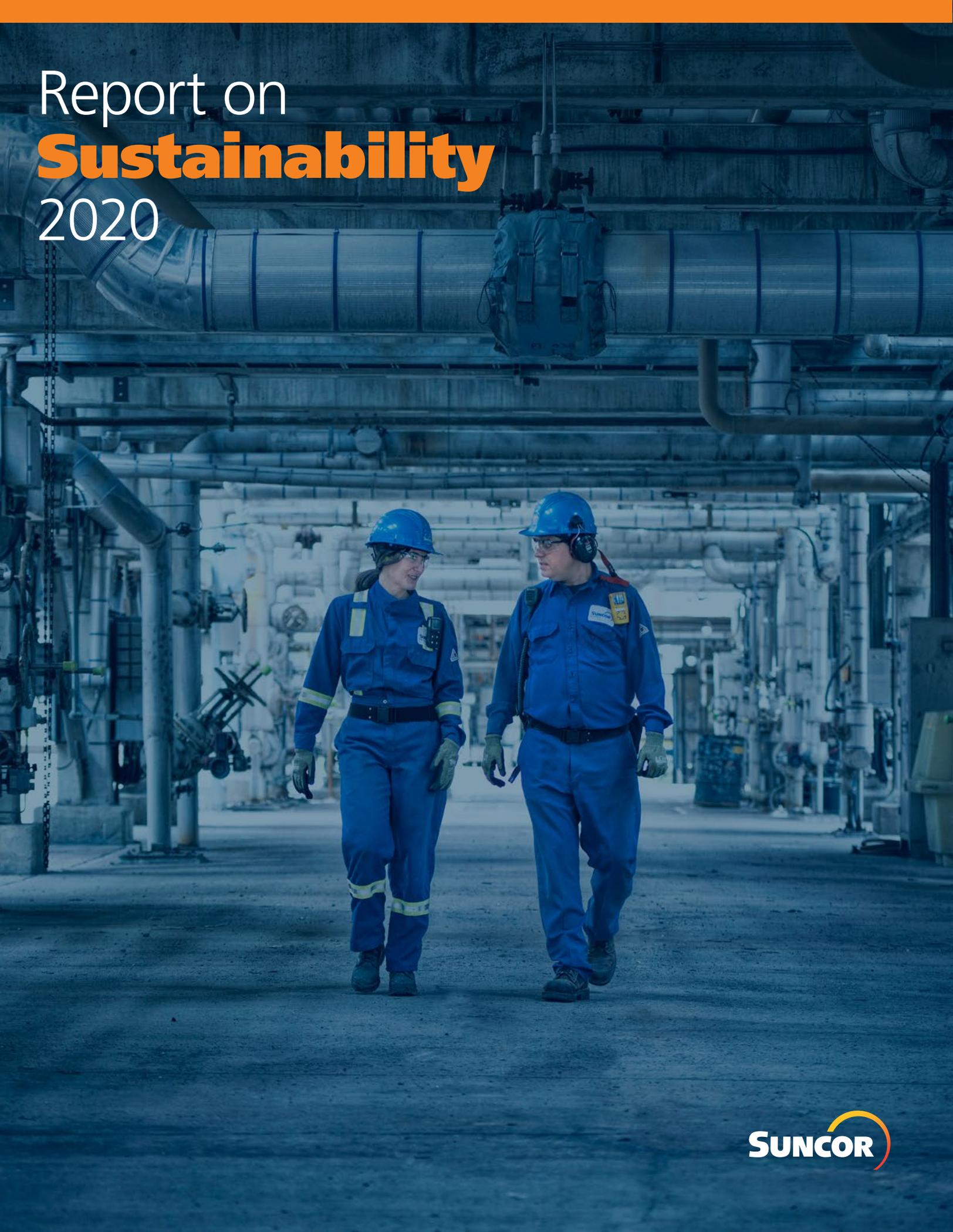


# Report on **Sustainability** 2020



## CEO message

As I write this, the world is contending with the health and economic effects of a global pandemic which has not only impacted lives, but has brought about disruptions to financial markets, businesses, and the way we work and live.



**Mark Little** president and chief executive officer

This crisis is highlighting how interconnected environmental, social and economic systems are. Responding and recovering from the effects of the pandemic and fostering resiliency will require cooperation and collaboration among all stakeholders. Our collective actions can have an enormous impact when we work together to find solutions. At Suncor we use our purpose – **to provide trusted energy that enhances people’s lives, while caring for each other and the earth** – to guide our decisions and actions.

As much as our world has changed through COVID-19, Suncor remains fully committed to our strategy, sustainability leadership and our role in the energy transition to a low-carbon future. Our commitment is unwavering and continues to be at the heart of everything we do.

We continue to see outstanding progress being made on the social goal we’ve set, including increasing the participation of Indigenous Peoples in energy development. In 2019, we spent more than \$800 million with Indigenous businesses, representing 8% of our total supply chain spend. We have also increased the number of Petro-Canada™ stations that are Indigenous-owned and operated. But success is more than just metrics; we also continue to reflect on whether our efforts are leading to cultural shifts and behavioural changes in how we work with and learn from Indigenous Peoples.

That said, ongoing racist and discriminatory events in the United States and Canada have underscored deep and systemic societal bias – highlighting that more work is required, and deepening Suncor’s commitment to inclusion and diversity, and creating a respectful workplace.



*Our purpose embodies our commitment to sustainability and is our guide in these times of uncertainty. We all have a role to play in our shared energy future.*

Mark Little  
president and chief executive officer

™ Trademark of Suncor Energy Inc.

## CEO message

Ensuring the personal safety of our employees and contractors is a continuing priority. Safety is at the core of Suncor's values and we moved quickly to respond to the COVID-19 pandemic to ensure the health and safety of our workforce in all our locations. We used our discipline in health and safety to work with health officials to think through every scenario and develop detailed protocols, which we shared with industry and companies around the world. While I'm proud of our response to the pandemic, our operational safety performance in 2019 demonstrates that we still have work to do. We saw an increase in personal safety incidents, reminding us we must focus on safety every day so that we all go home healthy.

When we consider what sustainability for the future looks like, we have to address one of the most complex challenges the world faces and a critical focus for Suncor – climate change. We continue to take steps to reduce emissions across all our facilities. This means continuing to work towards our 2030 commitment to reduce our total emissions intensity by 30% as well as developing more ambitious approaches to sustainability beyond our 2030 commitments.

In support of our current climate goal, we announced a \$1.4 billion investment in a new cogeneration facility at our Oil Sands Base which will replace coke-fired boilers with more energy efficient, natural gas-fired cogeneration units, and is expected to reduce GHG emissions from our Base Plant by approximately 25%. I am equally excited about our plans to invest in the \$300 million Forty Mile Wind Power Project in southern Alberta, which once in commercial service, will generate double-digit economic returns through zero carbon power generation. Unfortunately, we have had to extend the timeline to develop both projects by up to two years due the current market situation – a strong reminder that our investments in low-carbon innovations depend on the financial health of our business.

Another way we are contributing to Canada's climate commitments is through the country's first electric highway – a coast to coast network of more than 50 fast-charging electric vehicle chargers at

Petro-Canada™ stations across Canada, which we completed in 2019. We know our customers want options to reduce their carbon footprint, and Canada's Electric Highway™ is one way that Suncor, through its Petro-Canada™ brand, can support reducing emissions by providing Canadians with lower carbon choices for their energy needs.

When it comes to our environmental performance, I am proud of the progress in key areas such as improved water recycling rates at our Oil Sands Base Plant. I'm also pleased with the progress we've made on tailings. With the implementation of permanent aquatic storage system (PASS), we now treat more tailings than we produce in a year which means we're reducing the inventory of legacy fluid tailings on site.

I encourage you to read the 2020 Report on Sustainability to learn about all the ways Suncor is working to operate in a sustainable manner.

Our purpose embodies our commitment to sustainability and is our guide in these times of uncertainty. We all have a role to play in our shared energy future. The more people that are engaged, and the more we collaborate with our peers, governments and others, the greater our likelihood of success. When we look back years from now, we will be proud of our collective action of working together to build a better future.

A handwritten signature in black ink, appearing to read 'MARK LITTLE', written over a horizontal line.

Mark Little  
president and chief executive officer

# ESG highlights

**~10% reduction\***

in GHG emission intensity since 2014

*Additional 10% sanctioned*

**22.78** million tonnes CO<sub>2</sub>e

*Absolute GHG emissions in 2019*

**New 2°C scenario**

helps us assess the resilience of our long-term strategy

**\$33 million**

community investments

**\$3.1 million**

employee donations

**\$836 million**

supply chain spend with Indigenous businesses in 2019

**351 million**

total barrels of oil equivalent produced and refined

**Canada's largest ethanol facility**

400 million litres produced in 2019

**~5,000**

vendors across Canada



**49%**

Indigenous ownership in the \$1.0 billion East Tank Farm

**2,400MW**

operational and sanctioned low-carbon power equivalent to 2.25M homes' electricity use per year

Completed **Canada's Electric Highway™**

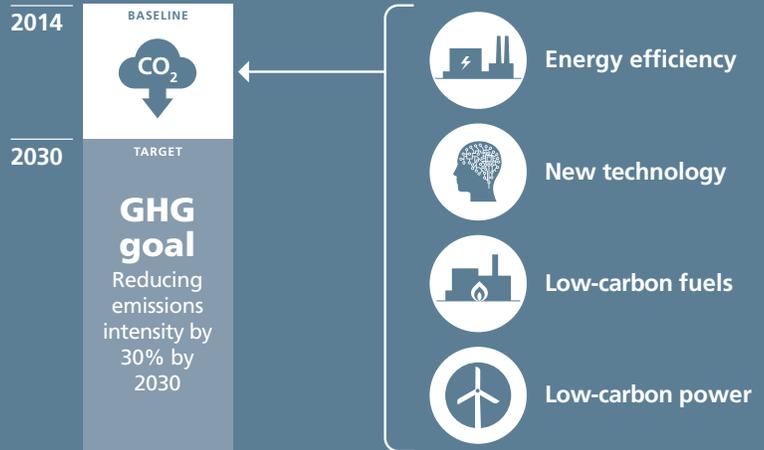
a coast-to-coast electric vehicle (EV) fast-charging network spanning more than 50 Petro-Canada™ stations

\*We expect there to be impacts to our GHG intensity due to government mandated production curtailment and COVID-19 impact on demand.

