indirect GHG emissions not included in Scope 2 that occur in the value chain, such as the consumption and use of a company's products (e.g. gasoline in a car)



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The table below provides Imperial's Scope 3 estimates associated with the use of its crude oil and natural gas production, in alignment with IPIECA's methodology for the use of sold products. This methodology contemplates accounting for products at the point of extraction (point A), processing (point B) or sales (point C). Imperial's Scope 3 estimates for points A, B and C represent three distinct approaches for accounting, and are not meant to be aggregated as this would lead to duplicative accounting.

For example and for completeness, the table provides the Scope 3 estimates associated with the combustion of the crude processed and products produced and sold from Imperial's refineries (points B and C). However, to avoid duplicative accounting, these Scope 3 estimates are not included in Imperial's Scope 3 total because the associated emissions would also be accounted for by the producer of those crudes.

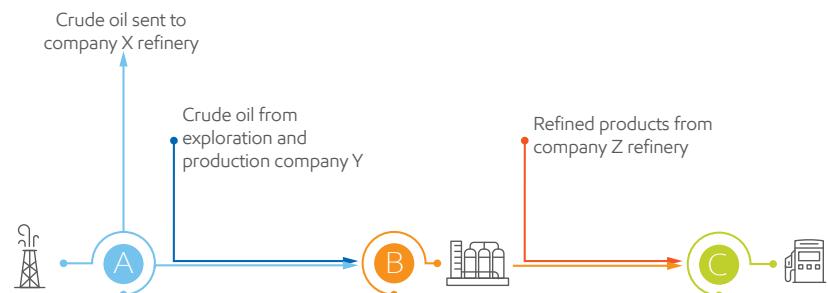
## 2019 Scope 3 estimates

	Upstream production (point A)	Refining throughput (point B)	Petroleum product sales (point C)
Scope 3 potential estimates from the use of sold products (million tonnes CO <sub>2</sub> -equivalent)	60	60	60

*Estimated Scope 3 emissions from the use of Imperial's crude and natural gas production for the year ending Dec. 31, 2019 were 60 million tonnes.*

*Applied CO<sub>2</sub> Emission Factors were obtained from EPA or derived from API calculations; where applicable emission factors for specific fuel products were applied. Non-fuels products are not combusted by the end-user and therefore are not included in these Scope 3 estimates. IPIECA's Scope 3 methodology includes 15 categories of activities along each product's value chain. Due to lack of third-party data, Scope 3 emissions for categories other than Category 11 (Use of Sold Products) could not be estimated. Estimates based on net upstream production, refining throughput and petroleum product sales as reported in Imperial's 2019 10-K annual financial report.*

## Integrated oil and gas company



Adapted from IPIECA

# TCFD framework

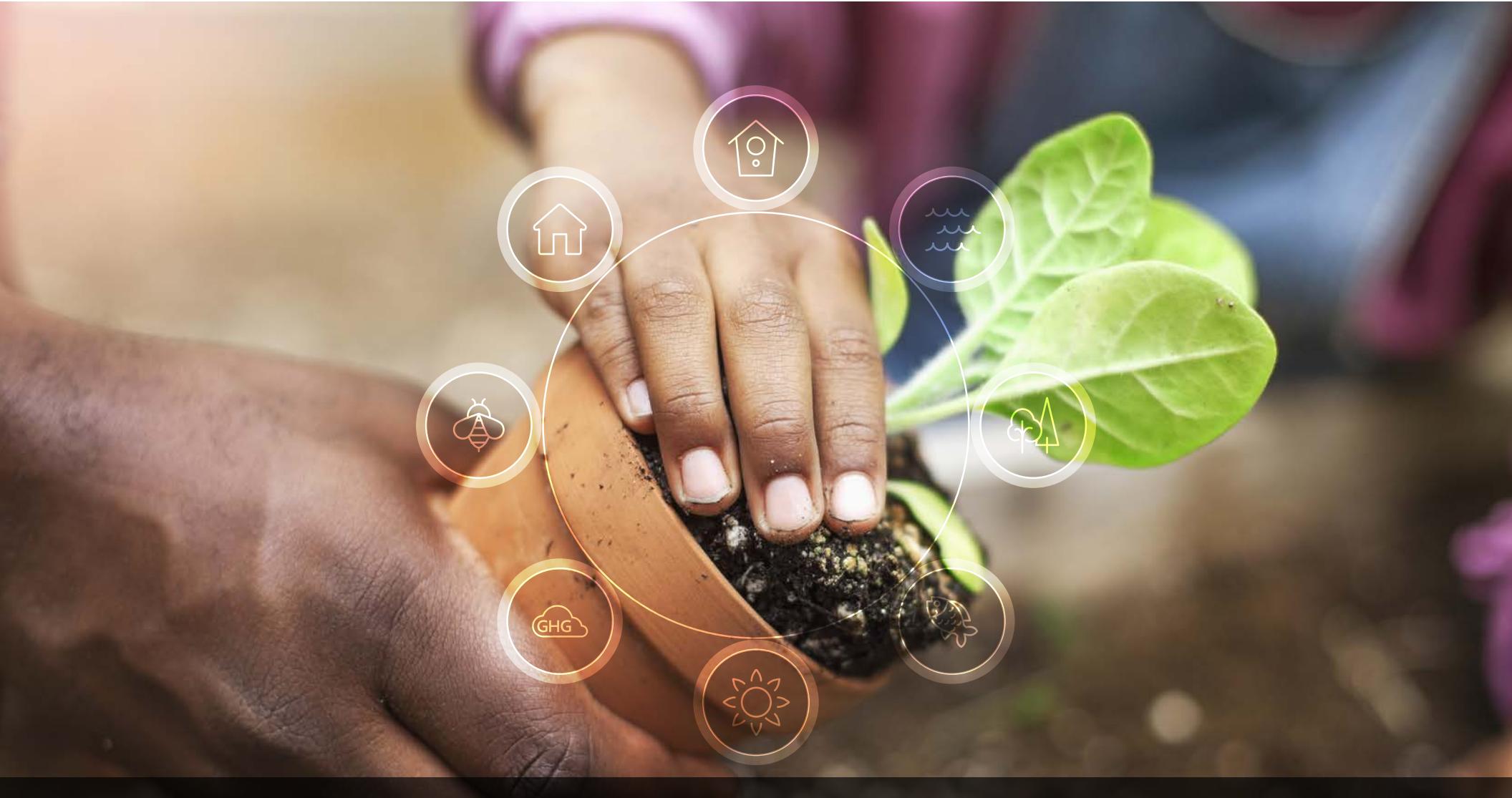
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This report is aligned with the core elements of the framework developed by the Financial Stability Board's Task Force on Climate-related Financial Disclosures (TCFD), designed to encourage the informed conversation society needs on these important issues.

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TCFD core elements and recommended disclosures		Imperial disclosures	
Governance	a. Describe the board's oversight of climate-related risks and opportunities.	pages 20-21	MANAGING THE RISKS OF CLIMATE CHANGE
	b. Describe management's role in assessing and managing risks and opportunities.	pages 20-21	
Strategy	a. Describe the climate-related risks and opportunities the organization has identified over the short, medium and long term.	pages 27, 30-49	ENVIRONMENTAL PERFORMANCE
	b. Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy and financial planning.	pages 27, 30-49	
	c. Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	pages 27, 30-49	
Metrics and targets	a. Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.	pages 50-52	COMMUNITY & INDIGENOUS ENGAGEMENT
	b. Disclose Scope 1, Scope 2 and, if appropriate, Scope 3 GHG emissions, and the related risks.	pages 50-52, 112-113	
	c. Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.	page 52	
Risk management	a. Describe the organization's processes for identifying and assessing climate-related risks.	pages 20-24, 49	ECONOMIC DEVELOPMENT
	b. Describe the organization's processes for managing climate-related risks.	pages 20-24, 49	
	c. Describe how processes for identifying, assessing and managing climate-related risks are integrated into the organization's overall risk management.	pages 20-24, 49	

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## Environmental performance

Meeting the growing demand for energy in a safe and environmentally responsible manner

# Environmental management

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## Imperial's environmental policy



**Protect Tomorrow.  
Today.**

Under our credo "Protect Tomorrow. Today," Imperial is committed to operating in an environmentally responsible manner everywhere we do business. We comply with all applicable regulatory requirements and, where there are none stated, follow relevant risk-based standards.

Our overall environmental policy is to:

- Comply with all applicable environmental laws and regulations and apply responsible standards where laws and regulations do not exist;
- Encourage respect for the environment, emphasize every employee's responsibility in environmental performance and foster appropriate operating practices and training;
- Work with government and industry groups to foster timely development of effective environmental laws and regulations based on sound science and considering risks, costs and benefits, including effects on energy and product supply;



### Goats: natural weed control

In 2020, Imperial relied on a tribe (also called a herd or trip) of goats to help manage vegetation at both our facilities in Cold Lake and our main campus in Calgary. The goats were brought in to help us meet our weed control commitments while avoiding chemical spraying, reducing herbicide residues, minimizing root and soil disturbance, and allowing us to manage vegetation in difficult-to-reach areas like grassy slopes. In addition to providing natural weed control, the goats proved to be a welcome sight to employees and passersby.

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Our management approach is guided by an in-depth understanding of the environmental aspects of our operations and a commitment to develop, operate and decommission assets using appropriate standards.

Our environmental management system (EMS) provides a framework for environment and socio-economic planning. Environmental aspects are communicated and addressed consistently with company policies and regulatory requirements. Environmental aspects are addressed as a matter of course in the annual environmental business planning (EBP) cycle.

Environmental performance, including emissions, discharges and waste, is tracked and stewarded to meet performance goals.

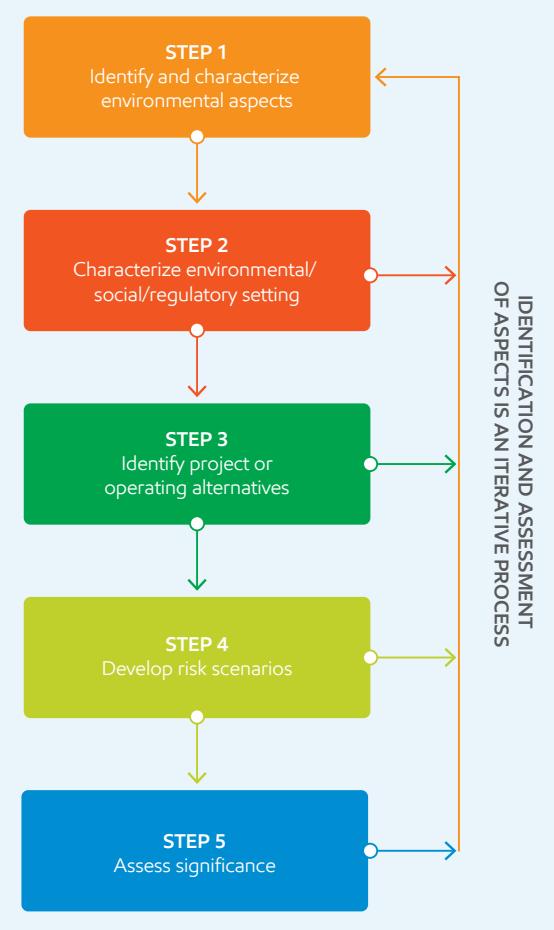
To enable continuous improvement of our environmental management actions, Imperial leverages new and existing technologies and uses the principle of adaptive management. Under this approach, operating experience, data and knowledge are collected and plans are regularly modified to better align with operational realities and changing environments.

## Our operations integrity management system guides our approach to managing how our operations interact with the environment

### Environmental risk management

Our environmental aspect assessments are the primary mechanism for managing and assessing environmental risk. We define 'environmental aspect' as an activity, product or service that interacts with the natural or human environment. An environmental aspect can be positive or negative. Once identified, significant environmental aspects are communicated to management and directed to the appropriate managing system depending on the nature of the aspect and the life stage of the facility.

Environmental aspects are routinely updated as operational realities and environments change, and then incorporated into Imperial's adaptive management approaches.



# Air emissions

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## Continuous focus on air quality improvement



In communities where we operate, Imperial addresses our facilities' air emissions through:

- Reducing energy use;
- Adding cost-effective emission controls;
- Improving our ability to detect and repair fugitive emissions sources;
- Applying best practices and procedures to reduce emissions; and
- Investing in fuel reformulation to produce cleaner fuels.

Imperial reports air emissions for each of our facilities in all jurisdictions where we operate.

Provincial air quality requirements, as well as limits prescribed by our operating permits, help guide

our operations to help ensure emission levels from our operations are at safe levels. Air quality monitoring at and near the fenceline of our facilities triggers investigation if levels are elevated and helps determine if further actions are required.

In addition to quantifying our site-specific air emissions, we also collaborate with government, industry and other groups to maintain regional air monitoring networks that measure and track air quality trends in the regions where we operate. We meet regularly with community residents and stakeholders to review air quality and discuss concerns.



*Air quality is important because it affects people where they live and work. We believe collaboration is essential to developing meaningful solutions to improve air quality for all of us. That is why we participate in organizations such as Alberta's Clean Air Strategic Alliance, a multi-stakeholder partnership that brings diverse interests together from across different industries, all level of government, Indigenous communities and non-governmental organizations.*

**Alison Miller, PhD – Air Quality and Greenhouse Gas Manager**

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# Air metrics and performance

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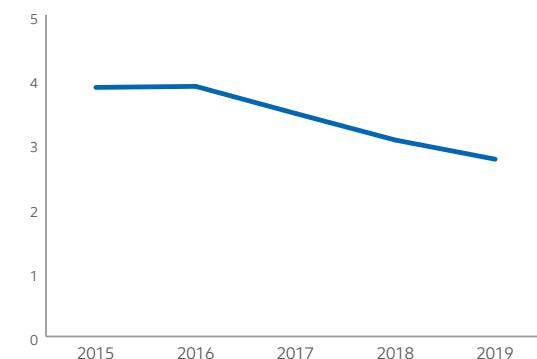
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Since 2016, we have reduced flaring by almost 30 per cent in the upstream

Across our operations, our goal is to reduce flaring through improved operating practices and – where appropriate – installing equipment to avoid operating conditions that result in the need for flaring. Reduced flaring helps prevent the loss of energy and decreases emissions including greenhouse gas emissions. Since 2016, we have reduced flaring in our upstream operations by almost 30 per cent.

Fugitive emissions are unintended gas or vapour leaks from equipment at operating facilities. Reduction of these emissions remains a priority across our operations. Our businesses have leak detection and repair programs to monitor and reduce emissions from leaks in equipment such as valves, connectors and pumps.

## Flaring at upstream operations (mmscf/day)



Fugitive leak detection on process equipment using an infrared optical gas imaging camera.

AIR EMISSIONS FROM OPERATIONS	2015	2016	2017	2018	2019
<b>Downstream and Chemical</b>					
SOx (thousand metric tonnes/year)	21.3	19.6	19.1	22.3	<b>21.6</b>
NOx (thousand metric tonnes/year)	5.5	5.5	5.6	5.8	<b>5.2</b>
VOC (thousand metric tonnes/year)	6.3	6.5	6.2	6.2	<b>6.0</b>
<b>Upstream</b>					
SOx (thousand metric tonnes/year)	1.6	1.8	1.8	1.7	<b>1.8</b>
NOx (thousand metric tonnes/year)	10.1	10.5	11.0	11.9	<b>13.1</b>
VOC (thousand metric tonnes/year)	7.6	4.0	4.2	4.5	<b>3.6</b>

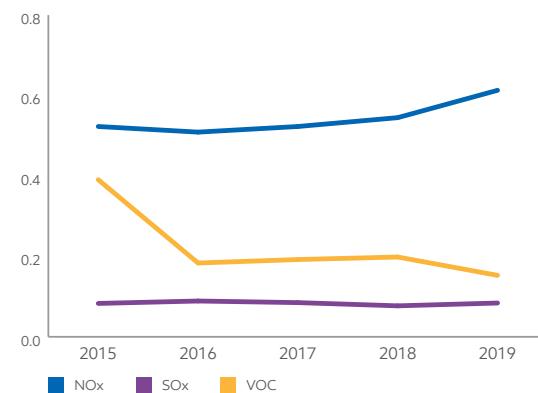
## Working to reduce emissions

Sulphur (SOx) and nitrogen oxides (NOx) are common air emissions primarily formed from combustion of fuel, either in stationary equipment such as boilers and furnaces or in mobile equipment. Volatile organic compounds (VOCs) are numerous and varied compounds that come from both man-made and natural sources. SOx, NOx and VOCs contribute to the formation of smog, a visible discolouration of the atmosphere which impacts the air quality.

At our Kearl facility, NOx emissions increased in 2019 as a result of movement of more overburden material at the mine (truck diesel emissions), while VOC emissions decreased due to reduced fugitive emissions and flaring. As we continue to invest in technologies to reduce GHG emissions intensity, we expect to see improvements in other air emissions as well.