## Greenhouse gases

### Driving real reductions in the global energy system

- >50% lower GHG intensity at our newest Fort Hills mine vs. oil sands average
- ~2.5 Mt/y GHG reductions from newly sanctioned cogeneration facility  
*equivalent to avoiding emissions from 550,000 passenger vehicles per year*
- ~0.4 Mt/y GHG emissions avoided from newly sanctioned Forty Mile Wind Power Project  
*equivalent to avoiding emissions from 85,000 passenger vehicles per year*



## Water, tailings and reclamation

### High water recycle rates in upstream operations

**92%**

Oil Sands Base Plant

**96-100%**

Firebag & MacKay River in situ facilities

**100%**

increase in annual fluid tailings treatment with new PASS process, reducing legacy tailings

**2,795 ha**

reclaimed since 1967  
*equivalent to 5,223 football fields*

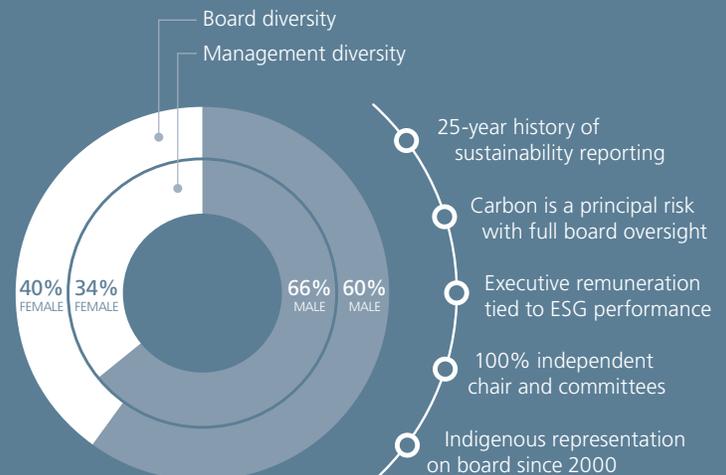
### Suncor's Wapisiw Lookout

First reclaimed oil sands tailings pond

## Technology and innovation



## Governance



# Table of contents

<b>■ Executive summary</b>		<b>■ Environment</b>	<b>68</b>
CEO message	2	Air quality	69
ESG highlights	4	Water stewardship	71
<b>■ About our report</b>	<b>7</b>	Tailings management	76
<b>■ Strategy and governance</b>	<b>9</b>	Land and reclamation	79
Our purpose	10	Biodiversity	81
Sustainability QandA	11	<b>■ Communities</b>	<b>84</b>
Sustainability goals	13	Community investment	85
UN Sustainable Development Goals	14	Indigenous relations	88
Corporate governance	16	Social goal	89
Risk management	18	Strengthening relationships	90
Innovation	20	Partnering with Indigenous youth	91
Engagement	25	Partnering with Indigenous businesses and communities	92
<b>■ Our business</b>	<b>26</b>	Improving Indigenous workforce development	93
Operations summary	27	<b>■ Appendix</b>	<b>94</b>
Economic impact	29	Performance data	95
Supply chain	30	Performance data footnotes	101
Personal and process safety	33	Independent assurance statement	110
Inclusion and diversity	37	GRI and SASB disclosure index	112
<b>■ Climate change</b>	<b>39</b>	TCFD disclosure index	124
CFO message	40	UNGC communication on progress	125
Our perspective	41	Advisories	127
Leading energy system transformation	42		
Governance	45		
Climate-related risk management	46		
Strategy	49		
Metrics and targets	60		
Low-carbon innovation	65		

# About our report

Our Report on Sustainability reflects our commitment to continually monitor and assess the impacts and benefits of our business, and effectively share these efforts. We value disclosure as a foundation for engagement and support efforts to drive consistency and comparability of sustainability performance data.



## Scope

We present our sustainability priorities and key performance metrics, reflecting consolidated company-wide data only for the assets we operate (unless otherwise stated). More detailed facility and business segment performance, where applicable, is available for download on [sustainability.suncor.com](https://sustainability.suncor.com).

Our [2019 Annual Report](#) provides financial performance and information about our business.

## Reporting period

Performance data presented in this report reflects our activities from Jan. 1 to Dec. 31, 2019, unless otherwise stated. Where possible (or as appropriate) we've included historical data trends. Information regarding events or activities in the first half of 2020 may also be included.

## Third-party review and assurance

Ernst & Young LLP performed review-level assurance on selected performance indicators for the year ended Dec. 31, 2019 driven by various reporting frameworks and sector disclosures. Refer to the Appendix for the [2020 independent assurance statement](#).

## Reporting frameworks

We use a number of reporting frameworks to identify and report on our material sustainability factors, including:

- **Global Reporting Initiative Standards** – in accordance with Core standards, and informed by oil and gas sector supplement guidelines
- **IPECA** sector-specific sustainability reporting guidance for the oil and gas industry
- **Sustainability Accounting Standards Board** industry-specific standards
- **Task Force on Climate-Related Financial Disclosure** recommendations
- **United Nations Global Compact** – this report fulfills our Communication on Progress, and supports their 10 principles guiding our approach to sustainability
- **United Nations Sustainable Development Goals** – we support these 2030 global development priorities, and share our perspectives on contributing to a number of these goals through our work.

For more information about our disclosures against these reporting standards, see the [Appendix](#).

## Materiality: Identifying sustainability priorities

An important step in preparing our Report on Sustainability is to review the most relevant sustainability priorities for our business and those that matter most to our stakeholders.

In early 2018, we conducted a formal materiality assessment to ensure we accurately considered a broad range of perspectives. We were supported by a third party with expertise in sustainability reporting and facilitating materiality assessments to evaluate our priority topics for our Report on Sustainability.

We review priorities for our report annually to define issues that are of relative significance to environmental, social, governance and economic priorities and their impacts (both positive and negative) to both our business and to our stakeholders. The following internal practices are used to identify and assess sustainability priorities across our business and topics for our report:

### Input

- Stakeholder engagement: Build and maintain relationships with local communities, Indigenous Peoples and stakeholders, and meaningfully consider their issues and concerns affected by our operations or who could, through their actions, affect our business. For more information please see the [Engagement](#) section of this report.
- Issues research: Conduct ad hoc issue research, peer benchmarking and review of previously identified priority sustainability topics.
- Trends: Assess trends and conduct best practice analysis, including reporting best-practices.

### Analysis

- Rank and prioritize topics considering a range of perspectives internally and externally through both workshops and knowledge sharing.
- Evaluation in line with our annual enterprise risk management process.
- Informed by a number of sustainability reporting frameworks to determine relevance.

### Assessment

The prioritization of topics, which could have a significant impact on Suncor's business success or that would substantively influence the assessments and decisions of stakeholders over the next one-three years.

## Material sustainability priorities

Indigenous Peoples and communities and our stakeholders consider these priorities critically important and, for our business to be successful, they require innovative, strategic approaches and commitment to operational excellence across all functions of our organization.

### Safety and reliability

Suncor is committed to incident prevention and believes that a zero-incident workplace is achievable. We continue to work to improve process safety and reliability performance – safety above all else.

### Climate change

The world needs action to reduce carbon emissions and avoid the worst effects of climate change.

### Indigenous relations

As a pillar of our social goal, the trust and support of stakeholders and Indigenous communities are valuable to Suncor and foundational to successful energy development.

### Water stewardship

Water is a shared and precious resource. Suncor's integrated water management approach balances optimizing our water use practices with technological innovation to sustainably manage water.

### Other significant priorities

Other significant priorities were also identified and our performance or approach to these priorities are listed below and included throughout our report. Topics that were evaluated, but not reported on, are managed, tracked internally and monitored in the context of an ever-changing external landscape. Our approach to technology and innovation is a key theme of this report and is closely related to many of the priorities identified in our materiality assessment.

#### Our business

- governance and ethics
- health and wellness
- compliance
- economic impact
- public policy
- inclusion and diversity
- market access

#### Environment

- tailings management
- land use and reclamation
- biodiversity
- air quality
- cumulative impacts
- spills

#### Social

- community investment and social innovation
- stakeholder engagement

To live Suncor's purpose of providing trusted energy, we've embraced long-term thinking and strategies. With sound governance and committed leadership, we have created a strong foundation for resilient and sustainable energy development.

# Strategy and governance

- › Our purpose
- › Sustainability Q and A
- › Sustainability goals
- › UN Sustainable Development Goals
- › Corporate governance
- › Risk management
- › Innovation
- › Engagement

Understanding  
**our purpose**

**Q and A**  
with our chief sustainability officer

**\$830 million**  
invested in technology development,  
deployment and digitalization

How we contribute to 17  
**United Nations**  
Sustainable Development Goals (SDGs)



# Our purpose

## To provide trusted energy that enhances people's lives, while caring for each other and the earth

Our purpose is an important link between our commitment to sustainability and our business strategy. It reflects Suncor's role in society and how we see ourselves producing profitable solutions to societal and environmental challenges and opportunities. Our purpose aligns what we do, who we are and what we stand for. By guiding our decisions and actions, our purpose helps us build resilience in a world facing global challenges and shapes our future.

Energy plays a fundamental role in everyone's lives. The energy we provide is secure, reliable and essential, enabling mobility, heat, and light to power communities. Energy underpins our health, quality of life, and economy.

But providing trusted energy is a complex challenge, especially as we try to find a path forward that has a positive impact on both people and the planet. It will take all of us, working together across the energy system, to enable Canada's transformation towards a low-carbon future.

### Living our purpose

Throughout the COVID-19 response, we have been focused on caring for each other and our communities. Here are some of the ways we are living our purpose.



#### Small acts of kindness

Petro-Canada™ provided \$3 million to thank essential workers and recognize Canadians across the country. Associates at our Petro-Canada™ locations gave out everything from fuel discounts to showers and meals.

#### Special delivery to the north

After conversations with the federal government, Suncor procured, donated and delivered 40,000 N95 masks to Nunavut, the Northwest Territories and the Yukon – communities the Government of Canada determined most needed these essential supplies.



#### Repurposing our work

We reallocated funding, equipment and expertise from wastewater treatment research to Western University in Ontario to develop a fast and affordable COVID-19 home-test kit.

The same technology and equipment to sequence genes in bacteria found in wastewater is the same as identifying genes in algae to produce proteins from COVID samples to use in test kits for antibodies.



#### Working with partners

Suncor provided financial support to Exergy Solutions to create 200 emergency ventilators that were donated to Alberta Health Services to support the COVID-19 response.



#### Every contribution counts

Suncor and the Suncor Energy Foundation donated outdated SunCares T-shirts to be repurposed into face-mask ties (non-medical grade) for front-line responders and local communities in southern Alberta.



# Sustainability Q and A



**Martha Hall Findlay** chief sustainability officer

## Q and A

**Martha Hall Findlay joined Suncor as chief sustainability officer in early 2020.**

As a member of Suncor's senior executive team, she provides leadership in environmental and social performance, in supporting Suncor's public policy, communications and government relations as well as deepening the company's Indigenous and stakeholder relationships.