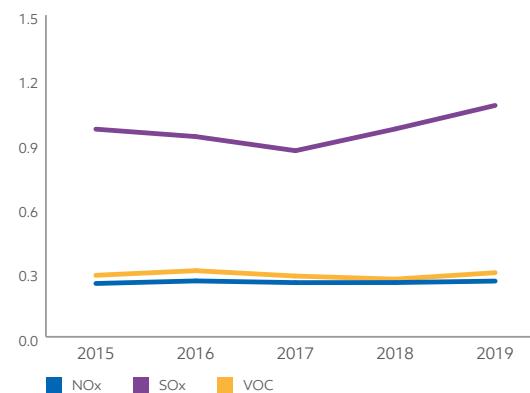
### Upstream air emission intensities

(tonnes/thousand m<sup>3</sup> upstream production)



### Downstream air emission intensities

(tonnes/thousand m<sup>3</sup> refining throughput)



As the largest refiner in Canada, we recognize we must continue to decrease our air emissions at our downstream facilities.

Actions we are taking to reduce benzene and VOC emissions at our refineries include installing covers on our separator units to reduce the volatilization of material to the air, and installing vapour recovery units at the rail loading rack at our Nanticoke facility.

In addition, both our Sarnia and Nanticoke refineries are working on plans to reduce SOx emissions, including investing in equipment upgrades for sulphur recovery in order to reduce SOx emitted to the air.

At our Strathcona refinery, we are focused on reducing NOx as the Alberta regulator has determined the local airshed to be a NOx-stressed region. Although the biggest contributor to NOx emissions in this area is from vehicles and transportation, we are doing our part to help reduce our own emissions. In 2019 we installed low-NOx burners in our steam boilers. We are working to reduce NOx emissions at Strathcona by approximately 20 per cent, compared to 2017 levels, over the next 10 years.

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Water and energy are interrelated, and both are critical for society, economic development and the environment. Imperial recognizes the importance of water to local communities – to protect human health and the environment.

## Imperial's operations are located in areas of ample water availability today and for the future

Canada is among the world's water-wealthy nations,<sup>(61)</sup> with about seven per cent of the world's renewable water. The World Resources Institute (WRI) maintains a publicly available global database and interactive tool, The Aqueduct,<sup>(62)</sup> which maps indicators of water-related risks. According to the WRI, most of Canada has an overall water risk of low to medium.



Examining future forecasts, the projected change in water stress by 2040 is generally expected to be near normal, except for a few isolated areas in the southern prairies where an increase of up to two times historical conditions is projected due to changes in water demand based on socio-economic development (Luck *et al*, 2015).

Imperial is committed to responsible and sustainable water use. Fortunately, our operations are located in areas that have ample water to balance our operational needs with economic growth, social development and environmental protection, today and for the future.

By deploying technology to minimize water use intensity, considering local water needs and engaging stakeholders in sustainable water solutions, Imperial's systems focus on water conservation, efficiency and productivity. Systems are also designed to operate safely during storm events, based on purpose and risks. For operations with larger consumptive demands, mitigation measures are in place for periods of low water availability.



Ongoing dialogue with stakeholders and Indigenous communities is a critical part of the way we do business. Understanding the local, regional and national perspectives that stakeholders have with regard to industry's interactions with water resources is important. I value these perspectives on water quantity and quality to help us understand the risk of using a particular water source, as well as the value local communities place on specific water resources.

**James Guthrie** – Water Lead, Policy and Advocacy



# Water strategy

## Our focus is on freshwater conservation and efficient use

We take water use and conservation seriously in all aspects of our operations through our management principles to:

- Protect human health and the environment;
- Consider local water needs when addressing operational requirements;
- Continuously improve capabilities and performance; and
- Engage stakeholders in sustainable water solutions.

For oil and natural gas development, the main interactions associated with water resources are withdrawal, storage, re-use and discharge.

In addition to following detailed managing systems and strictly adhering to government regulations, we are dedicated to continuous improvement. We work to achieve our water management principles by:

- Considering local needs and alternatives when sourcing water for our operations, including first identifying and managing risks related to water availability and quality;
- Preventing spills and leaks;
- Minimizing the impact from water withdrawal, consumption and discharges;
- Using research and operational analyses to support the continuous improvement of water-related technologies, practices and performance in our industry; and
- Collaborating with stakeholders to promote the long-term viability of source waters, watersheds and related ecosystems in areas where we operate.



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## We are developing innovative technologies that are more efficient and lower in water use intensity

At every link in the energy chain, Imperial seeks to advance innovation and technology. For example, we use steam to recover bitumen at in situ oil sands operations but in recent years, we've developed advanced oil recovery technologies that are more energy efficient, use less steam and have lower water use intensity. New advanced technologies under development could have significant water use intensity benefits (see Managing the risks of climate change, page 26).

In addition to in-house research, Imperial collaborates with academic institutions, industry peers and third-party companies to accelerate the pace of water innovation. Imperial is contributing to Canada's Oil Sands Innovation Alliance's efforts to develop innovative and sustainable water solutions for oil sands mining and in situ operations. COSIA members have collaborated on over 250 water related technologies and, in 2019, engaged in active projects valued at over \$414 million.<sup>(63)</sup>



SAIT students participate in RiverWatch raft trip as part of integrated water management program.



In 2019, an innovative new partnership was launched between Imperial and the Southern Alberta Institute of Technology (SAIT) when Imperial invested \$1 million to create a program that teaches students responsible water management. "I was attracted to the SAIT integrated water management program because it integrates pathologic aspects of water management with social, cultural and economic aspects. I want to be able to contribute to sustainability as well as help drive our economy," says Jimmie Nguyen, B.Sc. and second-year SAIT student.

# Water metrics

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Imperial regularly reports water use information to regulatory agencies, trade associations, COSIA and Statistics Canada. Information is published on our website. In 2019, our total freshwater consumption was 49.1 million cubic metres.

## All of Imperial's sites collect information to better understand and minimize our water footprint

Water data is used to facilitate benchmarking and stewardship, to prepare for risk assessment and management reviews and to identify and evaluate continuous improvement opportunities. In addition to our water metrics, we also evaluate:

- Water treatment and distribution technologies to increase efficiency and re-use opportunities, to allow use of lower-quality (non-potable) source water;

- Seasonal adjustments in water withdrawals, discharges, distribution and/or storage;
- Alternative water sources, including lower-quality sources or sources not competing directly with local and/or regional users; and
- Reduction of water use through technological, chemical, operational and/or other alternative methods.



	units	2015	2016	2017	2018	2019
<b>Downstream and Chemical facilities</b>						
Water withdrawn	Mm <sup>3</sup> /yr	72.5	76.1	74.9	74.1	<b>74.0</b>
Water consumed	Mm <sup>3</sup> /yr	10.5	10.4	9.9	10.1	<b>9.8</b>
Water intensity	m <sup>3</sup> /m <sup>3</sup>	0.47	0.49	0.45	0.44	<b>0.48</b>
<b>Upstream facilities</b>						
Water withdrawn	Mm <sup>3</sup> /yr	42.5	31.9	32.7	35.4	<b>41.0</b>
Water consumed	Mm <sup>3</sup> /yr	41.0	30.2	32.6	35.2	<b>39.3</b>
Water intensity	m <sup>3</sup> /m <sup>3</sup>	2.10	1.46	1.56	1.63	<b>1.83</b>
Oil sands produced/process water recycle	Mm <sup>3</sup> /yr	123.5	151.9	153.0	151.2	<b>154.8</b>
Oil sands produced/process water recycle	%	75	84	82	81	<b>80</b>

Mm<sup>3</sup>/yr = million cubic metres per year

m<sup>3</sup>/m<sup>3</sup> = cubic metre of fresh water consumed per cubic metre of refining throughput or upstream production

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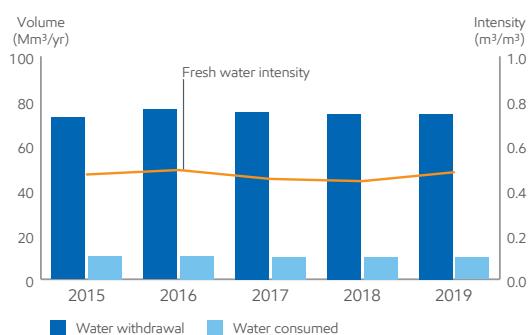
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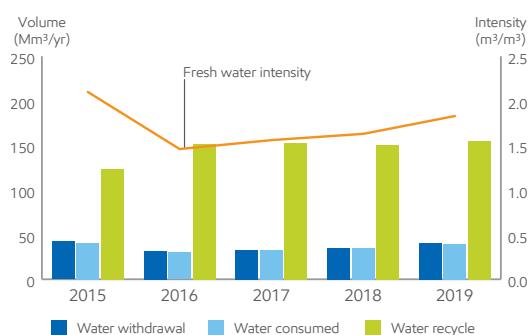


At Imperial's downstream facilities, water usage varies depending on crude quality and refinery utilization rates. Water is used for steam production, removing salt from crude oil, making hydrogen and as a fluid for cooling. The largest single use is for cooling hydrocarbon streams to safe temperatures. Only a portion of the water withdrawn is consumed as a chemical feedstock or lost to evaporation. The rest is returned safely back to the environment according to appropriate provincial approvals.

## Downstream and Chemical water metrics



## Upstream water metrics



Our downstream and chemical facilities have achieved strong utilization rates over the past five years with little change in water use, resulting in a relatively flat water use intensity.

In our oil sands mining operations, water use intensity depends on factors including project age, stage, production plans, ore quality and facility processes, while water needed for in situ operations depends on extraction technology, reservoir quality, suitable and available water sources and facility age. In situ methods typically involve the injection of steam into the oil sands reservoir to heat the bitumen and reduce its viscosity, allowing recovery of the bitumen. Both in situ and mining have freshwater needs for activities such as cooling, dust suppression, fire protection, drilling through non-saline formations, potable and utility requirements.

In 2019, our Kearl mine withdrawals from the Athabasca River were relatively constant compared to 2018, however we observed a slight increase in water withdrawal and consumption as a result of increased precipitation at site, which required additional management of surface water and runoff in our water system.

# Land use and biodiversity

Imperial operates in a variety of ecosystems, some with sensitive characteristics. Our upstream operations, in particular, can affect different wildlife habitats and ecosystems. When planning new facilities and projects, we strive to keep the size of our operations footprint as small as possible by making strategic considerations like re-using existing land disturbances such as roads, and by incorporating progressive reclamation throughout the life of the project. (See page 70 for more information on our approach to progressive reclamation.)

Imperial carefully considers land use, biodiversity and ecosystems in all aspects of our operations, from new development planning to ongoing operations and reclamation. Through our environmental aspects assessments and business plans, we consider factors such as minimizing footprint in sensitive environments, the rarity of individual species, their roles in different ecosystems and habitats, their vulnerabilities and their cultural significance.



In addition to applying tools that improve our understanding of local biodiversity conditions and ecosystems, we support research and collaborative efforts to conserve and monitor biodiversity. Some examples include:

- Imperial is a founding member of [Canada's Oil Sands Innovation Alliance \(COSIA\)](#). One of COSIA's focus areas is to reduce the footprint intensity and impact of oil sands operations on the land and wildlife;
- We are also a member of the [Regional Industry Caribou Collaboration \(RICC\)](#), a group of energy and forestry companies that contribute to conserving caribou and restoring habitat through collaborative range-based efforts such as co-ordinating caribou habitat restoration in priority areas and supporting scientific research on caribou ecology and caribou-predator-landscape relationships. RICC member companies have cumulatively restored approximately 1,300 km of legacy seismic lines in northeastern Alberta; and
- Imperial participated in the development of the silvicultural toolkit, a joint effort between COSIA and Natural Resources Canada. The toolkit is designed to share restoration and reclamation best practices on topics like site assessment, site preparation, vegetation regeneration and vegetation management. The toolkit is made up of videos, fact sheets, guide books, practical tips, virtual tours and features our Muskeg Lake compensation project.

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# Caribou

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Boreal caribou are listed as threatened under the federal *Species at Risk Act*. Imperial believes energy resources can be developed responsibly, in a manner that supports caribou recovery. Imperial has been collaborating with the Government of Alberta to find solutions that support caribou recovery while maintaining a working landscape.

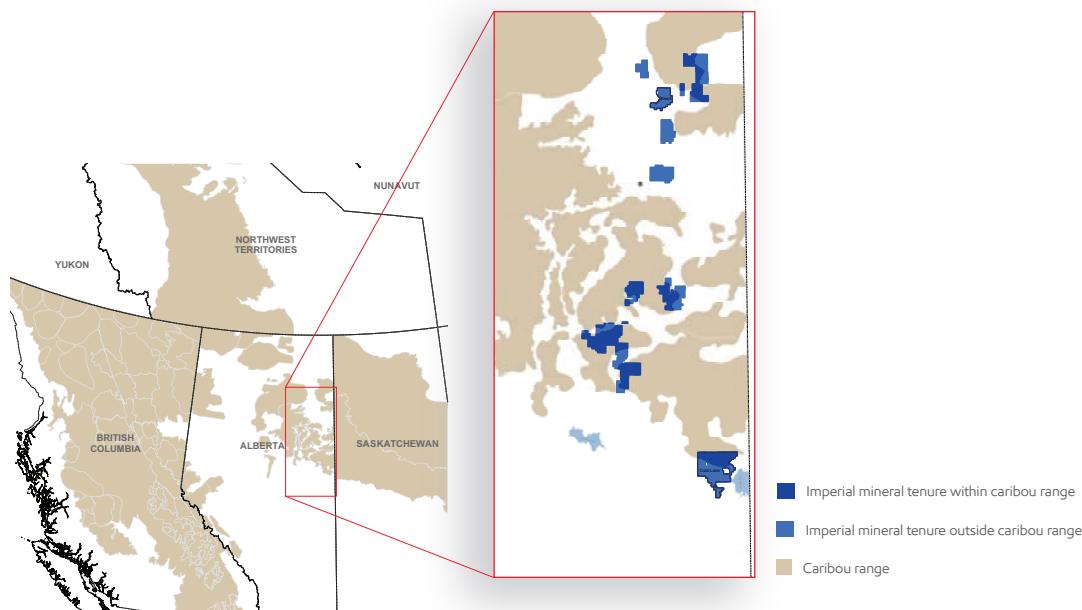
Key components of our approach to caribou recovery include:

- Restoration:** Since 2016, Imperial voluntarily contributed \$850,000 to support caribou habitat restoration projects in the Cold Lake Caribou Range.

- Tenure flexibility:** To enable orderly development and reduce overall industry footprint, Imperial deferred drilling on approximately 3,000 hectares of oil sands leases in the East Side Athabasca caribou range until March 31, 2021.

- Lease relinquishment:** Since 2018, Imperial has voluntarily relinquished or surrendered our working interest in about 29,000 hectares of oil sands leases in caribou ranges in northern Alberta.

- Innovation:** In addition to our collaborations through COSIA and RICC, Imperial also represents the Canadian oil and gas sector on the National Boreal Caribou Knowledge Consortium.



Imperial's oil sands mineral tenure relative to caribou habitat. 47% of oil sands mineral tenure is within caribou habitat.



Caribou recovery involves unprecedented collaboration by governments, Indigenous peoples, industry, academia and non-governmental organizations. This teamwork is key to Imperial's solutions-focused approach, as demonstrated through our support of the establishment of the Mikisew Cree-led Kitaskino Nuwenene Wildland Park and our participation in regional habitat restoration projects. We can accomplish so much more when we work together.

**Lori Neufeld, P. Biol.** – Land Use & Biodiversity Lead, Policy & Advocacy

# Birds

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## Dedicated to migratory bird protection

Imperial has a robust system in place to monitor and limit disturbance to wildlife from our operations. During spring and summer months when migratory birds are present, bird nest surveys are completed and if nests are identified, buffer zones are implemented so that the nests are not disturbed.

### **Bird deterrent systems: deliberately unwelcoming**

Migration patterns, species-specific behaviours and variations in size and number of water bodies surrounding our operations can make bird safety a challenge. To reduce our potential impact on migratory birds, bird detection and deterrent systems and other best practices are in place at our facilities.

Some of the deterrents include:

- Radar technology detects flight trajectories that trigger long-range acoustic devices to redirect birds to other areas;
- Air cannons are activated at timed intervals;
- Eye-safe lasers are used to prevent unhospitable landing areas;
- Like a scarecrow protecting crops, human effigies are placed strategically along shorelines;
- When necessary, human intervention including bear bangers (loud acoustic devices) are used to redirect or scare off birds.

Our on-site bird deterrent team and the bird deterrent and detection technology operate on the principles of adaptive management such that data is analyzed to continuously improve the effectiveness of the system.