With a fresh perspective on sustainability at Suncor, Martha discusses the challenges, what we are doing to continue – and enhance – our track record as a sustainability leader, and what the future holds.

### **Canada and the world have been greatly impacted by several global challenges – COVID-19, challenging financial markets and a dramatic decline in economic activity. What does this mean for Suncor?**

If anything, the first few months of 2020 have highlighted the importance, and the full meaning, of sustainability. The UN 2030 Agenda for Sustainable Development refers to itself as **"a plan of action for people, planet and prosperity."** The world has been reminded that true sustainability involves all three together. At Suncor, the long-term focus on people, the planet, and prosperity – is built into our purpose, "To provide trusted energy that enhances people's lives, while caring for each other and the earth."

Throughout the pandemic, we provided an essential service, supplying the trusted, reliable and affordable energy required for heating and lighting our homes; all manner of manufacturing; growth and production of food; transportation of supplies and goods across Canada; and the health, education and myriad of other services we depend on. As a newcomer to Suncor, I have been particularly proud of the focus on the health, safety and economic well-being of our employees, their families and the communities we work in and with.

On the economic front, COVID-19 has created deep challenges for us. And it's meant that unfortunately we have had to delay some important sustainability efforts such as replacing our coke-fired boilers at Base Plant with low-carbon cogeneration units and our Forty Mile Wind Power Project. In all, the pandemic has provided a stark reminder

that a healthy core business is what enables us to look after people, ensure prosperity for Canadians, and make the investments needed to transform to a low-carbon economy.

### **Can you tell us more about Suncor's approach to sustainability?**

ESG metrics – environmental, social and governance criteria – are increasingly the global measurement standards for sustainability. Although considerable efforts are underway to detail those metrics, ESG basics are pretty clear: operate with care for the environment, for society and the people in it, and do so honestly and transparently. These three focus areas have been key to Suncor's principles and values for decades – new labels don't change that. This report goes into great detail on our work in all areas, our pride in our successes, and our efforts to do more.

Although the 'S' and 'G' are both critical parts of the full ESG requirements, as an energy company, particularly with operations in the oil sands, our environmental performance is under particular scrutiny. We agree that reducing emissions is key, and because GHGs don't pay attention to political borders, it is a global challenge that requires global cooperation. Suncor is focused on finding reductions through improving our existing processes and developing new energy technologies, and also engaging both nationally and globally to collaborate with others to find solutions. If there is a positive aspect to COVID-19, it's highlighted what can be accomplished when businesses, governments and society work together.

## Sustainability Q and A

As for the Social and Governance components, many parts of the world, including many energy supplying jurisdictions, struggle with corruption, human rights abuses, intimidation of media and other forms of oppression. As a proudly Canadian company, we at Suncor appreciate Canada's rule of law, our strong regulatory system, and the high standards we have for corporate governance and financial markets. And people and communities are integral to our purpose. Sustainability at Suncor also includes strengthening relationships with Indigenous communities to build greater trust – listening, learning, and seeking mutually beneficial ways to partner with them in energy development. And our people are critical. Good jobs, fair pay, respect, inclusion and diversity are all things we strive for within our company. We also want to encourage our industry peers, our suppliers and our customers to consider all elements of sustainability and to join us to continuously improve.

### What would you say to those who say that the oil sands are part of the problem and not the solution?

For the governments, producers, suppliers and consumers concerned about GHG emissions – and for us as Suncor – oil sands activities are a GHG challenge that we are working to solve. We are continuously innovating to meet evolving energy needs while tackling pressing environmental challenges like climate change. There isn't an easy or quick solution to transform to a low-carbon energy future. It will take original thinking, collaboration and commitment.

The more we reduce per barrel, the closer we are to establishing Canadian oil as a lower GHG source than others. We are working hard to make Canada's oil a lower carbon, preferred source of oil.

To that end, the oil sands industry is one of Canada's largest markets for, and investors in, clean technology. Suncor has decades of expertise, skill and knowledge being applied to the emerging energy diversification economies.

### What progress has Suncor made so far?

We've already achieved more than a third of our goal of reducing our emissions per barrel by 30% by 2030, with another third identified in sanctioned projects. This includes our new cogeneration facility and our Forty Mile Wind Power Project, which will help green Alberta's electrical grid and avoid the equivalent emissions of 635,000 passenger vehicles per year. While we've had to push the timeline on these projects as a result of market conditions, intensity improvements will be significant when both come online.

We're also proud of the completion of Canada's Electric Highway™ in 2019: the country's first coast-to-coast a network of fast-charging electric vehicle (EV) chargers at more than 50 Petro-Canada™ stations across Canada, enabling a fully-electric drive across the entire country.

Not only is this part of offering our customers low-carbon choices, it encourages more people to consider an electric vehicle by reducing 'range anxiety' – a key barrier to significant market penetration.

We have more than 20 years of sustainability reporting, demonstrating our commitment to improve social systems, generate economic value and improve our environmental performance. We also know there is much more work to be done. That's another reason I joined Suncor – the opportunity to find ever more solutions is ours to seize.

### What does energy transformation mean for Suncor?

It means being a part of the global movement to low-carbon and no-carbon forms of energy that are affordable and accessible. Our business is energy. By definition, transformation takes time, and during that time, Suncor has, and will have two key roles:

- for as long as there is global demand for oil, to supply that oil as environmentally and as socially responsibly as possible; and
- to continue as a leading energy supplier by meeting the desire for lower carbon energy sources.

As a fully integrated energy company, we're well poised to be part of that transformation because we know all aspects of the business, and can apply our knowledge, collaborating with others, in many areas of research and development.

### Your sustainability goals take you to 2030. What's the plan after that?

We're encouraged to see ambition around the world for net zero and we share that ambition. Right now, we are focused on determining more precisely what our goal should be, and how we'll get there – the investments we need to make and the actions we need to take now, and for the long term. I'm excited about the thoughtful work we're doing, so that when we announce our sustainability ambitions, it's clear to our stakeholders and our communities that we are serious about taking action and allocating capital towards it.

### What do you wish people asked you but didn't?

I would love more people to ask me why I joined Suncor, given that I loved the work I was doing in public policy. I've been lucky to experience different careers in law, business and politics. In all cases, I felt a drive to help make a difference and to improve the social and economic prosperity of Canadians. I have also been an environmentalist for as long as I can remember. I knew Suncor as a company of people with great purpose, principles, values and ambition. Right now, we are at a critical juncture within the global energy industry – which provides an extraordinary time of opportunity – for Suncor and for Canada. I am thrilled for the chance to be part of the path forward.

# Sustainability goals

Suncor's sustainability goals reflect our focused efforts on strengthening relationships with Indigenous Peoples and communities in Canada, and harnessing technology and innovation to reduce our greenhouse gas (GHG) emissions intensity.

We established our social and GHG goals in 2016 as guideposts to drive performance improvement. More detail about these goals and our commitments are in various sections of this report.

## › Social goal

### Strengthening our relationships with Indigenous communities across Canada

Our social goal reflects our commitment to change the way we think and act as an organization to build greater mutual trust and respect with the Indigenous Peoples of Canada. The goal outlines four areas to focus on where we can work together to advance greater participation of Indigenous Peoples and communities in energy development.

## › GHG goal

### Reducing our GHG emissions intensity

We share in the global challenge to address climate change by harnessing technology and innovation to set us on a pathway to a low-carbon energy system. We aim to reduce total emissions intensity of the production of our oil and petroleum products by 30% by 2030.

## Our plans for water stewardship and biodiversity

### › Water

Suncor is committed to water stewardship and we are developing a robust framework that will more meaningfully focus our future efforts on water.

### › Biodiversity

Suncor is committed to preserving and promoting biodiversity in all areas where we work. This includes the conservation of high-value areas and habitats, and reclamation of the sites we disturb.



# UN Sustainable Development Goals

Suncor supports the United Nations Sustainable Development Goals and shares the view that businesses have a key role to play in the implementation of these goals.

The United Nations Sustainable Development Goals (SDGs) define global development priorities for 2030. They address the global challenges including those related to poverty, inequality, climate, environmental degradation, prosperity, and peace and justice, and reflect an integrated conversation on sustainability. The objective is for businesses, governments and civil society to cooperate and collaborate on a defined set of targets to drive meaningful change.



We recognize Suncor's business activities can have both a positive and a negative impact on the SDGs. Through our initiatives and activities, our work contributes to all 17 goals.

We have prioritized Suncor's focus areas for specific SDGs and have highlighted our contributions in action:

## Achieve gender equality and empower women and girls



- inclusion and diversity strategies and action plans across the enterprise
- unconscious bias training to provide learning opportunities to eliminate bias and increase cultural competency
- workshops with involvement from employees and leaders across Suncor to ensure employee voices are heard

## Ensure access to affordable, reliable, sustainable and modern energy for all



- advancing a portfolio of technologies to lower the carbon intensity of producing bitumen and improve cost competitiveness
- our renewable power portfolio, including a partnership with Aamjiwnaang First Nation in the Adelaide Wind Power Project near Sarnia, Ont.
- using cogeneration, a carbon-efficient form of baseload power generation at our oil sands facilities, and exporting excess low-carbon electricity to the Alberta provincial grid
- investing in biofuels, including the largest ethanol facility in Canada and investments in biofuel technologies

## Ensure availability and sustainable management of water and sanitation for all



- partnering with Canada's Oil Sands Innovation Alliance (COSIA) to achieve the COSIA water goals, and to generate water-related technologies and innovative ideas targeting efficiency improvements across the oil and gas industry
- convened under COSIA, Suncor and the Water Technology Development Centre (WTDC) partners, Canadian Natural, Husky and CNOOC International, developed the \$140 million WTDC, a first-of-its-kind demonstration site for oil sands project partner companies to test water treatment technologies at a commercial scale
- implementation of water efficiency and treatment programs at our refineries



*Once again, we are pleased to demonstrate our support for the United Nations Global Compact (UNGC) and its 10 principles, which guide our approach to human rights, labour, environment and anti-corruption for all our operations.*

Mark Little  
president and chief executive officer

## UN Sustainable Development Goals

### Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

8 DECENT WORK AND ECONOMIC GROWTH



- partnering with companies and organizations such as Evok Innovations, COSIA and Clean Resource Innovations Network (CRIN) to promote and support the growing ecosystem of entrepreneurship focused on clean energy research and technology solutions
- implementing Suncor's social goal to partner with Indigenous businesses and communities, including:
  - an equity partnership in the East Tank Farm Development with Mikisew Cree First Nation and Fort McKay First Nation in northern Alberta. The East Tank Farm Development agreement was chosen as a best practice example for the Sustainable Development Goals Emerging Practice Guide by the Canadian network of the United Nations Global Compact, Global Compact Network Canada
  - an equity partnership in PetroNor, a distributor of petroleum products owned and operated by the James Bay Cree First Nation in Quebec
- supporting organizations who share our vision in developing skills and ensuring career success for youth, women, and Indigenous communities, such as Keyano College

### Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



- partnering with COSIA to develop the Alberta Carbon Conversion Technology Centre, a test facility for initiatives such as the NRG COSIA Carbon XPRIZE
- being a founding member of CRIN, an organization which focuses on creating connections for our resource sector, to advance technologies for use in Canada and global markets
- participating in Energy Futures Lab, which aims to strengthen Alberta and Canada's position as a global energy leader and Engineering Change Lab, a collaborative platform for stewarding the application of science and technology

### Ensure sustainable consumption and production patterns

12 RESPONSIBLE CONSUMPTION AND PRODUCTION



- developing a supply chain sustainability strategy to accelerate progress on the environmental and social impacts of our procurement decisions
- investments in businesses such as Enerkem, a company which manufactures biofuels and renewable chemical products from household garbage that would otherwise be landfilled
- launching Canada's first coast-to-coast electric charging network through Petro-Canada™

### Take urgent action to combat climate change and its impacts

13 CLIMATE ACTION



- actively working towards our long-term GHG goal to reduce emissions across our operations
- understanding and reporting on carbon risk and resiliency, and being a signatory to the Task Force on Climate-Related Financial Disclosures (TCFD)
- partnering with industry to launch the Alberta Carbon Conversion Technology Centre to test carbon capture, and conversion technologies alongside other researchers and innovators

Our approach to sustainability continues to contribute directly and indirectly to the UN 2030 agenda. We look for partnership opportunities to deliver change at scale. We are committed to supporting a number of aligned initiatives, including:

- The UN Global Compact's 10 principles. [Our commitment to and implementation of the principles](#) are integrated throughout this report.
- The ambition of the Paris Climate Agreement and contributing to development of low-carbon policies, such as the Pan-Canadian Framework on Clean Growth and Climate Change.
- The Truth and Reconciliation Commission's Call to Action for the corporate sector to adopt [United Nations Declaration on the Rights of Indigenous Peoples](#) as a reconciliation framework for its relationship with the Indigenous Peoples in Canada.

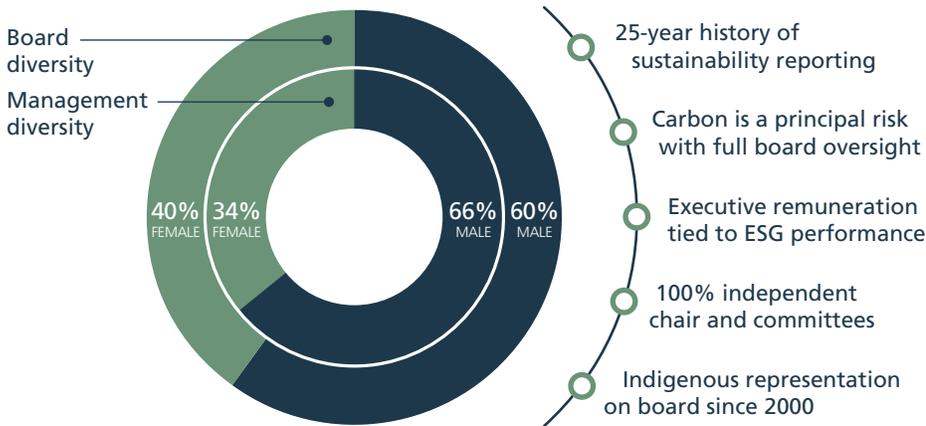
# Corporate governance

Through sound governance and committed leadership, we have created a strong foundation for resilient energy development. Suncor’s robust governance structure includes our board and its committees, together with our executive management team, whose remuneration is impacted by corporate performance on environmental, social and governance initiatives.

The board’s responsibilities include governance, strategic planning and the stewardship of Suncor, including identifying and mitigating principal risks such as carbon risk.

## A diverse and experienced board

Suncor’s board aims to have directors with a range of perspectives, insights and views on the issues affecting the organization. It searches for members from diverse backgrounds, having regard to gender, members of visible minorities, Indigenous status, age, persons with disabilities, business experience, professional expertise, personal skills, stakeholder perspectives, geographic background and other diverse attributes. The aspiration of the board diversity policy is to maintain at least 30% gender diversity. The company has a diverse and experienced board, which has had Indigenous representation for two decades, and is comprised of 40% female directors.





**30% Club of Canada**

Suncor is a proud supporter of the 30% Club of Canada, a not-for-profit organization focused on the continued drive toward achieving greater gender balance at all levels, including a goal of 30% women on boards by 2022. Suncor’s board is comprised of 40% female directors.

## Environment, social and governance (ESG)

ESG factors play a role in director recruitment, board evaluation and committee representation. The board revised its skills matrix in 2017 to ensure skills and experience in environment, health, safety and social responsibility were desired competencies.

For more information on the Board Skill Matrix, visit our [2020 Management Proxy Circular](#)

Suncor’s board practices on performance evaluation and compensation consider ESG factors by:

- evaluating senior executive performance annually against well-defined goals that support and reinforce our value drivers
- considering our performance against enterprise-wide sustainability goals related to safety, environmental (including GHGs) and social performance in determining the amount of annual incentive payments to the CEO.



Martha Hall Findlay, chief sustainability officer, presenting at GLOBE Forum 2020

## Chief sustainability officer (CSO)

Suncor's first-ever chief sustainability officer was appointed in 2017. In 2020, Martha Hall Findlay joined Suncor as chief sustainability officer following Eric Axford's retirement. In this role, Martha plays a key role in stewarding Suncor's many external relationships and strategic collaborations in support of the company's ongoing economic, environmental and social performance leadership. Martha oversees Suncor's sustainability strategy, public policy and government relations efforts, and internal and external communications. She is responsible for the continued deepening of the company's Indigenous, stakeholder, and community relations, as well as being accountable for Suncor's social innovation agenda, including through her involvement on the board of the Suncor Energy Foundation.

## Suncor's governance structure

Effective corporate governance comes from leadership and good corporate structure. Economic, environmental and social issues aren't considered separately but evaluated holistically as part of Suncor's strategic decision-making process. This continues to inform our corporate structure. Key features of this governance structure include:

- our board and its committees, which have clearly defined and distinct oversight roles to protect the interests of our shareholders set out in terms of reference
- the board's Environment, Health, Safety and Sustainable Development (EHS&SD) Committee, which monitors management's performance in areas within its mandate
- our executive management team, which integrates key operational and functional accountabilities for maximum efficiency and effectiveness, including a chief sustainability officer.

### EHS&SD Committee

The EHS&SD Committee of the board oversees and manages matters relating to environmental, health, safety and sustainable development. The committee meets quarterly to review:

- recommendations to the board about Suncor's strategies and policies on environmental, health, safety and sustainable development
- Suncor's Operational Excellence Management System (an overarching framework to manage operational risk)
- management's performance and emerging trends and issues in the environmental, health, safety and sustainable development space to ensure we are anticipating future challenges and positioning ourselves to minimize risks
- management stewardship reports as well as the findings of significant external and internal environmental, health and safety investigations, assessments, reviews and audits.

# Risk management

Risk management is fundamental to achieving our business goals and requires a culture of operational discipline.



We make risk-informed decisions that reflect our culture of embedding sustainability considerations and are governed by our guiding principles for risk management.

This requires ongoing identification, assessment, treatment and monitoring of risks inherent to our assets, activities and operations. Some of these risks are common to operations, while some are unique to Suncor. Our risk management program is aligned with the International Organization for Standardization guidelines (the [ISO 31000 Risk management – Guidelines](#)), which were also adopted by the Standards Council of Canada. The guidelines provide principles, a framework and a process for managing risk.

Our risk management practice is governed by our risk management policy, and supported through processes and tools such as risk management standards and the risk matrix to effectively identify and assess risk across the enterprise. This policy and supporting tools drive a culture of being:

- **Proactive:** We do the right thing by identifying and managing risk in advance.
- **Transparent:** We encourage openness and honesty about our risks. We actively provide and seek out information so we can make better decisions.
- **Consistent:** We are disciplined in doing the right thing, the right way to achieve excellence in risk management.

## Identifying principal risks

Principal risks are risks that have the potential to materially impact our ability to meet or support our strategic objectives. In the constantly evolving energy business, new risks can emerge and established risks can take on new forms or orders of magnitude.

We manage identification of new principal risks through our critical and principal risk processes. These risks are further outlined in our [Management's Discussion and Analysis](#), and include:

- carbon risk
- commodity price
- cumulative impact and pace of change
- government and regulatory policy
- digital and cybersecurity
- major operational incident (safety, environmental and reliability)
- market access
- portfolio, development and execution
- tailings management, dam integrity and mine closure.

### Risk governance

All levels of our organization are engaged in our enterprise risk management (ERM) program. Suncor's Board of Directors and Audit committee are accountable for oversight of our principal risks and ensure systems are in place to manage their impact. Individual business units and functions regularly identify, mitigate and report on critical risks in their areas of business. This co-ordinated approach fosters a culture of risk governance throughout the enterprise.

Risk responsibility, accountability and ownership are appropriately assigned to ensure management of identified risks. Dedicated risk coordinators are embedded in each function and are instrumental in building risk awareness and competency across the business to ensure proper oversight of risk. Measures are in place to ensure risk management decisions are properly and effectively implemented and monitored.

All principal risks must be reported annually to the Board of Directors and Audit committee. Reporting includes details on what's being done to address these risks, how the risks are being monitored and any changes in the risk profile.

Our [2019 Annual Information Form \(dated Feb. 26, 2020\)](#) provides a comprehensive overview of significant risks applicable to Suncor and its businesses. Since 2016, carbon risk has been included in these principal risks and subsequently undergoes an annual board review. The Environment, Health, Safety and Sustainable Development committee of the board also oversees this risk.

### Risk assessment and evaluation

Once identified, risks are assessed and evaluated in terms of magnitude of impact and likelihood using an internal risk matrix tool. A single risk matrix tool allows employees to consistently assess risks and evaluate the consequence and likelihood of risk events. It also helps to assign responsibility for different levels of residual risk. The consequence is based on the following five receptors on the risk matrix:

- Health and safety
- Environmental
- Regulatory
- Reputation
- Financial impact.

### Operational Excellence Management System

Operational excellence is a disciplined framework to conduct our business using consistent practices and requirements. This enables Suncor to operate in a way that is safe, reliable, cost efficient and

aligned with our purpose to continually improve our performance. It further promotes:

- systematic management of operation risk
- achievement of our operational objectives
- prevention and mitigation of environmental and social impacts
- development and sharing of best practices.