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## Starting with the end in mind

Boreal forest covers some 38 million hectares in Alberta. Total disturbance from all mineable oil sands operations in the region covers about 103,000 hectares of land, or 0.3 per cent of Alberta's boreal forests.<sup>(64)</sup>

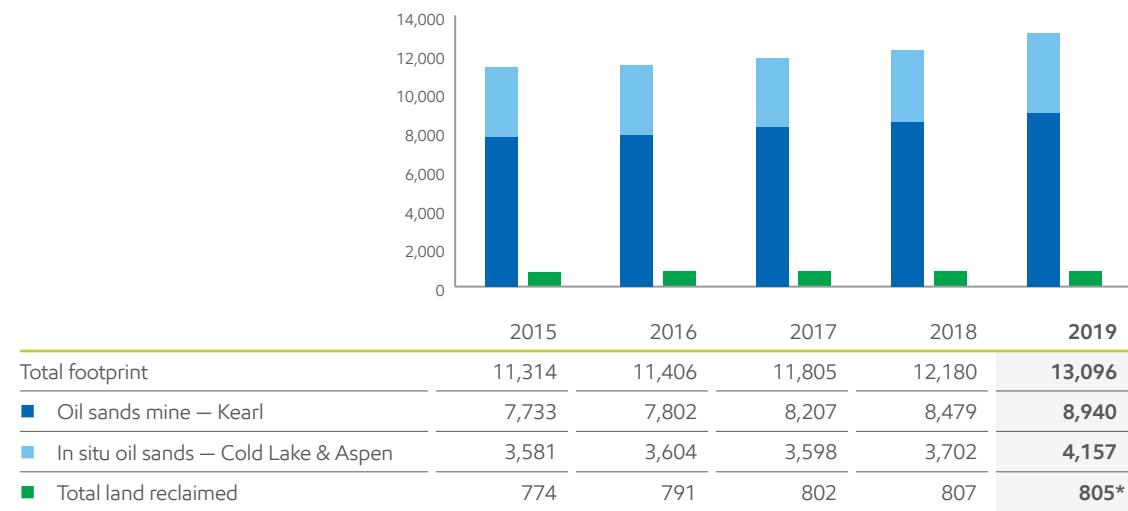
Over the past 40 years, Imperial's operations in the oil sands region have disturbed about 13,000 hectares, or 0.034 per cent of Alberta's boreal forest. This includes our in situ operation at Cold Lake (3,647 hectares), our oil sands mining operation at Kearl (8,940 hectares) and early work at our Aspen development (509 hectares). To the end of 2019, more than 800 hectares have been cumulatively reclaimed at Kearl and Cold Lake.

By law, upstream producers must reclaim all land after operations are complete. This includes contouring the land, replacing soil and replanting a native plant community to form natural, self-sustaining habitats. But Imperial's commitment to progressive reclamation goes beyond regulatory compliance and reclamation planning begins long before production starts. In other words, we start with the end in mind.

Imperial's goal is to return disturbed land to equivalent productive land capacity, leaving behind self-sustaining boreal forest ecosystems that support wildlife and traditional Indigenous uses. Imperial practises progressive reclamation at our upstream operations. Reclamation and final land use is considered through all stages of a project. When we are no longer using a particular section within our operations footprint for energy development, progressive reclamation begins.



## Oil sands footprint



\* Decrease is a result of the restatement of data.

Total footprint represents the cumulative hectares (ha) for areas cleared of vegetation, soil disturbed, temporarily reclaimed, ready for reclamation, soils placed and permanently reclaimed. The area reported as land reclaimed is a sub-set of the total footprint. Total footprint does not include footprint associated with exploration activities.

# Cold Lake

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## Cold Lake's vision: forests for our future

Imperial's Cold Lake in situ operation (CLO) has an overarching end land use objective to restore a mixed-wood boreal forest that provides wildlife habitat to maintain sufficient diversity in topography and ecological conditions.

Imperial recognizes the value of traditional Indigenous knowledge and we are actively working to find ways to incorporate such knowledge into reclamation approaches at Cold Lake, through engagement with stakeholders on reclamation-specific practices and end land use.

During the planning and siting process of any new development, the location is assessed for various constraints including proximity to water, critical habitat features and culturally significant areas. A key focus for our Cold Lake operation is to avoid such areas of significance.

### Wildlife at work

Wildlife at Work is a Wildlife Habitat Council (WHC) certification program recognizing operations that go beyond regulatory requirements to provide meaningful wildlife habitat management. Imperial's long-term commitment to habitat protection and restoration, community outreach and education is demonstrated through WHC-certified programs at both Cold Lake and Kearl. Cold Lake was the first oil and gas operation in Canada to be certified by WHC.

We implement a number of mitigation measures to reduce impacts on wildlife. In addition, we are also taking steps to further reduce our surface footprint at CLO, such as:

- Implementing multi-well pad facilities, allowing greater access to bitumen from fewer surface locations;
- Utilizing previously disturbed areas such as roads;
- Where possible, planning borrow pits to allow significantly more recovery of material from a smaller footprint; and
- Minimizing width of multi-purpose rights-of-way.



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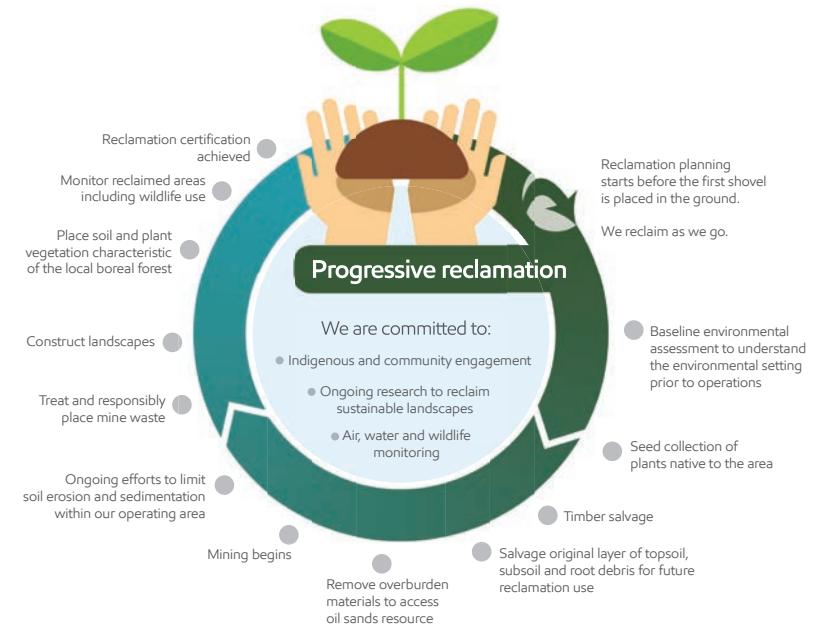
## Actively harvesting and banking native plant species



Oil sands mining is a large-scale excavation to extract bitumen. Mining requires the removal of vegetation and soil to reach the oil sands underneath, but seeds, topsoil and other materials are salvaged and saved for later use in reclamation.

Kearl is a fairly new development so reclamation of the total disturbed area to date is relatively small: 1.3 per cent of the operation's total disturbance. But working within our principle of starting with the end in mind, Imperial is actively salvaging and storing soil and we've planted more than 360,000 trees, shrubs and aquatic plants across the site.

A key component of oil sands reclamation is to revegetate the land with species characteristic of the area's boreal forest. Since 2010, we have been a member of the Oil Sands Vegetation Cooperative (OSVC), which funds the harvest and banking of native plant seed and research into seed storage and the propagation of native plant species. To supplement seed collected by the OSVC, we also have our own initiative that has collected and banked seed from some 60 species of native plants.



## Progressive wildlife monitoring and protection

Kearl has a number of wildlife monitoring activities in place including the Early Successional Wildlife Dynamics (ESWD) program, a COSIA collaboration designed to assess the return and re-establishment of wildlife on reclamation areas. The data collected helps to evaluate the effectiveness of reclamation practices to improve biodiversity. Current results indicate that wildlife is returning to and using reclaimed habitat.

### **Building on the success of Muskeg Lake**

Muskeg Lake, attached to the original Kearl Lake, was completed in 2013 to replace fish habitat disturbed by mining operations. Ongoing monitoring of soil, water, vegetation and fish has indicated a thriving and viable ecosystem.

In 2019, Imperial kicked off activities for the development of Phase 2 of Kearl's three-phase fish habitat compensation program. Phase 2 involves the construction of our second fish habitat compensation lake, Lake Tourangeau — named for a local family.

In October 2019, the site of the future lake was blessed by members of the Kearl Reclamation Planning Group, which is made up of elders and community members from seven neighbouring Indigenous communities. The group will provide traditional knowledge input into Lake Tourangeau's design, monitoring and reclamation, including the selection of traditional and medicinal plants and habitat features to support a variety of wildlife. Lake construction is scheduled for completion in 2024.



Shirley Arthurs (left), Shelley Larose (right)

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"I was born on the land in this area, so I know the land," says Shirley Arthurs, an elder from the Fort McMurray #468 First Nation and a member of the Kearl Reclamation Planning Group. "To me the land is very important. To see it put back, brings back the happiness that it's going to work... for us."

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# Tailings pond management

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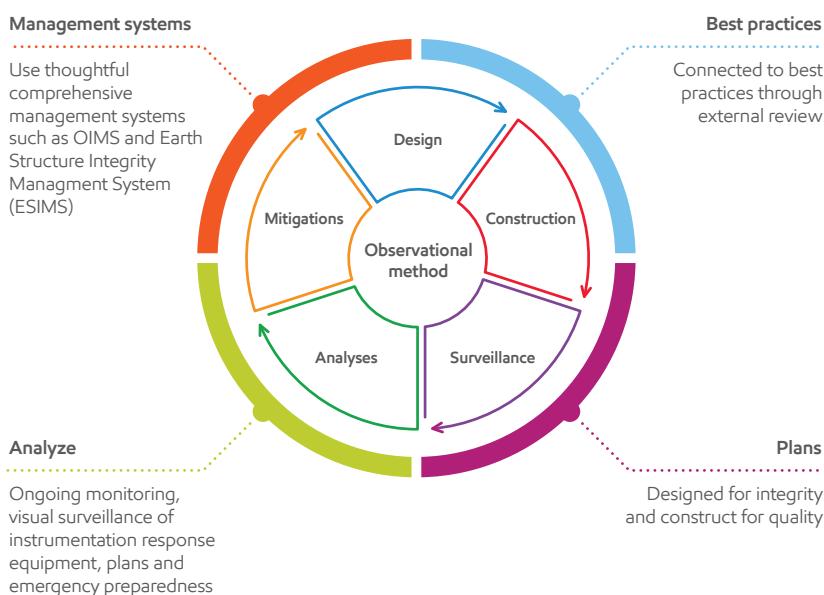
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**Observational method**

Tailings are an inevitable end product of oil sands mining. Through the mining process, water is used to separate out bitumen leaving a mixture of water, sand, fine clay particles and some residual bitumen. This mixture — tailings — is piped into tailings ponds where the sand and fine particles settle to the bottom and water is removed and re-used.

Oil sands tailings ponds can be challenging to reclaim due to the length of time — sometimes decades — needed for very fine particles to settle. The quicker these fine particles can settle, the faster we can reclaim tailings ponds — we want to return any disturbed lands, including tailings ponds, to productive use as soon as possible. The Alberta Energy Regulators Directive 085 requires tailings ponds to be in 'ready-to-reclaim' state within 10 years of the end of mine life.

The fundamental principles guiding our tailings management plans include: extensive external review; design integrity; quality construction; ongoing monitoring; comprehensive emergency response preparedness involving robust emergency response equipment availability and regularly updated emergency response plans. Key objectives for managing oil sands tailings include:

- Minimize long-term environmental effects;
- Minimize the accumulation of fluid tailings to ensure timely progress to closing the tailings ponds;
- Maximize water recovery from tailings to minimize the need for fresh water; and
- Minimize the land footprint required for tailings management and storage.

## Kearl's tailings management plans evolve with technology

Tailings management is integral to successful development at Kearl. Our strategy to achieve timely reclamation to support a diverse and self-sustaining ecosystem is:

- Design with the end in mind, to create a sustainable landscape;
- Treat tailings, including flotation tailings (FLT) and fluid fine tailings (FFT), prior to accumulating large volumes of fluid tailings; and
- Deposit treated tailings in their final landscape position to facilitate progressive reclamation.

In 2016, our tailings management plan was revised with two significant features. First, we committed to incorporating a thickening technology into our process at a cost of \$2 billion, to help remove fine particles from the tailings. Second, in alignment with provincial regulations, our tailings management is now more focused on reclamation outcomes, which in turn informs our tailings strategies.

Our thickening technology intercepts produced tailings and combines that mixture with recycled fine fluid tailings (FFT) from our tailings pond, turning the newly produced tailings into a paste. Thickened tailings are placed in layers where the material can dry into a solid state. Solid tailings can be covered with sand, topped with soil salvaged from our mining operation and revegetated. The process gets water out of the tailings sooner, limiting the creation of tailings from the start, increasing our ability to recycle water from the ponds and reducing the freshwater makeup required. The result: Kearl's large tailings area was split in half — one half is still a traditional tailings pond and the other a 'dry' side for the placement of treated tailings and coarse sand.

### Innovation: key to improving tailings management

Imperial collaborates with COSIA to improve oil sands tailings management. Working with universities, government and research institutes, companies and partners, COSIA brings together the shared expertise and financial commitment of oil sands mining companies to find new technologies and solutions to tailings.

Imperial is actively testing new technologies to speed up the reclamation of tailings ponds. Since 2019, Imperial has piloted enhanced in-line flocculation to treat tailings at Kearl. The pilot uses chemicals common in wastewater treatment to improve capture of "fines" in tailings. It is anticipated the successful phases of the pilot will lead to commercial development in 2021. In addition, in 2020, Imperial conducted another pilot project where CO<sub>2</sub> was added to coarse fine tailings with a goal of reducing the amount of fine tailings produced. We continue to evaluate the results of this pilot.



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## Ensuring land we use today is available for other uses in the future

As part of Imperial's life cycle approach to protecting the environment, we continue to enhance the rehabilitation of our no-longer-needed properties so they can have a beneficial next use. By taking actions today, we can ensure the land we use is available for other uses in the future.

When properties are no longer required to support our operations, they are decommissioned and identified as surplus. Returning surplus properties to other productive uses is a priority for Imperial — the company spends millions of dollars annually to assess, manage and remediate surplus properties.



In 2019 alone, we spent more than \$110 million on assessment, risk management, land remediation and reclamation activities, resulting in 107 properties being put into new productive use via sale or lease. The intended end land use of these sites ranges from natural and agricultural to residential, recreational, commercial and industrial.

The remediation process can take time, so we have an ongoing program for monitoring sites to help protect human health and the environment.



*Our remediation team, along with internal research partners, collaborates with industry and academia to develop and test technically and economically feasible remediation technologies and strategies. Our goal is to reduce risk, life cycle costs and future liability of our impacted sites. Ultimately, we are all working together to progress more sites to closure for beneficial reuse.*

Linda Eastcott – Technical Advisor

# 761

sites put back into productive use since 2010

# \$1.3B

spent on assessment and remediation since 2010

# \$1.3M

spent on remediation and reclamation research initiatives in 2019

## Imperial supports risk-based closure and outcome-based solutions



We use a variety of means to remediate our sites, based on risk assessments that involve thorough site investigations, often resulting in reduced physical disturbance during remediation. Some examples include:

- Bioremediation treats suitable material with soil amendments to stimulate growth of microorganisms that naturally occur in soil. These microorganisms will then degrade petroleum hydrocarbons present in the soil;
- Salt washing is another treatment technique that Imperial uses at our Norman Wells property to treat salt-impacted soils. This technology involves irrigating the excavated salty soil with an amendment solution and collecting the leached salt. The process can be repeated until the soil meets defined criteria for salt content; and
- Phytoremediation is being applied at eight of our sites to remove hydrocarbon and fertilizer impacts from soil, using live plants that metabolize or facilitate degradation of hydrocarbons and fertilizer residues.

### Driving fit-for-purpose solutions

In the past, Imperial manufactured fertilizer for the agricultural sector. We are no longer in that business but are left with a number of former fertilizer manufacturing sites that require reclamation. Until recently, feasible remediation strategies to close out sites were limited. Imperial has worked with a specialty environmental firm to develop a fertilizer guideline calculator tool to model, evaluate and determine alternative risk-based, site-specific strategies to facilitate site closure and limit long-term liability. To date, this tool was successfully applied at nine different sites resulting in reduced soil remediation volumes and lower remediation cost and safety risk, ultimately allowing these sites to be returned to productive use faster.

### Working together to address inactive wells

Imperial believes companies should manage their inactive wells and close out surplus sites as part of their license to operate. In Alberta, Imperial is involved with the Canadian Association of Petroleum Producers (CAPP) to identify opportunities for improvements to the regulatory process, to ensure the province's end-of-life liabilities are appropriately managed and to highlight opportunities for more efficient and effective closure mechanisms. Through CAPP, Imperial and industry partners worked with the regulator to help develop the Area-Based Closure program, which offers incentives to companies that commit to a target spend to reduce their inactive well inventory. This program also encourages collaboration and drives efficiencies for reduced closure costs.

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# Preventing unplanned releases

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Imperial designs and operates facilities with the objective of preventing unplanned releases from entering the environment and causing adverse effects. We strive for zero spill incidents and take action by:

- Using Imperial's facility integrity management system (FIMS), which outlines expectations for Integrity programs including spill prevention;
- Performing preventative maintenance and testing critical equipment in accordance with regulatory requirements;
- Utilizing monitoring equipment to detect any events to mitigate the impact of incidents; and
- Building secondary containment such as ditches, ponds, sumps, sewers with pumping mechanisms, or clay pads with berms around production equipment such as wells, processing facilities, product and chemical storage areas.



	2015	2016	2017	2018	2019
<b>COMPLIANCE</b>					
Oil and chemical spills ( <i>total number</i> ) > 1 barrel	10	4	4	13	10
Volume of product from oil and chemical spills ( <i>barrels</i> )	500	62	114	231	402
Number of environmental exceedance incidents	12	10	9	9	11
Environmental fines and penalties ( <i>thousands of dollars</i> ) <sup>(65)</sup>	\$13	\$37	\$813	\$812	\$406
<b>PRODUCTION/THROUGHPUT</b>					
Downstream and Chemical – refining throughput ( <i>barrels</i> ) <sup>(66)</sup>	141,000,000	132,000,000	140,000,000	143,000,000	129,000,000
Upstream – production ( <i>barrels</i> ) <sup>(67)</sup>	123,000,000	130,000,000	131,000,000	136,000,000	135,000,000



Our spill prevention program establishes procedures for inspecting and maintaining equipment, training operators and conducting practice drills. Spill trends are tracked and analyzed to identify improvement opportunities. Focus areas for future improvement include:

- Enhance facilities/pipeline integrity and maintenance programs and system reviews, upgrading as appropriate;
- Continue to evolve pipeline integrity programs based on inspection findings and regulatory expectations;
- Evaluate lower-consequence incidents to ensure learnings are captured;
- Conduct additional training and workshops to evaluate and understand the potential for high-consequence incidents, and to ensure appropriate safeguards are in place and maintained; and
- Share industry learnings.



## Spill response plans

All of our sites have a spill response plan that includes stopping the spill, securing the worksite and initiating cleanup. For larger incidents, Imperial is able to leverage local and regional emergency response organizations as needed. See [emergency preparedness and response](#) for more details.

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## Imperial's waste management approach: making the most from the least

Imperial recognizes the importance of properly managing waste to protect human health and the environment. Every facility, business unit and even our Calgary headquarters has specific plans for responsible waste management. The company implements a waste strategy that focuses on (from highest to lowest priority): avoid, reduce, reuse, recover, recycle, treat and dispose. All process waste generated by Imperial must be managed at Imperial-audited facilities to ensure waste is handled responsibly and to minimize potential safety, health and environmental concerns associated with disposal.





**Refundables** | **Mixed Recycling** | **Landfill** | **Organics**

DID YOU KNOW?

### CALGARY CAMPUS INITIATIVES

Imperial's Calgary campus diverted 73 per cent of waste from landfill in 2019. The campus has reduced domestic waste through initiatives like the four-stream (organics, mixed recyclables, refundables and landfill) waste diversion program, using reusable plates and cutlery, compostable containers and eliminating paper cups.

Year over year, the amount of waste generated by Imperial varies depending on annual maintenance requirements. This affects not only the quantities of waste generated but also the disposal and diversion rates. However, we continually investigate and evaluate opportunities to reduce the waste we generate or find better ways to manage it. Recent initiatives include:

- We recently identified an opportunity to better manage spent caustic waste from our Sarnia and Nanticoke refineries. Historically this waste would be incinerated with no beneficial re-use — the equivalent of landfilling. However, now there is an opportunity for this waste to be used as a feedstock for another industry; and
- Once fire retardant coveralls get old or ripped, they are disposed in landfills where they are very slow to biodegrade. However, the fabric never loses its protective properties and is a valuable resource. In 2020, Imperial initiated a coverall recycling program where used fire retardant coveralls are collected and reprocessed into recycled fibre, yarn and fabric to create new coveralls.



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## Safety, health & the workforce

Caring for the well-being of our people and our neighbours

# Safety, health and the workforce

## Nobody gets hurt

Protecting the health and safety of our workforce is fundamental to our business and part of our company's culture. We relentlessly pursue excellence in the execution of our work and expect every employee and contractor to leave our site at the end of each day safe and healthy.

Our entire workforce is responsible to promote and maintain a work environment in which each person accepts personal responsibility for their own safety and actively intervenes to help ensure the safety, security and wellness of others.



We believe the best way to meet our commitment to safety is through a capable, committed workforce and with practices designed to enable safe operations. Our operations integrity management system is a cornerstone of our commitment to managing risk and achieving performance excellence.



 At Imperial, safety is a core value that's integrated into everything we do. We've created a safety culture that embraces care for others and learning from our past to ensure everyone goes home safe and healthy. Having worked for Imperial for the past 15 years, I'm proud to say it is an industry leader in safety.

**Shawn Zettel – Safety, Security, Health and Environment Manager, Sarnia**

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# We're safety leaders

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## The numbers tell the story

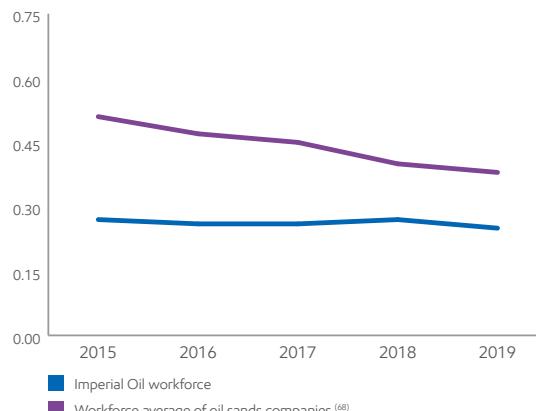
All our employees and third-party contractors have the responsibility to work safely, regardless of job function. We maintain an elevated focus on life-saving practices for work activities that have the potential for serious injuries if not performed properly. Examples include lifting heavy loads, working with electrical power and working at elevated heights.

Contractors and third-party service providers execute a significant amount of work at our sites and have a critical role to ensure work is done safely. To meet this objective, we have contractor management systems in place where service providers are screened, monitored and continually assessed to make sure they are meeting our health and safety requirements.

Our combined employee and contractor total recordable incident rate (TRIR) and lost time incident rate (LTIR) are industry leading.<sup>(68)</sup> In 2019, Imperial had a TRIR of 0.25 and a LTIR of 0.04. We participate in industry organizations such as the Canadian Association of Petroleum Producers (CAPP) and the Canadian Fuels Association (CFA) to share industry best practices.

### Total recordable incident rate

(incident per 200,000 work hours)



Imperial's Kearl operation was awarded the John T. Ryan 2018 Regional Select West best-in-class award for its outstanding safety performance

## Behaviour-based safety approach reduces incidents

Most incidents and near misses include some type of human action or behaviour that contributes to the event. That is why Imperial uses behaviour-based safety (BBS) systems to prevent or reduce incidents and near misses using tools and management techniques that reinforce good behaviours and help identify and correct undesirable, at-risk behaviours – leading to Nobody gets hurt. An effective BBS requires all workers at all levels be involved in the program.

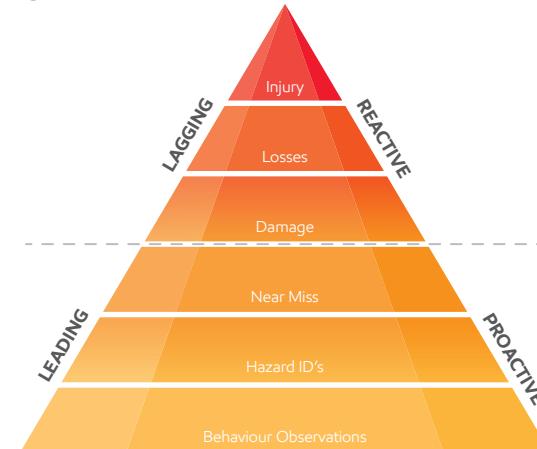
As part of our commitment to continuous improvement, we look at leading indicators identified through behaviour observations, hazard identification and near misses, which could help with further prevention and mitigation of incidents. Lessons learned from incidents or near misses are shared across the organization to prevent similar events from happening again.

Effective, ongoing training is an important aspect that affects people's safe behaviour and certain training is required before any work can be started on any site. Imperial is committed to training that gives people working at our sites the competence needed to work safely. Specific competencies are required for the various positions at our operations. In addition to training, competencies are tested on a specified frequency.

Short-service workers and experienced workers new to Imperial sites are at greater risk of injury as a result of less experience or unfamiliarity with Imperial processes and safety expectations. Imperial's new-to-site worker program helps ensure contractors and employees with less site experience are identified, adequately supervised, trained and mentored to prevent safety incidents.



**Incident triangle**



The safety triangle shows the relationship between leading indicators and more serious safety incidents. Identifying questionable behaviours early and learning from them helps target and address those that have the potential to contribute to a significant event.

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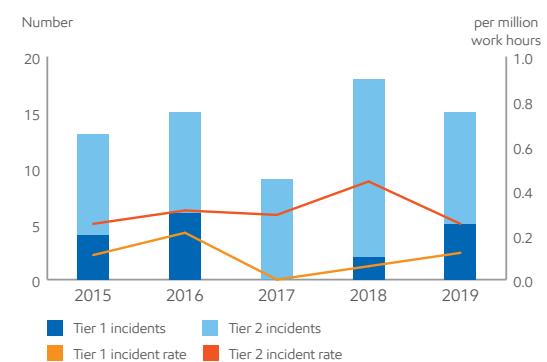
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## Enhanced process safety practices

Our position as a safety leader includes diligent management of process safety. Process safety is managing the integrity of our facilities by applying good design principles, engineering and operating practices. Our process safety mission is to eliminate all high-consequence safety events. Our Operations Integrity Management Systems (OIMS) serves as the foundation for managing process safety risks and establishes clear expectations, which are distributed throughout our management systems. The safeguards needed to manage process risks are built into OIMS and are integral to the way our facilities are designed, operated and maintained. We employ multiple safeguards to prevent a process safety event or mitigate its consequences.

In the spirit of continuous improvement, we recently rolled out enhanced process safety guidelines and expectations including scenario management, human performance principles and precise execution, to help achieve a step-change in process safety performance. We are also rolling out key process safety actions to address common exposures and potentially higher-risk activities related to process safety, with particular focus on verifying and rigorously maintaining safeguard health.

### Process safety



# Responsibly managing safety and security across the value chain

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## Product safety and responsibility

We provide high-quality products that meet or exceed specifications and customer needs, and provide information about our products and services so customers can make informed purchasing decisions. We actively encourage our suppliers, contractors and others within our supply and distribution chains to have comparable standards to those we have established for our own company.

We identify and evaluate risks associated with new and modified products and their manufacture, use, delivery and disposal. Product safety and health hazard information are also monitored, and any risks requiring specific management processes are communicated to customers, third parties and the public.

Imperial participates in Responsible Care®, an initiative of the Chemistry Industry Association of Canada (CIAC) that requires CIAC members to dedicate themselves, their technology and their business practices to sustainability — the ongoing betterment of society, the environment and the economy. Many of these strict codes of practice govern the safe and environmentally responsible handling of chemicals throughout their life cycle. At Imperial, these codes are met through OIMS.

## Security is everybody's business

To ensure that the security of our people, physical assets and intellectual property is deeply embedded in our daily operations, we have developed consistent security practices and preparedness plans, and have trained site-security contractors to meet challenges in the diverse locations where we do business.

Proactive security actions are enabled by effective processes and systems that collect, monitor and evaluate potential security intelligence and threats. Facilities are designed and operated in accordance with sound security practices that balance risk, cost effectiveness and performance throughout their operational lives.

We regularly participate in government and industry forums to enhance our knowledge, skills and technical security applications, and have ongoing awareness and training programs, including cybersecurity awareness, to reinforce safe behaviours with our workforce.



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## Robust emergency plans, training and resources for everyone's safety

Emergency response is critical to ensure that, in the event of an incident, all necessary actions are taken to protect the public, the environment and company personnel and assets. In addition, effective management of stakeholder relationships is important to enhance community trust and confidence in Imperial's operations.

Imperial has internal emergency preparedness and response (EP&R) teams, whose role is to:

- Evaluate and ensure personnel are properly trained; and
- Ensure drills are being planned, executed and completed.

Imperial has robust emergency preparedness and response plans in place at all facilities and operations. Our OIMS framework outlines corporate expectations for emergency preparedness, response and business continuity (including documentation). Resources are identified and available (including equipment facilities and trained personnel) and emergency drills are planned and executed as required.



### Within the community

Imperial is committed not only to the safety of our workers and the environment but also to communities near our operations, and the first responders and contractors who could be affected by an emergency situation.

### Response teams: our experts are ready

For any emergency that threatens to outstrip a given facility's response ability and resources to quickly and safely manage the event, the global regional response team (RRT) can be brought in for additional support and expertise. The RRT is made up of some 500 experienced responders, subject matter experts and technical experts including about 75 members from Imperial. The RRT integrates with the facility, local responders and others involved with the incident to provide process management and technical expertise.

In the event of an emergency or shutdown of a facility, we recognize the need to continue moving product to help ensure minimal disruption to our customers. The emergency support group supports the RRT to manage strategic responses to an incident, mobilizing people and equipment, establishing communications and formulating strategies as needed for business continuity.

## Drills: practice, practice, more practice

Drills allow facilities to test emergency preparedness plans and to build relationships with emergency agencies and first responders, who often participate in the drills. In 2019, Imperial completed 356 emergency response drills across our sites. Emergency response drills continued through the COVID-19 pandemic including a recent multi-stakeholder exercise in Calgary. The exercise involved approximately 90 participants in two command centres, plus many others participating virtually across North America.

## COVID-19: unprecedented emergency

Nothing is more important to us than the safety and health of our workforce and the communities near our operations. In response to the ongoing COVID-19 pandemic, Imperial created an emergency support group, a cross-functional team activated to strategically support field response during an emergency situation. This group took the lead to ensure workforce and community safety, while ensuring our essential business could continue. Extensive preventative measures have been put in place, with strict adherence to all government pandemic guidance measures, at all of our locations to help prevent the spread of COVID-19.



## COVID-19 collaboration with Alberta Health Services at our Kearl site

Based on an abundance of caution and care for our Kearl workforce, Imperial worked with the Alberta Health Services (AHS) to make COVID-19 testing available on site.

Widespread testing helped to understand the prevalence and characteristics of COVID-19 at Kearl, and helped to inform workers and AHS about virus transmission and to identify infected persons who may be asymptomatic.

The testing, scheduled over a four-day period, was provided by nurses from AHS. Approximately 1,700 workers were tested. Results not only helped the Kearl team understand the prevalence of COVID-19 at the site, it provided invaluable data to the wider medical community.

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## Imperial is committed to providing a positive, productive and supportive work environment throughout our operations

At Imperial, we view diversity — the differences between individuals or groups of people — as an opportunity. It's about all of us and all the ways we are different from and similar to one another. The related concept of inclusion is about behaviours that ensure individual differences are respected and valued, fostering an environment where each person can achieve their full potential. Inclusion and diversity are key competitive strengths, critical to maintaining Imperial's position as an industry leader and as an employer of choice.

Imperial's Equal Employment Opportunity policy incorporates requirements defined in Canada's *Employment Equity Act*. This legislation ensures employers do not discriminate on the basis of age, sex, sexual orientation, religion, national origin or any other prohibited ground of discrimination. Legislation also covers occupational health and safety, workers compensation, human rights, protection of young workers and workplace harassment.

Imperial's Harassment in the Workplace policy strictly prohibits any form of unlawful harassment including any inappropriate conduct that has the purpose or the effect of creating an intimidating, hostile or offensive work environment, unreasonably interfering with an individual's work performance, or affecting an individual's employment opportunity. Processes are in place to identify, investigate and resolve complaints appropriately.

Imperial values external perspective and expertise, and is pleased to be collaborating with the Canadian Centre for Diversity and Inclusion to stay abreast of best practices in the field to develop future inclusion and diversity plans. Our internal training programs emphasize the value of collaboration, appreciating differences and sustaining an inclusive work environment, keeping inclusion and diversity top-of-mind with all our employees. Inclusion and diversity, harassment and equal employment opportunity performance are stewarded annually by Imperial's Management Committee.

## Human rights

Imperial does not tolerate violations of human rights in any form in our business. Our standards of business conduct provide a framework for operating responsibly and are consistent with the spirit and intent of the Canadian Charter of Rights and Freedoms and the United Nations' Universal Declaration of Human Rights as it applies to private companies. For more please see Imperial's statement on labour in the workplace on our website.