The management review cycle, with leadership engagement and support, ensures continual improvement and identification of material opportunities to progress. Our ISO 14001 and 9001 certified facilities are also subject to regular external audits.

### Sustainability considerations in project development

When initiating new projects, our governance framework ensures we continually raise the bar by systematically embedding sustainability considerations into planning and decision-making. This process is consistent with our purpose and commitment to strong environmental performance, thoughtful collaboration and meaningful stakeholder relationships.

We have a long history of building and maintaining relationships, listening to community needs and concerns, and working together to mitigate potential impacts while seeking opportunities.

By integrating sustainability into our process for developing physical assets we ensure:

- environmental and social risks, as well as opportunities, are identified as part of the project definition
- development options are evaluated against sustainability criteria through the concept selection process
- environmental and social risks are incorporated into the project's risk management process
- Suncor's project portfolio supports our strategic purpose, sustainability goals and long-term vision.

Strategic integration of sustainability in project development promotes organizational understanding and competency related to emerging policy, environmental and societal considerations. It leverages technology and advances the sustainability mindset to drive toward our purpose. Suncor's Asset Development Execution Model (ADEM) ensures collaboration and engagement early in the project development cycle. For example, climate change implications are considered in the initial stages of the asset development process, before we commit significant resources. This ensures we mitigate risks and make the most of opportunities that will enable us to achieve our goal of reducing carbon emission intensity by 30% by 2030.

# Innovation

We are continuously innovating to meet evolving energy needs while tackling pressing environmental challenges like climate change. There isn't an easy or quick solution to transform to a low-carbon energy future. It will take original thinking, collaboration and commitment. Transforming the energy system requires all of us – producers, suppliers, governments and consumers – to make changes that will position Canada for success in a low-carbon environment.



**Innovation is making today's energy better and tomorrow's energy possible.**

.....  
We are committing our expertise and our resources to the development of leading-edge technologies that have the potential to change the way the world generates and uses energy.  
.....

We are collaborating and partnering with a wide range of individuals, organizations, associations, government, suppliers, consumers, businesses and communities to challenge the status quo and discover new ideas.  
.....

We are listening to and learning from others to challenge our thinking to create a strong future together, including strengthening our work with Indigenous businesses and communities to create mutually beneficial partnerships.

## Innovation

We look at technology development across our business to reduce our environmental footprint and costs. This includes technology that drives our sustainability focus areas:

### Reduce the GHG emissions associated with our products

renewable fuel from waste  
(such as municipal solid waste)

renewable fuel from bio-mass  
(such as forestry or agriculture)

new products  
(such as renewable hydrogen)

### Reduce the GHG emissions of our operations

in situ development  
(such as solvents)

mining and extraction development  
(such as non-aqueous)

upgrading and refining  
(such as partial upgrading)

transformational technologies for power, steam and hydrogen

## Social innovation

We all have a role to play in creating our energy future. Moving forward requires deep conversations – with stakeholders, governments, community members and industry partners, among others. These conversations help us understand multiple pathways and remember what we have in common – good quality of life, a healthy environment and vibrant communities. By considering and working with whole systems, there is opportunity to transform ourselves, our organizations and society.

We define social innovation as any initiative, product, process, program or design that challenges or changes society's actions and beliefs. Successful social innovations create long-term transformative and positive impacts. As a part of our strategy, we aim to build capacity for social innovation – including within Suncor.

Through the Suncor Energy Foundation, our community investment initiatives and through our relationships with communities, we work deeply with partners and communities to create value for society and address community issues of mutual interest in a way that seeks solutions and benefits everyone.

You can learn more about our work in this area in the [Communities](#) section of this report.

### Reduce the land impact associated with our operations

reducing the impact of our operations on land resources

accelerating the pace of reclamation of disturbed lands

preserving biodiversity

### Reduce water impacts associated with our operations

an integrated water management approach that balances reducing, reusing and returning

# \$830 million

investment in technology development and deployment in 2019, including digital transformation

## Student Energy

Through connections that started and were nurtured at the Suncor Energy Foundation Gathering, Student Energy hosted their first Indigenous youth energy summit in 2019, SevenGen. It brought together 200 Indigenous and non-Indigenous youth from across Canada to explore how to unite communities, build relationships and break social barriers in the energy conversation.

“The goal is to engage youth in climate and energy topics and equip them with the confidence to be part of the larger conversation in the country,” reflects Cory Beaver, a Mount Royal University student, member of the Stoney Nakoda First Nation and co-chair of the summit.

“We’re not just doing this for the next couple of years. We want to fight for a better reality for our children, and our grandchildren and future generations,” adds summit co-chair Disa Crow Chief, a member of the Siksika First Nation.

## Innovation

### Collaboration

Transitioning to a global low carbon environment won't happen overnight and as energy demand continues to grow, making today's energy lower impact is a crucial part of the transition. We know we can't do this alone. We are working together within our industry and beyond to share our knowledge, learn from others, challenge the status quo and discover new ideas.

#### Canada's Oil Sands Innovation Alliance (COSIA)

Suncor leads or participates in many technology studies and projects through Canada's Oil Sands Innovation Alliance (COSIA), an alliance of companies representing roughly 90% of oil sands production. By focusing on five environmental priority areas – greenhouse gases, land, tailings, water, and monitoring – COSIA brings people together to face specific environmental challenges to shorten innovation timelines across the oil sands industry. To date, COSIA's combined efforts have involved:

- \$1.4 billion portfolio of more than 1,000 technologies (technology development costs)
- 294 current, active projects with a cost of \$773 million.

We are currently leading over 50 COSIA studies and joint industry projects. They include the Water Technology Development Centre, which began operations in 2019. Together with the project partners, we are accelerating testing of water technologies in a first-of-its-kind facility at Firebag. Suncor is also participating as a COSIA member company in the NRG COSIA Carbon XPRIZE.

#### Evok Innovations

Suncor is a co-founder of Evok Innovations, along with the BC Cleantech CEO Alliance and Cenovus Energy to accelerate early-stage technologies.

Evok is a Vancouver-based fund that combines the pace and creativity of a Silicon Valley startup with the experience and insight of industry insiders. Evok drives innovation by deeply understanding industrial challenges, leveraging a global network of entrepreneurs to find solutions, and providing the investment, mentorship, and market access to accelerate deployment for game-changing results.

Through the partnership, Evok invests in a global portfolio of innovative companies to address the most pressing and environmental challenges of the oil and gas industry. An important feature of Evok is the access provided to the end customers (Suncor and Cenovus) at an early stage in the life of the startup companies. Since 2016, Evok has funded 13 clean technology companies.

#### Clean Resource Innovation Network (CRIN)

Suncor is a leading member of the Clean Resource Innovation Network (CRIN), which aims to position Canada as a global leader in producing clean hydrocarbon energy from source to end use.

The network unites oil and gas industry professionals, innovators, investors, startups, policy-makers, incubators and accelerators, researchers and students. Together they advance technologies aimed at improving our economic and environmental performance, and with the potential for export to global markets, emphasizing the potential impact our country can contribute to help address global challenges.



#### Opus-12

Through Suncor's partnership with Evok Innovations, we have invested in advancing Opus 12, a company developing a device that recycles CO<sub>2</sub> into cost-competitive chemicals and fuels. The company's technology bolts onto any source of CO<sub>2</sub> emissions and transforms that CO<sub>2</sub> into critical and valuable chemical products with only water and electricity as inputs.





## Strategic investments and partnerships

Suncor monitors technologies being developed around the world to determine if, and when, an investment could make sense to advance a technology and adapt it for our business. Sometimes we seek out these companies, and other times they contact us directly through our technology proposal portal. Where appropriate we fund companies or venture capitalists, while other times we may commit to be the first customer when technology ideas align with the needs of our operations or businesses.

This type of technology development is carefully managed to ensure it provides economic and environmental benefits to Suncor. It is a key strategy in a world of fast-changing products and services.

### Examples of investments

#### ArcTern Ventures

A venture capital firm investing globally in breakthrough clean technology companies addressing climate change and sustainability.

#### Emerald Technology Investments

A clean technology venture capital pioneer we continue to invest in through an environmental water fund.

#### Enerkem

A company which manufactures biofuels and renewable chemical products from household garbage that would otherwise be landfilled. In addition to investing in Enerkem, Suncor has seconded expertise and personnel into Enerkem's Edmonton facility.

#### LanzaTech

A biofuels firm based in the United States that is advancing a proprietary gas phase fermentation technology to recycle waste gas and greenhouse gas emissions into sustainable fuels and chemicals.

#### LanzaJet

A company that produces sustainable aviation fuel. Suncor has partnered with LanzaJet to build a demonstration plant that will produce renewable diesel from sustainable ethanol sources.

#### Academic partnerships

Suncor is a longtime supporter of research and program work at leading Canadian universities. We aim to host our second Academic Technology Forum virtually in October.

## Innovation

### Digitalization

We're already extensively using information technology in our business, and the increasingly digital world brings new and exciting opportunities. As part of our approach to innovation, we are harnessing digital technology in areas such as improved data, advanced analytics and automation to help improve the safety, productivity, reliability and environmental performance of our operations. Focus areas include:

- monitoring and data analytics
- remote sensing technologies
- using real-time analytics to improve reliability and performance
- streamlining processes with robotic process automation.

### Autonomous haulage systems

Autonomous haulage systems (AHS) continue to be a key part of Suncor's strategy. Suncor has been proceeding with the phased implementation of AHS at our operated mine sites. The North Steepbank Extension mine reached a full autonomous haulage operation in April 2018. AHS implementation began at the Fort Hills site in 2019 and is projected to reach full autonomous haulage operation in 2020.

Autonomous haul trucks operate using GPS, wireless communication and perceptive technologies. The trucks operate predictably and employ a suite of safety features like prescribed route mapping and obstacle detection systems.

Evaluations have shown the technology offers many advantages over existing truck and shovel operations, including enhanced safety performance, better operating efficiency and lower operating costs.



### Digitization partnership



### Microsoft Canada

In late 2019, we announced a multi-year strategic alliance with Microsoft Canada as a part of our efforts to empower a connected and collaborative workforce, upgrade data centres, and increase analytics capabilities. Through this partnership, we are leveraging Microsoft's full range of cloud solutions to enable the rapid deployment of new technologies to improve safety, productivity and sustainability through artificial intelligence, machine learning, enhanced automation, visualization and industrial Internet of Things.



*Although we are an industry leader in many respects we still have much to learn in the digital space, which is why we're working with a number of organizations, including Microsoft.*

Mark Little  
president and chief executive officer

# Engagement

We are operating in a complex environment with increasingly polarizing views about the energy industry. We believe that engaging with others will help us find solutions to our shared challenges.