We take great pride as a company in being one of Canada's and Alberta's top employers. A big part of our success is the diversity of our employees and the inclusion people feel within the workplace.

# Self identification

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## Creating an environment where employees are comfortable self-identifying

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In an inclusive and diverse workplace, employees are comfortable to self-identify in the designated groups as defined by government, including gender, Indigenous, visible minorities or persons with disabilities. In addition our employees may choose to self-identify as LGBTQ+ or veteran. Self-identification does not present a barrier to employment, training, advancement or other aspects of working at Imperial.

### Employee resource groups

Imperial maintains a supportive work environment through a range of development and networking programs. Employee resource groups are open to all employees and are focused on a common interest, in alignment with the company's approach to diversity and inclusion. Some employee-led resource groups include:

- Asian Connection for Excellence (ACE);
- Black Employee Success Team (B.E.S.T.);
- Indigenous Network (IN);
- Global Organization for the Advancement of Latinos (GOAL);
- Women's Interest Network (WIN);
- People for Respect, Inclusion and Diversity of Employees (PRIDE).



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*As a Métis, I am firmly grounded in family and close bonds developed through generations of adversity and challenge. This has given me a unique perspective and allowed me to contribute and adapt within the workplace. This diversity of experience and culture, strengthens our team in today's business environment.*

**Christopher Desjarlais – Plant Maintenance Execution Foreman, Cold Lake**

8 DECENT WORK AND ECONOMIC GROWTH



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## Diversity is our commitment; inclusion is how we get there

When it comes to workplace diversity, Imperial's goal is to reflect the mix and diversity of the communities where we operate. We continue to work toward increasing internal representation of employees in the four designated groups (women, Indigenous, persons with disability and visible minority), and we support the progression of diversity throughout the organization. Although the percentage of women working at Imperial is below labour availability according to the Canadian census data, as the Canadian labour market changes, Imperial continues to monitor and assess labour availability and strives to have a workforce

representative of the talent available. Women make up 24 per cent of our overall workforce but account for 32 per cent of management, professional and technical positions and 36 per cent of executives.<sup>(2)</sup>

Imperial supports educational development and recruiting practices that facilitate employment of Indigenous peoples. Examples include a dedicated Indigenous recruitment advisor and Indigenous internship programs like the Norman Wells Development Program and the Indigenous Internship Program at Cold Lake.

### Representation of designated groups (per cent)



\* Data based on voluntary self-identification surveys



### Celebrating Women in Energy

Young Women in Energy (YWE) champions young women working in energy-related industries. Each year YWE celebrates 10 women who demonstrate leadership, motivation, innovation and a desire to make a difference in the industry and the community. In 2019, two Imperial employees, Deidre Norman and Nayyara Mandjee received this recognition. In addition, Danica Hicks became the first female at Kearl to receive a first-class power engineer ticket. The Alberta Boiler Safety Association says Danica is among only two per cent of first-class power engineers under the age of 30.

## Continuously striving to improve: four critical areas

In 2019, Imperial engaged the Canadian Center for Diversity and Inclusion to evaluate where we are on the inclusion and diversity continuum. The assessment involved a review of our policies and programs and a double-blind survey of a representative sample of our workforce. The results of the review were then benchmarked against global standards in order to evaluate strengths and opportunities. The assessment determined that Imperial's program was competitive in comparison to global best practices but, recognizing a need for continuous improvement, Imperial identified four critical areas to further shape our inclusion and diversity focus.

Our goal is simple: we aspire to create an inclusive and diverse culture within the organization that is as important to every employee as is our safety culture.

- 01 Policies and programs**  
Continue to build on foundational success of flexible workplace programs, strong employee resource groups and other initiatives
- 02 Technology and communication**  
Improve employee communication platforms to engage new and evolving technologies to ensure maximum outreach
- 03 Partnerships and community**  
Leverage external collaboration and partnerships and ensure we're always "bringing the outside in"
- 04 Development and training**  
Continue to fine-tune inclusion and diversity/cultural training to ensure a right-sized, deliberate and meaningful approach



As one of the key focus areas for our inclusion and diversity program, technology can help bring awareness and reduce bias as it exposes everyone to different behaviours and attributes outside of our day-to-day. It is a way to unify us all by appreciating our unique perspectives, contributions and circumstances which empowers us. This helps create an open space where people matter most.

**Danieska Gonzalez** – Investment Recovery Coordinator

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## Learning is lifelong, personal growth is continuous

Continuous growth of employee capabilities and experience is key for both business and personal success. Imperial offers robust corporate and technical training programs to accompany challenging work assignments. A comprehensive, enterprise-wide tool, Career Connect, supports goal and learning development, career and succession planning, employee career preference expression and performance and competency feedback.

Mentorship, both formal and informal, is invaluable in fostering employees' development and career progression. Available programs include:

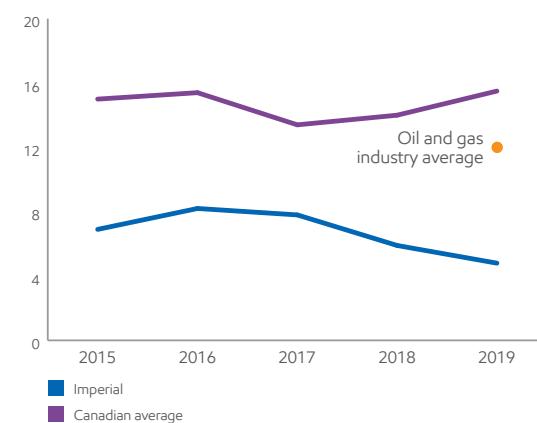
- Welcome to Imperial to familiarize new employees with the organization, systems and structures;
- Network Advisory Program to accelerate new hire/student integration within their first years;
- Senior Network Advisory Program for early to mid-career development;
- Functional mentoring programs within Imperial's businesses.

## Employee retention

Imperial provides a foundation for a rewarding and successful career. Unexpected staff turnover is disruptive and could incur increased cost, and reduce productivity and morale. Attrition at Imperial is half of the Canadian industry average. In 2019, Imperial's attrition rate at 4.8 per cent, was the lowest level of attrition in the past 10 years. Retirements, at two per cent, represented almost half of Imperial's attrition.

## Turnover rates

(includes voluntary, involuntary attrition and retirements)



Compensation Planning Outlook 2020: With Winter Update. The Conference Board of Canada, October 2019.



*In support of our most valuable asset – our workforce, our employees have access to some of the best in-class training offerings through a variety of platforms and delivery methods to support inclusion and diversity. Whether it is enhancing inclusive behaviours and leadership or understanding legislatively driven obligations under harassment, our employees can choose from a variety of programs and offerings to support their development at every career milestone.*

**Sina Ashour** – Inclusion and Diversity Advisor

# Workforce health and wellness

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Imperial cares about the health and well-being of our employees and their families. We take all health issues seriously, whether work-related or not. We want our employees to be healthy in their lives, their careers and in retirement.

At Imperial's health centres across the country, our occupational health professionals — physicians, nurses and industrial hygienists — provide advice on promoting a safe and healthy workplace and respond to individual health concerns.

The company has a comprehensive alcohol and drug policy. The policy's purpose is to support workplace health and safety, to address and minimize the risks in the workplace associated with drugs and alcohol, to ensure fitness for duty and to provide support and resources to employees who are dealing with substance abuse or dependency problems. The policy outlines expectations based on risk assessments, encourages disclosure and supports treatment for employees.

We sincerely care about our employees and recognize the importance well-being plays for each of us to 'bring our best self' to work.

Programs include:

- Workplace flexibility programs in support of work-life balance;
- Comprehensive health and benefits plan;
- Wellness personal spending account (WPSA) to financially support employee focus on well-being as it suits their personal needs and goals; and
- Employee and family assistance program (EFAP) for employees and their families with immediate and confidential support to help resolve work, health and life challenges.

## Focused on supporting emotional well-being

Imperial's focus during the COVID-19 pandemic has been to reduce impacts on our employees as much as possible. We tackled this unprecedented issue using a variety of tools and programs: offering resources so employees could work remotely where possible, creating online tools for employees and the public with evergreen information about our COVID mitigation measures and site requirements, and encouraging employees to make use of Imperial's mental health resources.



*We care about the health and well-being of our employees and their families. Our wellness assistance programs are available to help manage professional stress, family issues and other challenges that may be magnified by COVID-19. Our mental and emotional health resources are available 24/7 to all employees through our Employee and Families Assistance Program, which provides access to trained resources to help address a variety of stressors.*

**Dr. Antia Daniel – Occupational Health Manager**

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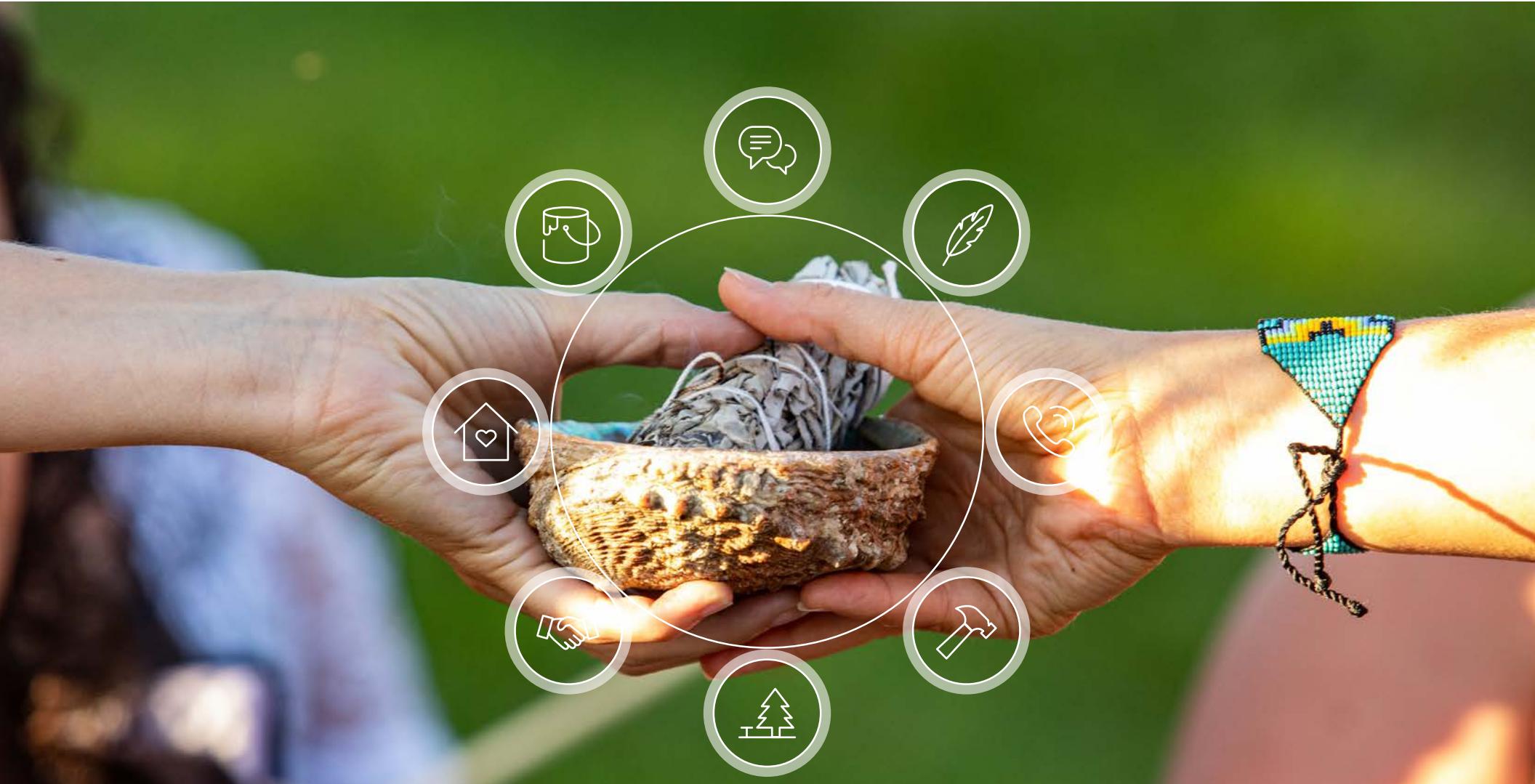
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## Community & Indigenous engagement

Creating lasting relationships to build strong, resilient communities

# Indigenous engagement

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**"Our company and our employees have an important role to play in progressing reconciliation. Working together, we can find new ways forward and build positive change."**

Brad Corson – Imperial Chairman, President and CEO

Many of Imperial's operations and development opportunities are located within Indigenous communities or on their traditional lands. Imperial supports communities in areas where we explore, develop and operate, and we strive to establish meaningful relationships built on mutual trust, respect and shared prosperity. Our goal is to collaborate with Indigenous communities on a common vision for progress, environmental stewardship and sustainable economic development.

## Guiding principles

Reconciliation is the responsibility of all Canadians, including businesses. Imperial demonstrates our commitment to positive and progressive Indigenous relations as follows:

- We conduct business in a manner that respects the land, environment, rights and cultures of Indigenous communities, in accordance with the laws of Canada;
- We expect our contractors to conduct their business in accordance with our corporate principles, policies and guidelines;
- We engage Indigenous communities and their representatives in open and forthright consultation;

- We seek to understand Indigenous perspectives on issues of mutual interest and to deal constructively with differing views;
- We strive to provide employment opportunities to Indigenous people; and
- We foster the development of Indigenous businesses in ways that provide benefits to the company and to Indigenous communities.

In some of our operating communities, we have identified opportunities to establish community benefit and relationship agreements to help formalize engagement in the four pillars. These agreements are primarily focused on relationship-building, the promotion of long-term community benefits, and are meant to facilitate sustainable economic development within the community.



## Imperial's Indigenous engagement is supported by our four key pillars



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development



Business  
development



Community  
relations



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Imperial maintains ongoing dialogue with Indigenous leaders, community members and their representatives by:

- Valuing traditional practices, decision-making processes, cultural activities and languages;
- Respecting the legal rights of Indigenous Peoples and adhering to government requirements;
- Ensuring timely discussions on activities with the potential to impact a community;
- Understanding traditional land uses and Indigenous and treaty rights in order to minimize and mitigate impacts; and
- Treating all parties fairly.

Establishing mutually agreed-upon processes and identifying areas of importance up-front allows us to work together on early identification of potential concerns and possible opportunities to work with local communities. We seek to understand communities' respective decision-making processes, traditional practices and areas of priority through the establishment of trusting relationships. We work to:

- Start conversations early in project planning to allow enough time to meaningfully consider feedback and collaborate on potential mitigation measures;
- Continue dialogue through the full life of an operation up to and including remediation planning and reclamation;
- Seek local community involvement through a variety of mechanisms (e.g. field studies, site tours, collaborative workshops and traditional land use studies);
- Learn from our Indigenous neighbours when we are honoured to be included in cultural traditions such as pipe ceremonies and smudging ceremonies with our project teams; and
- Demonstrate our commitment to maintaining long-term engagement that is mutually beneficial through ongoing formal relationship meetings.

## Innovative approaches to consulting remotely

The COVID-19 crisis impacted the way we interact with each other and neighbouring communities. Typically, the majority of our Indigenous consultation is done face-to-face in order to facilitate open dialogue.

During the pandemic we slowed the pace of engagement to align with the communities' readiness to meet, recognizing that they too were managing public health issues. To facilitate ongoing meaningful consultation, we conducted virtual discussions, ensuring our Indigenous partners had the technology support they needed to engage.

Where we historically would have had community participation in site visits, "the field" was brought to the community through virtual mapping sessions.

These sessions used light detection and ranging imagery, matched with scouting photographs to aid us in working with Indigenous communities to identify potentially culturally sensitive areas.

# Indigenous awareness education at Imperial

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At Imperial we recognize we have a responsibility to answer the Truth and Reconciliation Commission's calls to action and ensure our employees are collaborative agents for positive change. One of the first steps in reconciliation is understanding. We recognize we can do more to learn from the experiences of Indigenous Peoples in Canada.

We have established a series of Indigenous awareness professional development courses to further employee knowledge of Indigenous culture, history and traditions. Our goal is ultimately to increase the collective understanding of our management and employees across the country by providing a safe space to ask questions and foster a strong learning environment.

Imperial's training program strives to develop an appreciation for the legal, social and political challenges that Indigenous groups face, the historical implications of colonization, treaties and residential schools and also touches on ceremony, spirituality and traditions. The curriculum is both online and in-person and ranges from two-hour to full-day sessions.