We are working to ensure Suncor is regarded as a Canadian business leader on all dimensions of sustainability – economic, environmental and social – so that we are a welcomed and influential participant and contributor to the energy system transformation.

To support this, we work hard to engage with a wide range of diverse stakeholders to consider their issues and concerns about our operations and the effects of proposed development. This includes working together to mitigate potential social, environmental, and economic impacts, and ensuring that local communities benefit from development. We engage with stakeholders in multiple ways, including meetings, workshops, and conferences. Not only does broad engagement support the operation of our base business, it also helps us to:

- address our impacts and identify solutions
- explore new business opportunities
- support research, technology and innovation across the company
- embed sustainability across our whole energy system.

We have also expanded our relationships and partnerships with various organizations to leverage their knowledge and expertise and collaborate on ways to reduce bias, address workplace barriers, and create opportunities that help work toward increasing workforce representation of women, Indigenous Peoples, members of the LGBT+ community, visible minorities and other diverse communities.

We seek to engage with partners in an atmosphere of mutual respect, knowing there will be times when we work with partners that don't support elements of our business or have different perspectives than ours. We welcome different opinions and perspectives that help us work toward the greater good and drive positive change.

When it comes to our workforce, we believe in engaging our employees and building a culture where feedback is encouraged. Employee engagement is especially important in maintaining strong business delivery in times of change.

Throughout this report, we highlight various 2019 engagement activities with different stakeholders, as well as collaborative efforts with partners.

## The Embedding Project

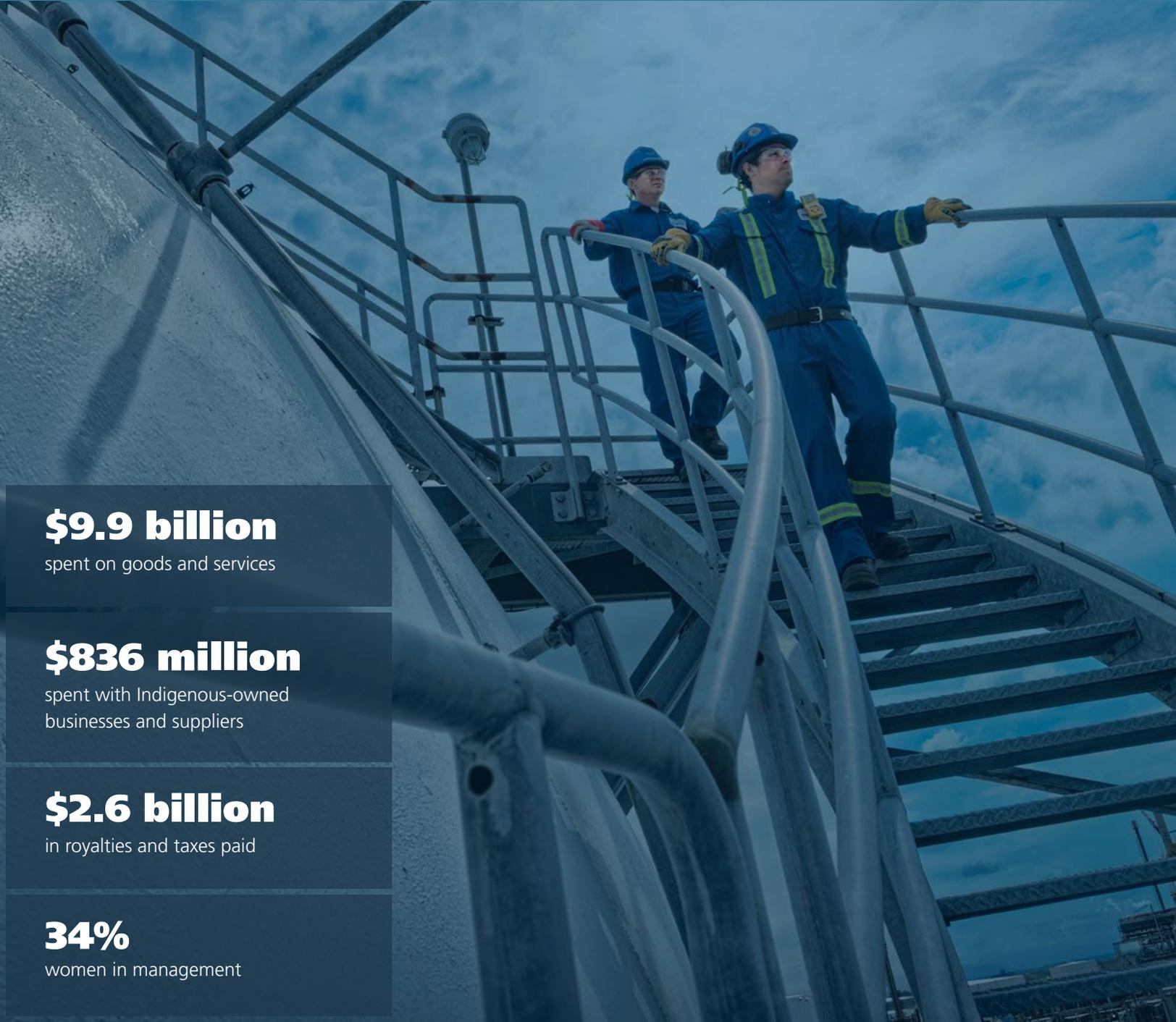
For over a decade, we have been a partner in the Embedding Project, a global public-benefit research project that helps companies embed social and environmental factors across their operations and decision-making. By harnessing the collective knowledge of the world's top researchers and change agents from within global organizations, the Embedding Project creates publicly available resources and tools that support companies as they improve their sustainability performance and ultimately contribute to creating a more resilient society.

We regularly participate in the project's peer-to-peer knowledge exchange and supports the co-creation, piloting, and refinement of resources. Our work with them challenges us to do our part to contribute to the resilience of the communities and ecosystems where we operate. Through our participation, we better understand our own sustainability maturity and where we are best placed to contribute to positive systems change. At our FORGE supplier innovation forum in February 2020, the Embedding Project's founder Dr. Stephanie Bertels, facilitated an interactive workshop that challenged us all to re-envision how we can collaborate across the value chain to bring about transformational change.

Suncor's long-life, low-decline asset base, strong balance sheet and integrated model, with our connection to end consumers through our retail network, sets us apart from our peers. These advantages are complemented by our long-standing approach to sustainability, operational excellence, capital discipline, technology and innovation.

# Our business

- › Operations summary
- › Economic impact
- › Supply chain
- › Personal and process safety
- › Inclusion and diversity



**\$9.9 billion**

spent on goods and services

**\$836 million**

spent with Indigenous-owned businesses and suppliers

**\$2.6 billion**

in royalties and taxes paid

**34%**

women in management

# Operations summary

Suncor is Canada's leading integrated energy company.

Headquartered in Calgary, Alberta, Canada, Suncor's operations include oil sands extraction and upgrading, onshore and offshore oil and gas production, petroleum refining and product marketing under the Petro-Canada™ brand, as well as renewable energy development.

## Oil Sands

Suncor's Oil Sands business, with assets located in the Athabasca oil sands of northeast Alberta, recovers bitumen from mining and in situ operations. Bitumen is either upgraded into synthetic crude oil (SCO) for refinery feedstock and diesel fuel or blended with diluent for direct sale to market through the company's midstream infrastructure and its marketing activities.

## Exploration and Production

Suncor's Exploration and Production (E&P) segment consists of offshore operations located off the east coast of Canada as well as in the North Sea (the U.K. and Norway), and onshore assets in Libya and Syria. Due to political unrest, production in Libya remains partially shut-in and operations in Syria have been suspended indefinitely.

## Refining and Marketing

The Refining and Marketing segment consists of two primary operations, the Refining and Logistics (R&L) and marketing operations, as well as the infrastructure supporting the marketing and supply of refined products, crude oil, natural gas, power and byproducts. R&L operations refine crude oil and intermediate feedstock into a wide range of petroleum and petrochemical products at our four refineries located in Edmonton, Alta.; Sarnia, Ont.; Montreal, Que. and Commerce City, Colo.



### Electric vehicle charging network



Completed in 2019, we now have the first cross-Canada network of more than 50 fast-charging electric vehicle (EV) chargers at Petro-Canada™ stations. These stations are positioned no further than 250 kilometres apart, ensuring an EV charging station is within range on this electric highway and eliminating one of the significant barriers to EV adoption.



## Operations summary

Marketing operations sell refined petroleum products to retail, commercial and industrial customers through the more than 1,850 Petro-Canada™ branded retail and wholesale sites in Canada and other non-branded retail stations in the U.S. The Canadian network is supported by a nationwide commercial road transportation network and bulk sales channel.

## Renewables

### Wind power

Renewable Energy includes interests in four wind farm operations in Ontario and Western Canada. Our wind power facilities located in Alberta, Saskatchewan and Ontario have a gross generating capacity of 111 MW, enough to power about 52,000 homes and to avoid approximately 179,000 tonnes of CO<sub>2</sub> per year.

### St. Clair ethanol plant

Suncor operates Canada's largest ethanol facility – the St. Clair ethanol plant in the Sarnia-Lambton region of Ontario. The St. Clair ethanol plant has a current production capacity of 400 million litres per year. The ethanol produced here is blended into Petro-Canada™ gasoline.

The plant currently uses 40 million bushels of corn annually, approximately 20% of Ontario's annual corn crop. The type of corn used as feedstock has traditionally been used to feed livestock. Once the starches are extracted from the corn to make ethanol, the remaining elements are used to make premium cattle feed.

For more information on our operations, please refer to Suncor's [2019 Annual Report](#).



### Indigenous partnership



In support of Suncor's social goal, we continue to create additional economic opportunities for Indigenous groups through both service provision and equity partnership opportunities. The jointly owned Adelaide Wind Power Project in southern Ontario has contributed to a positive working relationship between Suncor and Aamjiwnaang First Nation.



# Economic impact

As Canada's leading integrated energy company, we believe environmental and social progress and economic performance are intertwined and integral to our success.



We continue to drive competitive and sustainable returns to shareholders through our integrated business model while maintaining financial strength, flexibility and our commitment to environmental stewardship and sustainability. Our actions are intended to ensure the long-term health of our business while reliably delivering critical energy to consumers.

Our focus on operational excellence, commitment to capital discipline and investments in high-value projects underpins our ability to generate cash flow across a wide range of business environments. The unique integrated model provides a link from the energy source to the end consumer. This enables us to invest in enhancing the efficiency of our operations and improve the carbon intensity of the products we sell.

The energy and products we provide are secure, reliable and essential to support our communities and society. They are critical to the quality of life we enjoy in North America and have additional benefits, including contributing to our economy. The revenue from the royalties and taxes we pay to government helps fund public sector programs, including education, health care and critical infrastructure. We also create thousands of jobs and provide significant revenue to a wide range of suppliers.

Amidst today's extraordinary market challenges we believe that Suncor is well positioned to succeed due to the company's advantages: financial strength, capital discipline, a highly efficient, tightly integrated suite of assets, an industry-leading long life, low-decline oil sands reserves base, a sophisticated infrastructure and logistics network, strategic refineries and retail and wholesale network, and our investment in sustainability, technology and innovation.

**\$836 million**

goods and services with Indigenous-owned businesses and suppliers

**\$830 million**

technology development and deployment, including digital transformation

**\$3.6 billion**

wages and benefits

**\$2.6 billion**

royalties and taxes paid

For more information, please refer to Suncor's [2019 Annual Report](#).

# Supply chain

In 2019, we further integrated sustainability into our supply chain and field logistics business. Progress was made in order to affect environmental and social impacts of procurement decisions while improving business value. The focus on sustainability within our end-to-end supply chain processes and the partnerships we developed supports Suncor's purpose and demonstrates leadership in environmental and social governance.



Joe Vetrone speaking at FORGE 2020

Achieving high-level sustainability performance will demand effective collaboration and humility to learn with and from our partners in a way that spurs disruptive innovation and embeds sustainability throughout our extended supply chain. Systematically assessing and tracing the flow of materials and information in our supply chain is critical to our success, as is building capabilities to strategically source in a fashion that is integrated across Suncor's business, and leverages data and analytics.

All suppliers sign off on Suncor's Supplier Code of Conduct to align with our sustainable development approach. Together, we seek opportunities to reduce environmental impacts, support the communities in which we work, and collectively contribute to economic growth. To that end, we have taken further steps toward engaging with our suppliers on their sustainability performance, including:

- collecting and assessing sustainability performance as part of prequalification and awarding of work
- data gathering activities to create a baseline understanding of our supply chain and make more informed decisions
- monitoring and auditing sustainability performance as part of our supplier performance and due diligence process
- collecting sustainability risks and opportunities in our supply chain
- building collaborative relationships with suppliers to accelerate innovation and sustainability performance.

## FORGE 2020: Suncor charts new course with suppliers

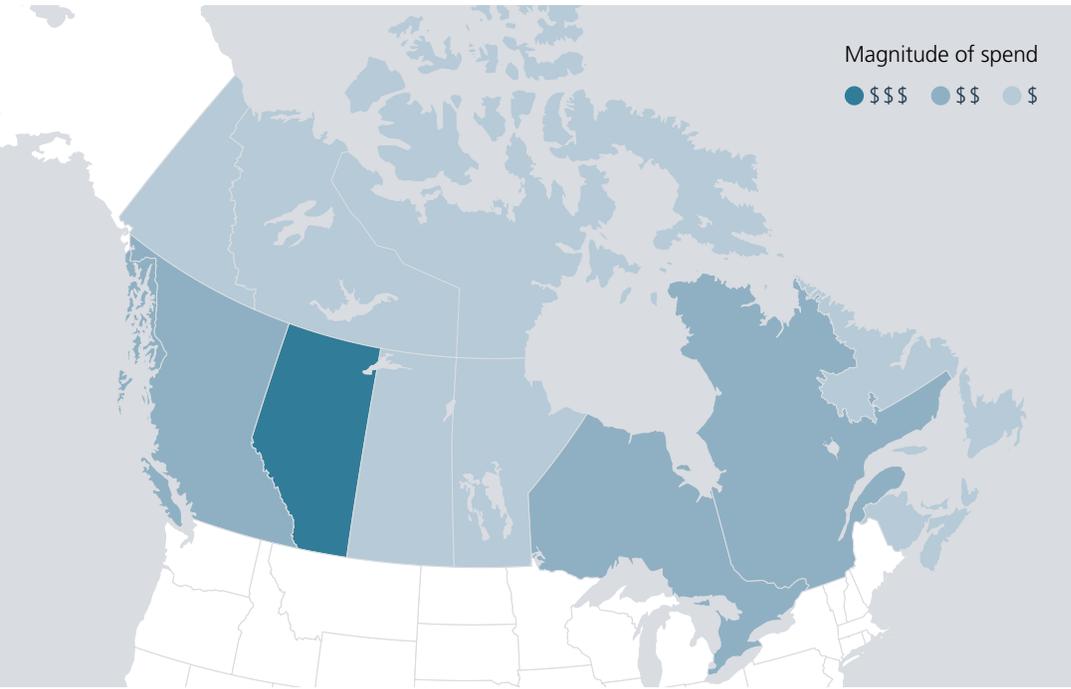
To help facilitate the sharing of innovative practices, in February 2020 we brought together more than 200 leaders from across Suncor and representatives from 40 of our suppliers and industry partners to participate in an interactive forum called FORGE.

The two-day event took place at the Tsuut'ina Nation in Calgary and enabled Suncor and our key suppliers to listen, learn, co-create, innovate, and accelerate sustainability outcomes together.

"Our forum was about new solutions, new partnerships and forging a new path forward," says Joe Vetrone, senior vice-president, projects, supply chain and field logistics. "When we forge down a new path, anything is possible."

## Measuring our progress

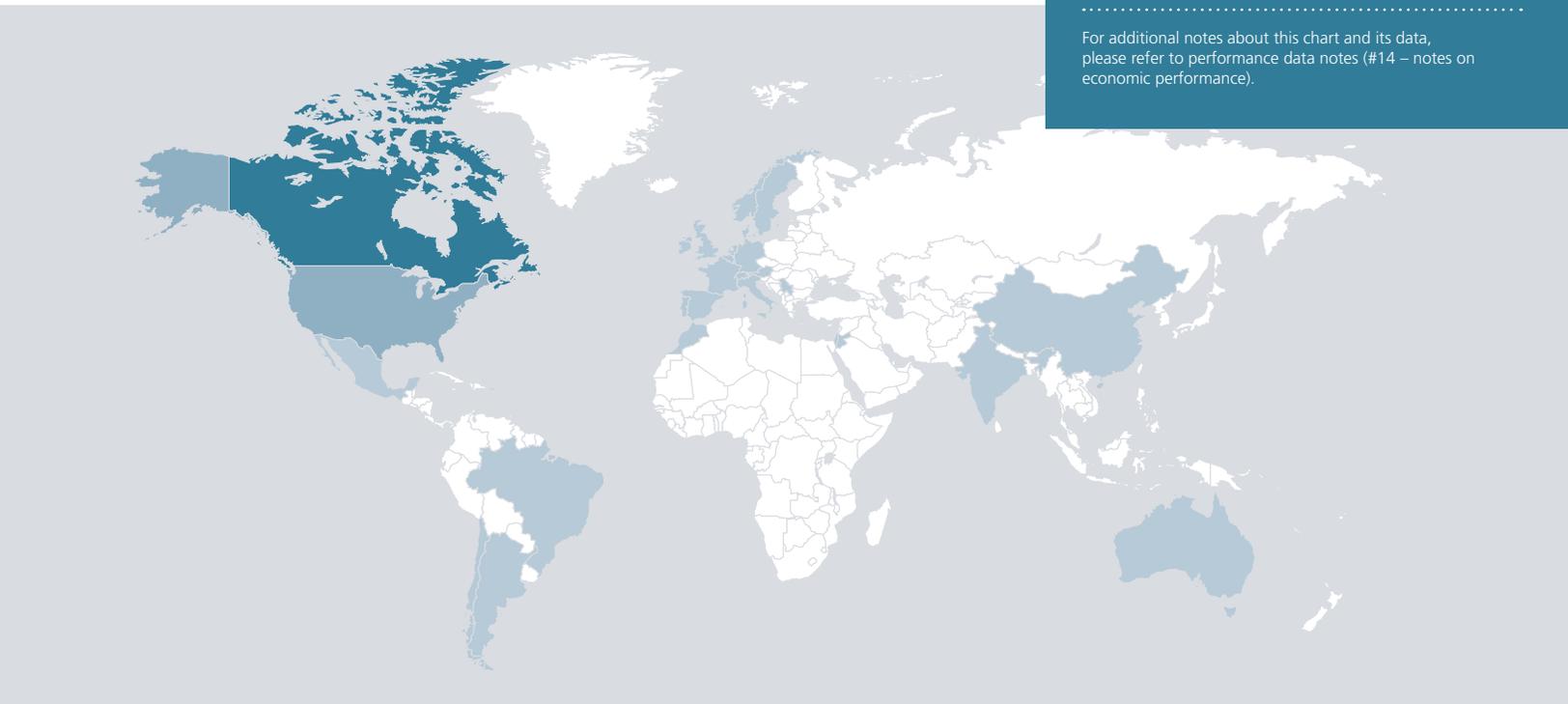
To integrate sustainability in our supply chain, we look across our business. Our total supplier base spans Canada in all 10 provinces as well as the Northwest Territories and Yukon. We also purchase products and services from nearly 40 countries.



We monitor our supply chain spending and service delivery levels and strive to grow our involvement with Indigenous businesses. We continue to ensure agreements are mutually beneficial and build capacity and capability.

	2018	2019
Total supplier spend	\$10.6B	\$9.9B
Total Indigenous supplier spend	\$726M	\$836M
Total supplier base	6,497	5,768
Indigenous supplier base	85	88

For additional notes about this chart and its data, please refer to performance data notes (#14 – notes on economic performance).



## Supply chain

In 2019, Suncor assigned an Indigenous business development representative to the cross-functional teams that oversee requests for proposals. This participation ensures that Indigenous commitments are met and creates awareness of Indigenous business capabilities.

Our spend with Indigenous suppliers is approximately \$836 million or 8% of our total. Since 1999, Suncor has spent more than \$6 billion with Indigenous businesses. We are now reflecting on our progress to date to refine our approach and future targets.

In 2019, we transitioned to tracking the percentage of Indigenous spend compared to our overall spend, as it better reflects the advancement of Indigenous business in high and low markets. We also track the number of new Indigenous suppliers and communities that we work with and have established a process to collect the percentage of Indigenous workforce engagement with all suppliers. Community partners have begun to illustrate business benefits within communities, which further helps Suncor to understand the value of working with competitive Indigenous suppliers.



*We have developed a great working relationship with Suncor Energy, and their dedication towards advancing business participation with Indigenous suppliers is evident in all aspects throughout their business. We appreciate their attention to detail and collaborative approach to bringing CRE and business partners to where we are today.*

Bernie Ness  
business development manager,  
Christina River Enterprises

We are particularly proud of the efforts to support the advancement of Indigenous business in our Downstream. Leaning in with community partners and Indigenous suppliers in geographic areas that are new to both parties takes strong collaboration and trust. One example is the growth in scaffolding and janitorial services which grew from \$12 million in 2019 to more than \$23 million in 2020.