*I am honoured to have provided Indigenous awareness training for Imperial for over a decade – we have had thousands of employees and contractors go through the cultural sensitivity workshops. It is clear that Imperial builds meaningful and respectful relationships with the Indigenous Peoples from the traditional territories on which their businesses are located.*

**Holly Fortier** – President & Facilitator, Nisto Consulting

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# Business development with our Indigenous partners

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## By growing healthy business partnerships, we are progressing economic reconciliation together

We believe that strong and responsible resource development contributes to overall reconciliation and Indigenous self-determination by supporting the growth of sustainable communities. In addition, sourcing locally for workers, suppliers and services makes good business sense.

Local and Indigenous content is considered an asset in our procurement contracts, and we actively work to engage Indigenous businesses in the areas we operate. We are proud to be a Canadian Council for Aboriginal Business (CCAB) Aboriginal procurement champion. This designation places

Imperial in a group of corporations committed to increasing opportunities for Indigenous businesses to participate in companies' supply chains.

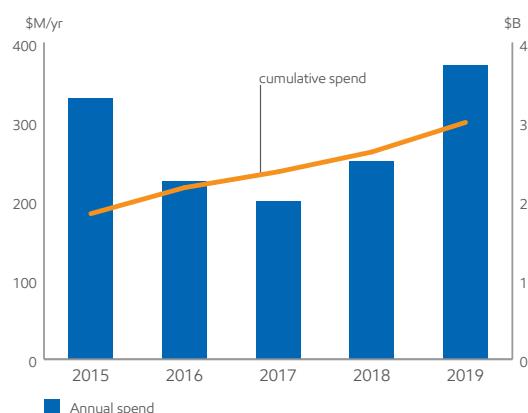
We measure success not just by the dollar value of the contracts themselves but also by the business relationships and capacity we build and grow with Indigenous companies over time. By aligning our national supply chain needs with partner community capacity, we focus on long-term planning and growing Indigenous business capability and opportunity across our national value chain.

That innovative approach to business development has been recognized by our Indigenous partners.

Our expertise in this area was recognized in 2020 when the company was invited to sit on a Canadian Council of Aboriginal Business/Government of Canada working group to provide guidance to the federal government on how to structure a program that can deliver on its promise to have five per cent of the government's procurement dollars spent with Indigenous suppliers. The working group is made up of representatives from all sectors of corporate Canada, Indigenous businesses and Indigenous national organizations. Imperial is the only oil and gas company at the table.

### Imperial Indigenous business spend

(\$CDN)



2015 was a unique year given increased capital spend at Kearl. Imperial surpassed the \$3B Indigenous business spend mark in 2020.

*"The relationship between Imperial and Fort McKay Métis Group is a model of how partnerships should operate. While these are unprecedented times, filled with change and uncertainty, we are confident that Imperial's management and acumen will allow them, and us, to continue to prosper into the future."*

Crystal Young, CEO, Fort McKay Métis Group

### Facilitating new business opportunities

Imperial worked with Athabasca Chipewyan First Nation (ACFN) to determine areas of growth for ACFN businesses and identified heavy-duty welding as an opportunity. Imperial brought together leaders from Kearl and senior leaders from Acden Lemax, an ACFN-owned machining and welding company. That workshop resulted in more than \$3 million in work awarded to Acden over a six-month period.

# Workforce development

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Imperial aspires to engage and continue to develop an Indigenous presence within our workforce in Canada. It is our goal to achieve a workforce that is representative of the population where we operate and we are working together to advance participation of Indigenous peoples in energy development.

We develop and support educational programs and recruiting practices that facilitate employment and retention of qualified Indigenous people. To accomplish this goal we employ a variety of tactics and programs:

- Routinely work with community employment coordinators to share information about Imperial or contractor job opportunities;
- We participate in community and industry job fairs and post opportunities on Indigenous job boards;
- We support community-led workforce development goals;
- Because training and education are a big part of creating employment opportunities for Indigenous people — especially youth — since 2000, we have supported scholarships and bursaries through Indspire, and promote employment opportunities with recipients. To date, Imperial has provided more than \$2 million to First Nation, Inuit and Métis post-secondary students; and
- Since 1990, we have supported on-the-job learning and development through a variety of programs including the Northern Development Program (NWT), Indigenous Internship Program (Cold Lake) and Summer Internship Program (corporate).



## 2020 Canadian Centre for Diversity and Inclusion – Employer Initiative of the Year

In July 2020, Imperial was awarded the Canadian Centre for Diversity and Inclusion (CCDI) Employer Initiative of the Year (Western Canada) for our benefits-focused Indigenous business performance in the Athabasca region of Alberta. The CCDI defines inclusion and diversity as “capturing the uniqueness of the individual; creating an environment that values and respects individuals for their talents, skills and abilities to the benefit of the collective.”

### Progressive Aboriginal RELATIONS

**COMMITTED**

Canadian Council for Aboriginal Business



The Canadian Council for Aboriginal Business offers a program of certification Progressive Aboriginal Relations (PAR) to recognize positive relationships between businesses and Indigenous groups. There are varying levels of certification depending on the maturity of the company’s Indigenous policies and outreach. Imperial is enrolled in PAR at the “committed” level and we are dedicated to continuous improvement in Indigenous relations. Imperial intends to undergo external verification of our future performance and is currently working through the phases of PAR with aspirations to receive gold level certification.

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**Internship and training programs facilitate recruitment**

In conjunction with recruitment, on-the-job training programs and scholarship programs form an important part of Imperial's strategy for increasing Indigenous employment at our operations. We have scholarship programs in Cold Lake and Norman Wells to encourage Indigenous students to pursue post-secondary studies in disciplines relevant to the petroleum industry.

Our internship and training programs provide opportunities for Indigenous community members to learn for themselves the benefits of joining our team. In addition to paid on-the-job training, participants gain valuable work experience. Our Cold Lake Indigenous internship program, for example, started more than 20 years ago to grow

the company's Indigenous workforce at that facility, and to date we've had roughly 83 participants in the program. Another example is the Norman Wells Northern Development Program, a two-year internship program that started in 1990. During the internship, we provide training, mentorship and support — with the ultimate goal of transitioning successful students to full-time employees once their education is complete.

We work hard to recruit Indigenous people into Imperial. Providing a workplace conducive to retaining and developing Indigenous employees is just as important to us. In 2018, we established a team to focus on recruitment and retention of Indigenous employees and to establish internal

training and development programs that contribute to a culture of diversity and inclusion within the company. And, in 2019, Imperial launched an Indigenous student employee program to attract top Indigenous talent and provide meaningful work and opportunities to grow professional skills. The program aims to provide Indigenous post-secondary students with the opportunity to develop their professional skills through paid work-term experience as they continue their formal education. Work terms range from four to 16 months in length, with postings going up in early January, May and September.



*I wanted to be a role model to the young people in my community. At first I had mixed emotions about working in energy as my reserve (Aamjiwnaang First Nation) is closely located to several oil and gas operations. My Chief had worked at Imperial and he brought back the message to our community that we can build these positive relationships that will impact future generations. That message told me that it is possible and it started with me working here. Through Imperial's Indigenous student employee program, I have finally found my path and have had my voice heard.*

**Karlee Jackson** — former recruitment analyst student and current Human Resources Advisor, Nanticoke Refinery

# Community relations

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## Making connections and creating the space to come up with collective solutions

Imperial builds meaningful relationships with Indigenous communities by:

- Working collaboratively to design and implement programs that build capacity through leadership development and community initiatives;
- Participating in community events;
- Supporting women and youth leadership; and
- Expanding access to traditional learning.



### Research centre tours with Indigenous communities (pre-COVID)

We strive to provide opportunities to be transparent and collaborative with our Indigenous partners. In 2019 and 2020, we provided opportunities for the communities to have tours of our research labs so that they could see first-hand the extensive work we're doing to operate in a sustainable manner and find innovative new production methods.



 I have the same passion for working with kids in community as I do for learning from elders and that's because I believe so strongly about the importance of telling our stories and sharing our journeys. There is so much to learn from taking the time to listen to one another, whether it's talking to girls in schools in Yellowknife, Cold Lake or Hay River about my own journey as an Indigenous woman becoming an archaeologist or taking part in pipe ceremonies with elders. It's in the conversations we have where the connections are made, where the space is created to come up with the solutions that will move us forward.

**Jezelle Zatorski** – Socioeconomic Advisor, Policy and Advocacy

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## Taking time to understand and reflect – apart but together

National days of reconciliation are very important for organizations and individuals to take the opportunity to understand more about the findings of the Truth and Reconciliation Commission and to learn about the consequences of the residential school system in Canada. In 2020, National Aboriginal Awareness Day, on June 30<sup>th</sup>, and Orange Shirt Day, on September 30<sup>th</sup>, landed in the middle of the pandemic. Despite the fact we couldn't be physically together, Imperial employees found creative ways to engage while apart — virtual pow-wow workouts, online dream catcher tutorials and Orange Shirt Day Zoom backgrounds were some of the ways we made it real and personal.

## Building brighter futures with Indspire

Imperial has been a committed partner of Indspire's Building Brighter Futures: Bursaries, Scholarships and Awards program since 2000, providing almost \$2 million to date for First Nation, Inuit and Métis post-secondary students.

In addition to our scholarship funding, we are also engaged in Indspire's Soaring Indigenous Youth Empowerment Gathering. This annual event, held most recently in Ottawa on March 5/6, 2020, engages and motivates Indigenous students to contemplate post-secondary education and career options.

*"The positive impact of attending Soaring cannot be overestimated. We want to ignite hope for the future in youth who may not get this kind of career-focused opportunity again. We show them what's achievable with hard work and, thanks to Imperial's commitment, we can also offer them the financial support to realize their dreams."*

Roberta Jamieson, Indspire's president and CEO

Our team also attends the annual Indspire Awards, a nationally broadcast celebration of culture showcasing the diversity of Indigenous Peoples in Canada including performances by Canada's biggest names in Indigenous entertainment.

# Investing in communities

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## Creating lasting relationships to build strong, resilient communities

### Community investment

If this challenging time has reinforced anything, it's the power of community. While Imperial provides reliable fuel to Canadians to keep our country moving, our role as a leading energy producer begins in the communities where we live

and work. Our investments and extensive employee volunteer engagement represent a shared commitment to keeping our communities resilient and to improving quality of life.

### Our community investment strategy

Our community investment decisions are focused on creating shared value in three priority areas:

#### Innovation & sustainability



Meeting the dual energy challenge requires inspired and creative thinking. That's why we support and grow Canada's future leaders and invest in causes that:

Drive innovation in trades, technology and workforce development

Support Canada's energy transformation to a lower-carbon economy

Foster environmental conservation and protection and make improvements in water, land and air

#### Indigenous leadership & capacity building



We're committed to creating lasting relationships around a common vision for progress in Indigenous communities. We invest in programs and organizations to:

Support women and youth leadership

Build workforce and business capacity

Provide hands-on experiences in science, technology, engineering and math

Expand access to traditional learning

#### Strong & prosperous communities



We collaborate with the communities where we live and work to ensure we're supporting meaningful, shared outcomes. We invest in partnerships that:

Provide innovative experiences to youth

Improve access to education in STEM

Improve quality of life

Engage our employees

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5 GENDER EQUALITY

**Making an ImpACT – employee engagement**

In 2019, Imperial launched its new employee volunteer program — ImpACT. Through ImpACT, the company matches employee volunteer hours (\$25/hour) and charitable cash donations to a combined maximum of \$500 per employee per year. Imperial's match means our employee's efforts make an even greater direct, measurable impact on the communities and causes they care about most.

Through the year, more than \$400,000 of combined employee contributions and corporate matching was donated to support communities across Canada. Employees gave to more than 350 organizations and volunteered at more than 200 organizations, logging more than 14,000 hours of volunteer time.

Imperial also encourages employee engagement through our Employee Choice program, which provides employees an opportunity to nominate charities and vote for charity support in their communities. Since 2017, the company has distributed more than half a million dollars to organizations near and dear to employees' hearts.

**Community investment — notable metrics**

Every year London Benchmarking Group Canada audits our community investment portfolio and program to help us understand the total value to community of our cash and in-kind donations, our employee volunteer hours as well as our program management costs. In 2019, the group also helped us design concrete metrics to evaluate our return on investment for both Imperial and recipient organizations.

## Community investment in 2019:

- Imperial supported more than 230 organizations across Canada
- More than \$32 million invested in Canadian communities<sup>(69)</sup>
- \$3.3 million raised for United Way organizations across Canada
- Over 14,000 hours of employee volunteer time in Canadian communities

## A unique time: a unique focus

Whether it is through our operating assets, offices or Esso- and Mobil-branded service stations, our teams are committed to doing everything we can to keep our communities safe and resilient during this unprecedented pandemic. We are proud of how our employees and neighbours come together to donate crucial supplies and funding where it is needed most:

- To salute healthcare heroes across the country Imperial provided \$2 million in free Esso and Mobil fuel vouchers to frontline nurses, paramedics and doctors launched in response to the COVID-19 pandemic.
- To support the Government of Canada's critical emergency response efforts, Imperial donated 60 tonnes of isopropyl alcohol (IPA) to be used in disinfectant products, enough to manufacture more than 600,000 350-ml bottles of hand sanitizer.
- To increase awareness and raise funds for mental health support services, Imperial partnered with its hockey network and player legends Hayley Wickenheiser and Vancouver Canucks captain Bo Horvath to #FuelWhatMatters and raised \$140,000 for 14 charities across Canada.
- To support online learning and to help meet high demand for technology devices while classrooms remain closed, Imperial donated 500 laptops to the Electronic Recycling Association's Lending Laptops Program.
- To help support our employee giving, Imperial raised its match dollars 2:1 for donations by employees to community charities and not-for-profit organizations through our employee giving and volunteer program ImpACT.



## Actua

Bridging the gap between culture, traditional knowledge and modern science helps pave the way for Indigenous youth to explore their future as STEM innovators. For more than a decade, Imperial has supported Actua's Indigenous Youth in STEM (InSTEM) and has helped Actua deliver more than 272,000 face-to-face hours of STEM programming reaching 47,000 Indigenous youth in 245 communities across Canada.

"Imperial has played a transformative role in advancing Actua's work by enabling us to scale and advance our deeper impact programs," says Leslie Cuthbertson, Actua's chief operating officer. "Together, we are moving the dial on essential skill development and youth readiness for future careers in STEM."



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## Economic development

Creating long-term economic and social benefits for our communities

# Economic development

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Our goal is to create long-term economic and social benefits for communities where we operate. We provide local economic support, including workforce and supplier development and strategic community investments. Government revenues from taxes and royalties drive economic growth and a higher standard of living for all Canadians. Developing and using local vendors to supply goods and services is a central component of Imperial's business strategy. In 2019, we spent a total of \$5.3 billion for goods and services, 93 per cent of which was spent in Canada.

## Supply chain management

We expect suppliers and contractors to follow all applicable laws and regulations, and conduct their business in accordance with our corporate principles, policies and guidelines. Our contracts stipulate that suppliers will:

- Conduct activities in an ethical manner;
- Not engage in any activity that could create a conflict of interest;

- Have policies in place that meet the intent of Imperial's alcohol and drug, and harassment policies; and
- Adhere to our safety, health and environment management systems in performing their work.

We also encourage vendors to work with local and Indigenous-owned businesses to provide additional benefit to the communities in which we work.

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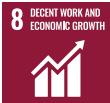
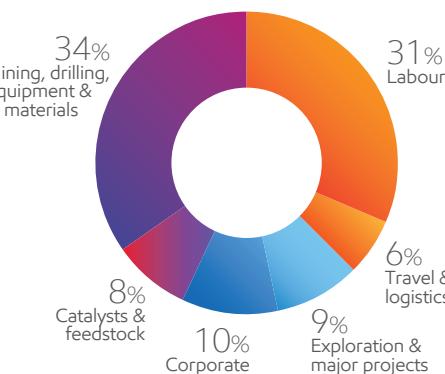
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## Imperial spend in Canada by purchasing category



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# Taxes and royalties

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For nearly 140 years, we've provided well-paying jobs to Canadians, opportunities for independent businesses and taxes to governments. In 2019, \$6.1 billion in taxes and royalties were borne and collected that in turn helps fund school systems, roads, hospitals, social programs and much more.

## MANAGING THE RISKS OF CLIMATE CHANGE

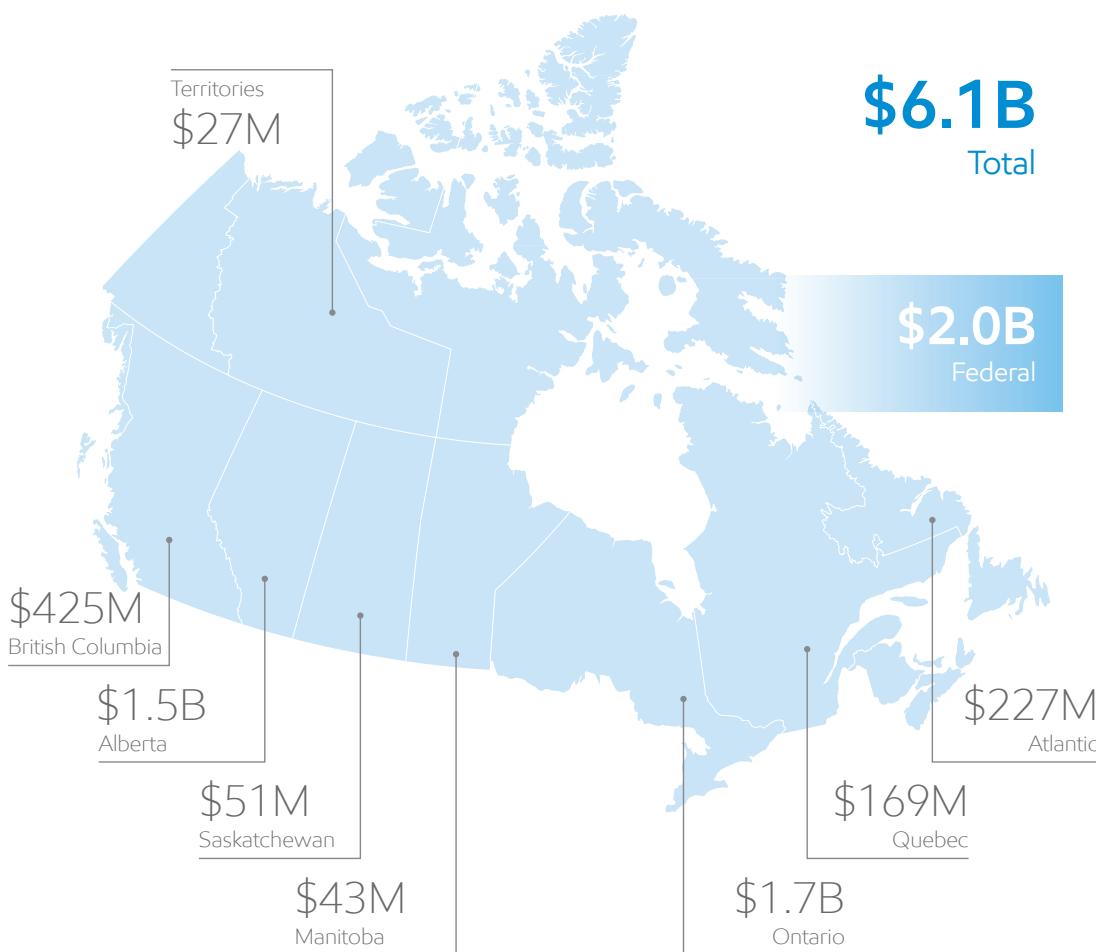
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**\$1.5B**

paid in wages and benefits in 2019

**\$5.3B**

total spend on goods and services

**2,616**

suppliers across Canada

**3,103**

total suppliers



Performance data

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# Performance data

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	<b>ENVIRONMENT<sup>(i)</sup></b>	2015	2016	2017	2018	2019
CORPORATE GOVERNANCE	<b>Air emissions</b>					
	Sulphur oxides (expressed as SO <sub>2</sub> – thousand metric tonnes/year)	22.9	21.4	20.9	24.0	<b>23.3</b>
MANAGING THE RISKS OF CLIMATE CHANGE	Nitrogen oxides (thousand metric tonnes/year)	15.5	15.9	16.5	17.7	<b>18.3</b>
	Volatile organic compounds (thousand metric tonnes/year)	14.0	10.5	10.4	10.7	<b>9.6</b>
	Particulate matter (PM10) (thousand metric tonnes/year)	4.6	5.9	8.9	8.3	<b>9.6</b>
ENVIRONMENTAL PERFORMANCE	<b>GHG emissions and energy consumption<sup>(ii)</sup></b>					
	Direct GHG emissions – including Cogen					
	Downstream & Chemical (million metric tonnes of CO <sub>2</sub> e)	4.8	4.8	4.7	4.7	<b>4.4</b>
SAFETY, HEALTH & THE WORKFORCE	Carbon dioxide emissions (million metric tonnes)	4.8	4.8	4.6	4.6	<b>4.4</b>
	Methane emissions (million metric tonnes)	0.0011	0.0010	0.0011	0.0011	<b>0.0012</b>
	Nitrous oxide emissions (million metric tonnes)	0.0001	0.0001	0.0001	0.0001	<b>0.0001</b>
COMMUNITY & INDIGENOUS ENGAGEMENT	Upstream (million metric tonnes of CO <sub>2</sub> e)	8.0	8.2	8.4	8.4	<b>8.7</b>
	Carbon dioxide emissions (million metric tonnes) <sup>(iii)</sup>	7.8	8.0	8.2	8.3	<b>8.6</b>
	Methane emissions (million metric tonnes)	0.0019	0.0023	0.0018	0.0017	<b>0.0020</b>
ECONOMIC DEVELOPMENT	Nitrous oxide emissions (million metric tonnes)	0.0003	0.0003	0.0003	0.0003	<b>0.0001</b>
	Operated oil sands (million metric tonnes of CO <sub>2</sub> e)	7.9	8.1	8.3	8.4	<b>8.6</b>
	Carbon dioxide emissions (million metric tonnes) <sup>(iii)</sup>	7.7	8.0	8.2	8.3	<b>8.5</b>
PERFORMANCE DATA	Methane emissions (million metric tonnes)	0.0016	0.0020	0.0017	0.0016	<b>0.0017</b>
	Nitrous oxide emissions (million metric tonnes)	0.0003	0.0003	0.0003	0.0003	<b>0.0001</b>
	Imported electricity and associated indirect GHG emissions					
	Downstream & Chemical – imported electricity (million MWhr)	1.10	1.07	1.04	1.09	<b>1.09</b>
	Downstream & Chemical – associated indirect GHG emissions (million metric tonnes of CO <sub>2</sub> e)	0.41	0.39	0.39	0.40	<b>0.40</b>
	Upstream – imported electricity (million MWhr)	0.70	0.83	0.92	0.95	<b>1.07</b>
	Upstream – associated indirect GHG emissions (million metric tonnes of CO <sub>2</sub> e)	0.26	0.31	0.34	0.35	<b>0.39</b>
	Operated oil sands – imported electricity (million MWhr)	0.70	0.83	0.92	0.94	<b>1.07</b>
	Operated oil sands – associated indirect GHG emissions (million metric tonnes of CO <sub>2</sub> e)	0.26	0.31	0.34	0.35	<b>0.39</b>

ENVIRONMENT (continued)	2015	2016	2017	2018	2019	INDEX
Exported electricity and associated GHG emissions						
Downstream & Chemical – exported electricity (million MWhr)	—	—	—	—	—	INTRODUCTION
Downstream & Chemical – associated GHG emissions (million metric tonnes of CO <sub>2</sub> e)	—	—	—	—	—	
Upstream – exported electricity (million MWhr)	1.25	1.48	1.45	1.55	1.50	CORPORATE GOVERNANCE
Upstream – associated GHG emissions (million metric tonnes of CO <sub>2</sub> e)	0.46	0.55	0.54	0.57	0.56	
Operated oil sands – exported electricity (million MWhr)	1.24	1.47	1.45	1.55	1.49	
Operated oil sands – associated GHG emissions (million metric tonnes of CO <sub>2</sub> e)	0.46	0.55	0.53	0.57	0.55	
GHG emissions <sup>(iv)</sup>						MANAGING THE RISKS OF CLIMATE CHANGE
Downstream & Chemical (million metric tonnes of CO <sub>2</sub> e)	5.2	5.2	5.1	5.1	4.9	
Upstream (million metric tonnes of CO <sub>2</sub> e)	7.8	7.9	8.2	8.2	8.5	ENVIRONMENTAL PERFORMANCE
Operated oil sands (million metric tonnes of CO <sub>2</sub> e)	7.7	7.8	8.2	8.2	8.4	
Production/throughput						
Downstream & Chemical – refining throughput (million m <sup>3</sup> ) <sup>(v)</sup>	22	21	22	23	20	SAFETY, HEALTH & THE WORKFORCE
Upstream – production (million m <sup>3</sup> ) <sup>(vi)</sup>	20	21	21	22	21	
Operated oil sands – production (million m <sup>3</sup> ) <sup>(vii)</sup>	19	20	21	21	21	
GHG emissions intensity <sup>(viii)</sup>						COMMUNITY & INDIGENOUS ENGAGEMENT
Downstream & Chemical (metric tonnes of CO <sub>2</sub> e/m <sup>3</sup> refining throughput) <sup>(v)</sup>	0.23	0.25	0.23	0.22	0.24	
Upstream (metric tonnes of CO <sub>2</sub> e/m <sup>3</sup> upstream production) <sup>(vi)</sup>	0.40	0.38	0.39	0.38	0.40	
Operated oil sands (metric tonnes of CO <sub>2</sub> e/m <sup>3</sup> upstream production) <sup>(vii)</sup>	0.40	0.39	0.39	0.38	0.40	ECONOMIC DEVELOPMENT
Total energy use (million gigajoules)	219	220	223	227	227	
Fuels refining Solomon Ell® – normalized versus 1990 <sup>(ix)</sup>	0.811	0.808	0.804	0.789	0.809	
Flaring and venting						PERFORMANCE DATA
Hydrocarbon flaring – company total (million cubic feet per day)	2.2	1.9	2.1	2.9	3.4	
Gas (hydrocarbon) flaring from oil production (million cubic feet per day)	3.9	3.9	3.5	3.1	2.8	
Water consumption						
Freshwater consumption						
Downstream & Chemical (million m <sup>3</sup> of fresh water consumed)	10.5	10.4	9.9	10.1	9.8	
Upstream (million m <sup>3</sup> of fresh water consumed)	41.0	30.2	32.6	35.2	39.3	
Fresh water consumption intensity						
Downstream & Chemical (m <sup>3</sup> of fresh water consumed/m <sup>3</sup> refining throughput) <sup>(v)</sup>	0.47	0.49	0.45	0.44	0.48	
Upstream (m <sup>3</sup> of fresh water consumed/m <sup>3</sup> upstream production) <sup>(vi)</sup>	2.10	1.46	1.56	1.63	1.83	



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	<b>ENVIRONMENT (continued)</b>	2015	2016	2017	2018	2019
INTRODUCTION	<b>Compliance</b>					
	Oil and chemical spills ( <i>total number</i> ) > 1 barrel	10	4	4	13	<b>10</b>
CORPORATE GOVERNANCE	Volume of product from oil and chemical spills ( <i>barrels</i> )	500	62	114	231	<b>402</b>
	Number of environmental exceedance incidents	12	10	9	9	<b>11</b>
	Environmental fines and penalties ( <i>thousands of dollars</i> )	\$13	\$37	\$813	\$812	<b>\$406</b>
MANAGING THE RISKS OF CLIMATE CHANGE	<b>Waste management</b>					
	Hazardous waste disposed from operations ( <i>thousand tonnes</i> )	9.5	10.8	20.9	34.0	<b>28.2</b>
	Hazardous waste – external beneficial reuse ( <i>thousand tonnes</i> )	7.6	5.1	6.9	3.3	<b>8.9</b>
ENVIRONMENTAL PERFORMANCE	<b>INVESTMENTS</b>	2015	2016	2017	2018	2019
	Gross research expenditures, before credits ( <i>millions of dollars</i> )	\$195	\$195	\$154	\$150	<b>\$170</b>
	Environmental expenditures ( <i>millions of dollars</i> )	\$1,200	\$700	\$600	\$600	<b>\$800</b>
SAFETY, HEALTH & THE WORKFORCE	<b>ECONOMIC DEVELOPMENT</b>	2015	2016	2017	2018	2019
	Capital and exploration expenditures ( <i>billions of dollars</i> )	\$3.6	\$1.2	\$0.7	\$1.4	<b>\$1.8</b>
	Payments for goods and services ( <i>billions of dollars, approximate</i> ) <sup>(x)</sup>	\$9.50	\$8.00	\$5.50	\$4.72	<b>\$5.26</b>
COMMUNITY & INDIGENOUS ENGAGEMENT	Taxes and royalties to government ( <i>billions of dollars</i> )	\$5.40	\$5.20	\$5.10	\$5.60*	<b>\$6.14</b>
	<b>Employment</b>					
	Wages and benefits ( <i>billions of dollars</i> )	\$1.50	\$1.40	\$1.40	\$1.45	<b>\$1.48</b>
ECONOMIC DEVELOPMENT	Education assistance program ( <i>thousands of dollars</i> )	\$627	\$685	\$588	\$588	<b>\$760</b>
	Scholarships for employee dependents ( <i>millions of dollars</i> )	\$2.10	\$1.90	\$2.00	\$1.88	<b>\$1.99</b>
	Number of regular employees at year end <sup>(xi)</sup>	5,917	5,706	5,523	5,687	<b>6,049</b>
PERFORMANCE DATA	Percentage of women at year end	25.8	25.0	25.1	24.0	<b>23.8</b>
	Percentage of visible minorities at year end <sup>(xii)</sup>	10.9	11.2	11.2	12.8	<b>12.8</b>
	Percentage of persons with disabilities at year end <sup>(xiii)</sup>	1.2	1.0	0.9	2.4	<b>3.8</b>
	<b>Indigenous</b>					
	Spending with Indigenous businesses (direct and subcontracted) ( <i>millions of dollars</i> )	\$329	\$225	\$200	\$250	<b>\$370</b>
	Percentage of Indigenous peoples at year end <sup>(xii)</sup>	3.7	3.9	3.9	3.6	<b>3.6</b>

	2015	2016	2017	2018	2019
<b>COMMUNITY ENGAGEMENT</b> <sup>(xiii)</sup>					INDEX
Community investment ( <i>millions of dollars</i> ) <sup>(xiv)</sup>	\$27.0	\$21.2	\$16.0	\$17.2	<b>\$15.3</b>
Hours volunteered <sup>(xv)</sup>	N/A	7,927	6,765	3,598	<b>14,381</b>
Contributions to United Way – Centraide campaigns ( <i>millions of dollars</i> ) <sup>(xvi)</sup>	\$4.8	\$4.2	\$3.6	\$3.2	<b>\$3.3</b>
<b>SAFETY</b>	2015	2016	2017	2018	<b>2019</b>
Fatalities – employees and contractors	0	0	0	0	<b>0</b>
Lost-time incident frequency – employees per 200,000 hours worked	0.03	0	0.01	0.03	<b>0.01</b>
Lost-time incident frequency – contractors per 200,000 hours worked	0.01	0.01	0.04	0.03	<b>0.05</b>
Total recordable incident frequency – employees per 200,000 hours worked	0.22	0.08	0.15	0.13	<b>0.09</b>
Total recordable incident frequency – contractors per 200,000 hours worked	0.30	0.39	0.36	0.36	<b>0.34</b>
Total recordable incident frequency – workforce per 200,000 hours worked	0.27	0.26	0.26	0.27	<b>0.25</b>
Tier 1 process safety event rate – per million hours worked	0.11	0.21	0.00	0.06	<b>0.12</b>
Tier 2 process safety event rate – per million hours worked	0.25	0.31	0.29	0.44	<b>0.25</b>
<b>CORPORATE GOVERNANCE</b>	2015	2016	2017	2018	<b>2019</b>
Corporate political contributions ( <i>thousands of dollars</i> ) <sup>(xvii)</sup>	\$65	\$61	\$24	\$0	<b>\$0</b>
Common shares outstanding ( <i>millions of shares</i> ) <sup>(xviii)</sup>	848	848	831	783	<b>744</b>
Dividends paid ( <i>millions of dollars</i> ) <sup>(xix)</sup>	\$449	\$492	\$524	\$572	<b>\$631</b>

Note: Adjustments may have been made to some data points to reflect internal updates. All references to financial information is in Canadian dollars.

- (i) Some uncertainty exists in performance data, depending on measurement methods. Data in the report and performance data table represent the best available information at the time of publication. Data represents Imperial owned and operated assets (including 100% Kearl; excluding ExxonMobil Canada, XTO Canada and Syncrude). Retail stations (sold in 2016) and other assets that were divested between 2015–2019 are not included.
- (ii) Greenhouse Gas (GHG) emissions were quantified based on applicable provincial and federal regulations. Imported/exported electricity GHG emission factor (0.37 tonnes CO<sub>2</sub>e/MWhr) consistent with the benchmark established for electricity from 2019 CCIR (Carbon Competitiveness Incentive Regulation) and OBPS (Output Based Pricing System).
- (iii) Excluding CO<sub>2</sub> emissions from biomass.
- (iv) GHG emissions calculated as sum of direct emissions and emissions associated with imported electricity less (minus) emissions associated with exported electricity.
- (v) Throughput basis: Refinery throughput is the volume of crude oil and feedstocks that is processed in the refinery atmospheric distillation units.
- (vi) Production basis: Represents bitumen/crude production at Kearl, Cold Lake and Norman Wells; Kearl and Cold Lake production basis same as reported under Alberta greenhouse gas emissions regulation.
- (vii) Production basis: Operated oil sands (Kearl and Cold Lake) production basis same as reported under Alberta greenhouse gas emissions regulation.
- (viii) GHG emissions intensity is the ratio of GHG emissions to production or throughput.
- (ix) Solomon EII® is a measure of energy efficiency for petroleum refineries. A lower energy intensity index number indicates a more energy-efficient facility.
- (x) Includes spending for Imperial and ExxonMobil companies in Canada. 2018 and 2019 values excludes spending for ExxonMobil Canada East.
- (xi) All Imperial employees as of December 31, 2019.
- (xii) Statistics are collected from self-identification questionnaires.
- (xiii) Values reported using the London Benchmark Group Model – the global standard for measuring and reporting community investment.
- (xiv) Imperial's 2015 total value to community includes \$6.6 million in government contributions to the Institute for Oil Sands Innovation.
- (xv) ImpACT program initiated in 2019 improving reporting capabilities.
- (xvi) Represents combined donations from the company, employees and retirees.
- (xvii) Imperial no longer makes political contributions as of January 1, 2018.
- (xviii) For complete disclosure and additional information, see the 2019 Annual financial statements and management discussion and analysis.
- \* In 2018, the Territories had a net refund of approximately \$0.03 billion.

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**Cautionary statement**

*Statements of future events or conditions in this report, including projections, targets, expectations, estimates, and business plans are forward-looking statements. Forward-looking statements can be identified by words such as believe, anticipate, intend, propose, plan, goal, seek, project, predict, target, estimate, expect, strategy, outlook, schedule, future, continue, likely, may, should, will and similar references to future periods. Forward-looking statements in this report include, but are not limited to, references to the viability, timing and impact of technologies to reduce GHG emissions, such as carbon capture and storage, Kearl boiler flue gas project, digital technology and Strathcona cogeneration unit; the development of pathways in support of a net-zero future; the ability to help customers reduce their emissions, including through evolving fuels offerings and lower carbon intensity products; the ability to capture business efficiencies by investing in economic, lower emissions energy solutions; the commitment to create value for shareholders and meaningfully contribute to Canada's energy future; planned reductions in GHGi, including the target to reduce GHGi by 10 per cent in 2023; the commitment to high ethical standards, legal compliance and integrity; the impact of the company's shareholder and stakeholder engagement and compensation design; the company's outlook for energy including demand, supply, mix and efficiency gains; potential upstream impacts on proved reserves, and continued financial and GHGi competitiveness; the effectiveness of enterprise risk management, including with respect to climate change and facility resilience; the effectiveness of environmental policies, systems and practices on air emissions, water management and use, land use and biodiversity including surface footprint, tailings management, decommissioning and remediation, preventing unplanned releases, and waste management; process and personnel safety; the impact of workforce programs including diversity and inclusion, employee development and workforce health and wellness; indigenous engagement and business and workforce development; and the long term economic and social impact of operations.*

*Forward-looking statements are based on the company's current expectations, estimates, projections and assumptions at the time the statements are made. Actual future financial and operating results, including expectations and assumptions concerning demand growth and energy source, supply and mix; amount and timing of emissions reductions; the adoption and impact of new facilities or technologies, including on reductions to greenhouse gas emissions intensity; project plans, timing, costs, technical evaluations and capacities, and the company's ability to effectively execute on these plans and operate its assets; applicable laws and government policies, including climate change and restrictions in response to COVID-19; production rates, growth and mix; evolution of COVID-19 and its impacts on Imperial's ability*

*to operate its assets, including the possible shutdown of facilities due to COVID-19 outbreaks; general market conditions; and capital and environmental expenditures could differ materially depending on a number of factors. These factors include global, regional or local changes in supply and demand for oil, natural gas, and petroleum and petrochemical products and resulting price, differential and margin impacts; political or regulatory events, including changes in law or government policy and actions in response to COVID-19; the receipt, in a timely manner, of regulatory and third-party approvals including for new technologies; environmental risks inherent in oil and gas exploration and production activities; environmental regulation, including climate change and greenhouse gas regulation and changes to such regulation; availability and allocation of capital; availability and performance of third-party service providers, including in light of restrictions related to COVID-19; unanticipated technical or operational difficulties; project management and schedules and timely completion of projects; reservoir analysis and performance; unexpected technological developments; the results of research programs and new technologies, and ability to bring new technologies to commercial scale on a cost-competitive basis; operational hazards and risks; general economic conditions, including the occurrence and duration of economic recessions; and other factors discussed in Item 1A risk factors and Item 7 management's discussion and analysis of Imperial's most recent annual report on Form 10-K.*

*Forward-looking statements are not guarantees of future performance and involve a number of risks and uncertainties, some that are similar to other oil and gas companies and some that are unique to Imperial Oil Limited. Imperial's actual results may differ materially from those expressed or implied by its forward-looking statements and readers are cautioned not to place undue reliance on them. Imperial undertakes no obligation to update any forward-looking statements contained in this report, except as required by applicable law.*

*Exxon Mobil Corporation ("ExxonMobil") owns approximately 69.6 per cent of the outstanding shares of the company. Unless the context otherwise indicates, reference to the "company" or "Imperial" includes Imperial Oil Limited and its subsidiaries, and reference to ExxonMobil includes Exxon Mobil Corporation and its affiliates, as appropriate. Nothing in this report is intended to override the corporate separateness of individual corporate entities.*

*References to "oil" and "gas" include crude, natural gas liquids, bitumen, synthetic oil, and natural gas. The term "project" as used in this publication can refer to a variety of different activities and does not necessarily have the same meaning as in any government payment transparency reports.*

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## Footnotes

- (1) Sleep et al., 2021 Journal of Clean Fuel Production (vol. 281)
- (2) Executives include executive officers and executives in senior leadership positions.
- (3) Gross production is the company's share of production (excluding purchases) before deduction of the mineral owners' or governments' share or both. Natural gas converted to oil-equivalent barrels using 6 million cubic feet per 1,000 barrels.
- (4) The information in this table is taken from the company's 2020 and 2021 management proxy circulars.
- (5) For a definition of return on average capital employed and cash flow from operations and asset sales, see the "Frequently used terms" section of Imperial's most recent annual report on Form 10-K.
- (6) International Energy Agency's World Energy Outlook 2020
- (7) BMO February 2019 ESG ratings by major oil producing country. Canada ranks third (second in oil producing nations) on aggregate Yale Environmental Performance Index (EPI), Social Progress Imperative's Social Progress Index, and World Bank's Worldwide Governance Indicators Benchmark.
- (8) Paris Agreement sealed 12-Dec-2015
- (9) Exxon Mobil Corporation, 2019 Outlook for Energy: A perspective to 2040
- (10) Article 4 paragraph 2 of the Paris Agreement [http://unfccc.int/files/home/application/pdf/paris\\_agreement.pdf](http://unfccc.int/files/home/application/pdf/paris_agreement.pdf)
- (11) LASER – Liquid addition to steam for enhanced recovery
- (12) CSP – Cyclic solvent process
- (13) EBRT – Enhanced bitumen recovery technology
- (14) ELP – Enhanced late life process
- (15) NCG – Non-condensable gas
- (16) OECD – Organisation for Economic Co-operation and Development
- (17) BROOKINGS INSTITUTION, There are many definitions of "middle class" – here's ours, Richard V. Reeves and Katherine Guyot Tuesday, September 4, 2018, accessed December 2020. <https://www.brookings.edu/blog/up-front/2018/09/04/there-are-many-definitions-of-middle-class-heres-ours/>
- (18) IEA, 2017, Chapter 2 of Perspectives for the energy transition – investment needs for a low-carbon energy system, p57
- (19) "EMF was established at Stanford in 1976 to bring together leading experts and decision makers from government, industry, universities, and other research organizations to study important energy and environmental issues. For each study, the Forum organizes a working group to develop the study design, analyze and compare each model's results and discuss key conclusions." <https://emf.stanford.edu/about>. EMF is supported by grants from the U.S. Department of Energy, the U.S. Environmental Protection Agency as well as industry affiliates including ExxonMobil. <https://emf.stanford.edu/industry-affiliates>
- (20) IPCC, 2018: Global warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above preindustrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty [V. Masson-Delmotte, P. Zhai, H. O. Pörtner, D. Roberts, J. Skea, P. R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J. B. R. Matthews, Y. Chen, X. Zhou, M. I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, T. Waterfield (eds.)]. In Press.
- (21) IEA, World Energy Outlook 2020, p87. The IEA SDS was not assessed by the IPCC as part of the suite of 74 "Lower 2°C" scenarios. According to the IEA "the SDS would provide a 50% probability of limiting the temperature rise to less than 1.65°C, in line with the Paris Agreement objective of 'holding the increase in the global average temperature to well below 2°C'."
- (22) Reference is made to the first set of NDC submissions made in 2015; new or updated NDCs are anticipated, but not included as part of this analysis as only a few countries have updated their NDCs at this time. Additional NDC submissions are anticipated ahead of the 26th United Nations Climate Change Conference in 2021.
- (23) UNEP Emissions Gap Report 2020 Key Messages, accessed December 2020. <https://wedocs.unep.org/xmlui/bitstream/handle/20.500.11822/34461/EGR20KMM.pdf>
- (24) The emissions charted from ExxonMobil 2019 Outlook for Energy, 2020 IEA STEPS and 2020 IEA SDS do not contain industry process emissions. Land use and natural sinks are also excluded.
- (25) The IPCC Lower 2°C scenarios produce a variety of views on the potential impacts on global energy demand in total and by specific types of energy, with a range of possible growth rates for each type of energy as illustrated in this report. Since it is impossible to know which elements, if any, of these models are correct given the inherent uncertainty in energy demand modeling, an average of all 74 scenarios was used to approximate growth rates for various energy types as a means to estimate trends to 2040 indicative of hypothetical 2°C pathways.
- (26) NRCan, Electricity Facts 2018.
- (27) National Bank Financial 2019F, World Bank, EIA.
- (28) BMO Capital Markets report March 2020 (United nations, World Resources Institute, IMF BMO Capital markets)
- (29) CAPP 2019 Greenhouse Gas Emissions.
- (30) Global Advantage Consulting group 2016.
- (31) World Resource Institute <https://www.wri.org/blog/2020/02/greenhouse-gas-emissions-by-country-sector>
- (32) Environment and Climate Change Canada, 2018 emissions.
- (33) Imperial, 2019 Energy and Carbon Summary
- (34) See ExxonMobil Energy and Carbon Summary p16 on signposts for evolving energy landscape.
- (35) To estimate global demand in 2040 for oil and natural gas, the average of the assessed 2°C scenarios' growth rates for oil and natural gas covering the period 2010-2040 have been applied to standard baseline estimates of oil and natural gas demand in 2010. In addition, the IEA STEPS and SDS scenarios for oil demand and natural gas demand were added.
- (36) Working interest (Imperial share before deducting the shares of mineral owners or governments or both). Alberta Securities Commission National Instrument 51-101 was selected as the basis for the report. Please note, proved reserves reported on the U.S. Securities and Exchange Commission use a different methodology, and U.S. investors are urged to consider closely the disclosures in the company's Form 10-K.
- (37) In these materials, certain natural gas volumes have been converted to barrels of oil equivalent (BOE) on the basis of six thousand cubic feet (Mcft) to one barrel (bbl). BOE may be misleading, particularly if used in isolation. A BOE conversion ratio of 6 Mcft to one bbl is based on an energy-equivalency conversion method primarily applicable at the burner tip and does not represent a value equivalency at the wellhead. Given that the value ratio based on the current price of crude oil as compared to natural gas is significantly different than the energy equivalency ratio of 6 Mcft to 1 bbl, using a 6:1 conversion ratio may be misleading as an indication of value.
- (38) All reserves estimates provided in these materials are effective as of December 31, 2019, and based on definitions contained in the Canadian Oil and Gas Evaluation Handbook (COGEH) and are presented in accordance with National Instrument 51-101, as disclosed in Imperial's Form 51-101F1 for the fiscal year ending December 31, 2019.
- (39) Except as otherwise disclosed herein, reserves information are an estimate of the company's working interest before royalties at year-end 2019, as determined by Imperial's internal qualified reserves evaluator.
- (40) IEA, World Energy Outlook 2020 Annex 5, investment data.
- (41) IEA, Energy Investment Report, p15.
- (42) Property and/or operations that Imperial and its affiliates owns or controls.
- (43) Non-condensable gas (NCG) is late life process for gravity assisted drainage and cyclic processes. Uses methane instead of solvent.
- (44) EBRT – location of potential pilot yet to be determined.
- (45) 2020 IEA Energy Technology Perspectives report.
- (46) Goldman Sachs, Carbonomics: The Rise of Clean Hydrogen, July 2020.
- (47) IEA, The Future of Hydrogen – Seizing today's Opportunities, June 2019.
- (48) IEA, World Energy Outlook 2020, p122.
- (49) Difference between GHG emissions from the electricity generated on site vs. if imported from grid; GHG's from imported electricity were calculated using 2018 AB grid factor from 1990-2018 GHG sources and sinks in Canada, a National Inventory Report published in 2020.

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- (48) <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>
- (49) Improvements, such as fuel economy, are based on Synergy-branded gasoline, where and when available, compared to gasoline meeting minimum Canadian government detergency standards. Actual benefits will vary depending on the factors such as vehicle type, driving style and gasoline previously used. Concentration and availability of the seven key ingredients may vary based upon factors beyond our control, including supply disruptions.
- (50) Based on internal and third-party vehicle engine testing, laboratory testing and/or industry or other scientific literature. Basis for comparison for all claims is versus diesel without detergent additive. Vehicle type, engine type, driving behaviour and other factors also impact fuel and vehicle performance, emissions and fuel economy. Synergy Diesel Efficient fuel may be used in other heavy-duty and light-duty vehicles, but results will vary.
- (51) ExxonMobil estimates.
- (52) [www.solarfuels.utoronto.ca](http://www.solarfuels.utoronto.ca)
- (53) IHS Markit
- (54) IHS Markit Ltd., ARC Financial Corp, Jacobs Consultancy Inc, National Energy Technology Laboratory, Canadian Natural Resources Limited, MEG Energy
- (55) Production basis: Operated oil sands (Kearl and Cold Lake) production basis same as reported under Alberta greenhouse gas emissions regulation.
- (56) GHG emissions intensity is the ratio of GHG emissions to production or throughput.
- (57) In 2019, our Cold Lake production volumes were unable to fully offset natural field decline and our Kearl mine site needed to move more overburden than the previous year. Although this resulted in a slight uptick in our GHG metric for 2019, we remain on track and focused on our 2023 target.
- (58) Compared with 2016 operated oil sands GHG. Governmental, legal or regulatory changes could directly or indirectly delay or otherwise impact GHG emissions intensity reduction measures.
- (59) IP/IECA, API estimating petroleum industry value chain (Scope 3) greenhouse gas emissions ([api.org](http://api.org)). From 3.11.2, *Materiality Consideration*, 'The use of sold products is typically the most significant contributor to emissions for fuel-producing companies and can account for more than 80% of total scope 3 emissions.'
- (60) IP/IECA/API, 2016. *Estimating petroleum industry value chain (Scope 3) greenhouse gas emissions – Overview of methodologies*.
- (61) WWF Water Risk Filter: <http://waterriskfilter.panda.org/>
- (62) WRI Aqueduct Water Risk Atlas: <https://www.wri.org/resources/maps/aqueduct-water-risk-atlas>
- (63) COSIA annual report 2019
- (64) COSIA
- (65) Environmental fines and penalties:
  - 2015 payment for 2014 fish toxicity event in Sarnia
  - 2016 penalty for release to the St. Clair river
  - 2017 penalty for 2014 release to air from flare line in Sarnia
  - 2018 penalty for 2015 release to air incident in Sarnia
  - 2019 penalty for 2016 release to the St. Clair river
- (66) Throughput basis: Refinery throughput is the volume of crude oil and feedstocks that is processed in the refinery atmospheric distillation units.
- (67) Production basis: Represents bitumen/crude production at Kearl, Cold Lake and Norman Wells; Kearl and Cold Lake production basis same as reported under Alberta greenhouse gas emissions regulation.
- (68) Publically available reporting for Cenovus, CNRL, Husky Energy, Suncor and Syncrude.
- (69) In 2019, Imperial invested \$15.3 million in Canadian communities as reported using the London Benchmark Group Model – the global standard for measuring and reporting community investment. In addition, Imperial paid more than \$17 million through community benefit agreements.

## Related documents

### 2019 10-K

<https://www.imperialoil.ca/en-CA/investors/investor-relations>

### 2019 51-101

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After more than a century, Imperial continues to be an industry leader in applying technology and innovation to responsibly develop Canada's energy resources. As Canada's largest petroleum refiner, a major producer of crude oil, a key petrochemical producer and a leading fuels marketer from coast to coast, our company remains committed to high standards across all areas of our business.

**Imperial Oil Limited**  
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