### Suncor and Acden Tech Sonic adopt new technology for mutual gain



One way that Suncor is forging new partnerships with Indigenous businesses is through its collaboration with Acden Tech Sonic – ultrasonic industrial cleaning specialists. Athabasca Chipewyan First Nation, owner of Acden, has had a long and prosperous partnership with Suncor since 1995. In recent years, the two companies have worked closely together to align Suncor's needs, build upon Indigenous supplier capability, expand scope and spend, and think differently about work execution.

The combination of Acden Tech Sonic's industry-leading patented technology and their highly dedicated, skilled and innovative team members has created significant operational efficiencies. The results are an increased level of service at a reduced cost for exchanger cleaning at Suncor's Base Plant.

# Personal and process safety

We place safety above all else. It's our number one value and nothing matters more.



Our Environment, Health and Safety (EH&S) team provides standards, processes and systems to help ensure EH&S compliance and stewardship across Suncor. The end result is ensuring work is done safely.

Unfortunately, in 2019 our safety performance was unfavourable, a stark reminder that we cannot become complacent and that safety must always be a priority focus. It also means that employees and contractors must feel comfortable and empowered to speak up if they don't feel safe or if they see an unsafe practice. Nothing is more important.

## Contractor safety

Each year, we hire thousands of contractors to work at Suncor job sites. In 2019, we tasked ourselves to look at contractor safety differently. Multiple contractor safety forums were held to have open and honest safety discussions. This included engagement with companies before they start work at our sites to ensure they have a complete understanding of the expectations and standards of executing work safely.

In April 2019, we suffered the tragic loss of a contractor colleague at Fort Hills who was involved in a pedestrian/vehicle incident. Post-incident investigation, key incident findings and recommendations

were shared across the company, and a communication package and best practice checklist for site personnel was issued across our Regional Municipality of Wood Buffalo (RMWB) sites to reinforce knowledge and understanding of the hazards and mitigations related to driving and working in and around light duty vehicles. Understanding, reflecting and learning from this event is not only necessary, but also critical to reminding us that we can never stop thinking about safety for every task we do.

## Personal safety

We believe safety above all else is essential. As such, we promote safety conversations and participation through a variety of activities and processes, including:

- Incident management
- Serious injury and fatality (SIF) prevention
- Life Saving Rules
- Technology enablement
- Journey to Zero.

## Personal and process safety

### Health and wellness

The well-being of our employees is of the upmost importance and something our leadership team fully supports. We strive to foster a culture of well-being that supports and enables our workforce to contribute their best every day. Supporting employee well-being results in a resilient workforce and thriving workplace. In 2019, well-being and existing wellness program awareness were a focus across the company. We continue to evaluate the needs of our people to support them in focusing on their overall well-being – and mental health is a large component of this. We recognize that foundational safety principles, such as mind on task, can only be achieved when our well-being is taken care of.

### Focusing on psychological safety and mental health

As we live through a global pandemic, the focus on mental health and psychological safety has never been more important. Along with our Employee and Family Assistance Program (EFAP), Suncor has a mental health specialist on the team to support our employees.

Indicators of psychological well-being include an employee's level of happiness, life satisfaction, contribution, and positive mental health. Therefore, it is important that our workers feel psychologically safe in the workplace to prevent harm to themselves or others.

Mental health is also a critical component of being fit for duty.<sup>1</sup> Those struggling with mental health issues can experience cognitive and physical fatigue, which can impair decision-making, decrease reaction time and attention to detail, and increase incident rates. Mental health and psychological safety go hand in hand.

In order to help workers prioritize their mental health and ensure they focus on personal safety, Suncor provides resources to help during times of uncertainty or stress. Leadership training and other mental health awareness activities are also underway to promote a psychologically safe environment and break the stigma around mental health issues.



*We need to create a space where people feel safe to discuss when their mental health may be affecting their fitness for duty. Those conversations can't happen without psychological safety. A core component of psychological safety is the ability to discuss and address problems in a constructive manner.*

Iordanka Petzanova, mental health specialist

During the early stages of the COVID-19 pandemic in 2020, our emergency response management teams and leaders connected daily to navigate our way through the unprecedented circumstances. We understood the responsibility we had, and still have, as an organization to help 'flatten the curve,' while continuing to provide the energy our society needs. Our main focus has always been on the well-being and safety of our people, their families, our customers and communities. This focus guided our decisions to move to essential personnel early and to introduce health and safety measures and protocols (shared internally and externally). Examples of measures include physical distancing, remote workforce enablement, flight changes, and increased sanitization across our operations and retail sites.

<sup>1</sup> Being fit for duty means to be physically and mentally in a state to safely and acceptably perform assigned duties without any limitations, including the use or after-effects of alcohol or drugs. In March 2019, we worked with Unifor Local 707A (the union representing some employees at Suncor's Base Plant and Firebag sites) to successfully implement random alcohol and drug testing for safety-sensitive positions and specified positions at all Suncor operations in the Regional Municipality of Wood Buffalo. Our fit for duty standard applies across our operations and is one of the next steps in our commitment to ensuring a workplace where everyone is fit for duty so we can all make it home safely.

## Personal and process safety

### Emergency management

Effective emergency management is integral to protecting our workers, the environment and our operations. To standardize emergency management across the company, in 2019 we implemented a standardized emergency management system following the principles of the international Incident Command System. This system provides a standardized enterprise-wide approach to improve our effectiveness and efficiency, as well as aligns to our governments, regulators and peers.

### Process safety and reliability

Process safety management helps reduce the frequency and severity of unexpected releases from process equipment like pressure vessels and pipelines. When we proactively reduce these incidents, we prevent hazardous conditions that could harm employees or the surrounding environment. Improving process safety performance also has the benefit of reducing unscheduled maintenance and improving overall reliability, which in turn helps our facilities run more efficiently. An efficient operation is safer for employees, lowers production costs, uses less water and energy, and improves carbon intensity.

We continue to see notable achievements in process safety. Our ongoing focus on asset reliability and monitoring has resulted in a significant decrease in unplanned releases. We also continue to improve and strengthen our pipe inspection plans to provide up-to-date health monitoring of our pipe conditions and life cycles. The robustness of our regulatory inspection programs ensures that we continue to operate our assets with an eye on safety above all else.

We are also seeing progress made when it comes to our application of critical process safety programs. This includes the identification of instrumented safeguards, and the implementation of maintenance programs and stewardship to achieve the required level of risk mitigation, and how we monitor and report on impacts to our operating parameters. Ongoing attention on process hazard analysis workshops ensures we keep an objective eye on changes in our operating plants.



## Personal and process safety

### Operational controls

As our business continues to grow, we are seeing and capitalizing on more opportunities for regional and enterprise-wide safe work practices and procedures, as well as looking for opportunities for digital enablement. The front-line workforce is engaged in the creation of processes and we seek opportunities for standardizing how we work.

We are also working to enhance our incident investigation training to ensure learnings are embedded in our work practices and mitigating actions are implemented. Audits and management reviews are in place to ensure our practices are effective and prevent the reoccurrence of similar incidents.

### Health and safety performance

In 2019, we focused our safety efforts on personal and process safety performance. This includes working toward reducing recordable injury frequency (RIF), loss of primary containment, and high-risk incidents.

#### Recordable Injury Frequency

We finished 2019 with a combined employee and contractor Recordable Injury Frequency (RIF) performance of 0.39, higher than our 2019 target of 0.33. This is disappointing given our progress in reducing this over the past five years. Recordable incidents related to hand injuries were our leading trend. To control this trend, all incidents were investigated, root causes were identified (slips, trips and falls from winter conditions and 'line of fire' related incidents<sup>2</sup>), and specific corrective/preventive actions were assigned and completed. Incident findings and learnings were communicated to our workforce and business areas reinforced 'line of fire' safety requirements, including safety inspections/observations targeted to hand injury prevention. We're working to drive continuous improvement in employee and contractor recordable injury performance.

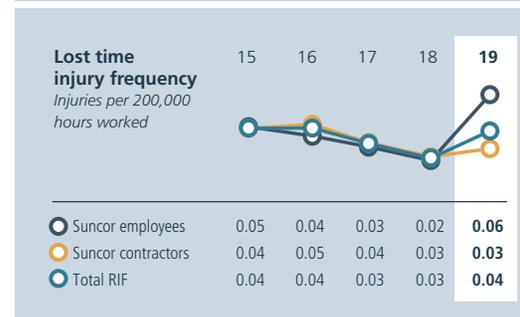
#### Lost Time Injury Frequency

Our combined employee and contractors Lost Time Injury Frequency (LTIF) for 2019 was 0.04, which is relatively stable in relation to our five-year performance. The increase in 2019 employee LTIF was also due to slips, trips and falls and 'line of fire' related incidents. To address slips, trips and falls, we increased awareness on existing safety processes; proper personal protective equipment and use of mandatory traction aids; and hazard assessments before starting any activity. In early 2020, we rolled out the revised life saving rules that align with the International Association of Oil & Gas Producers and Energy Safety Canada, to provide additional focus to manage these hazards.

#### Process safety Tier 1 and 2 loss of primary containment events

We have seen Tier 1 and Tier 2 process safety events declining from 180 events in 2015 to 39 events in 2019<sup>3</sup>. This improvement is due to our committed focus on process safety governance and initiatives. To further strengthen our process safety performance and culture, Suncor is committed to investigating safety events, including all Tier 1 and 2 process safety events, so we can:

- take corrective actions to mitigate barriers
- apply learnings across the enterprise.



For additional information about this chart and its data, please refer to performance data notes (#12 – notes on health and safety).

<sup>2</sup> Line of fire occurs when the path of a moving object or the release of hazardous energy intersects with an individual's body.

<sup>3</sup> Process safety Tier 1 and 2 loss of primary containment (LOPC) events are unplanned or uncontrolled release of any material from primary containment resulting in consequences as specified by American Petroleum Institute (API) Recommended Practice 754 Second Edition, 2016 and International Association Oil & Gas Producers (IOGP) Report 456: Process Safety Recommended Practice on Key Performance Indicators Version 2.0, 2018. The LOPC data is a sum of Tier 1 and 2 LOPC events.

# Inclusion and diversity

We believe part of our strength comes from leveraging our differences. We want to make Suncor a great place to work for all – where, no matter your background, attributes and perspectives, you feel valued and respected.

## Unleash the full potential of our people

Living our purpose can only be achieved by caring for each other. People are at the centre of everything we do, so we want everyone to feel safe, included, inspired, trusted and supported so they can be and achieve their best.

Our goal is to create a respectful and inclusive place to work for everyone, which in turn enables leading workforce and organizational performance. We have worked hard to build an inclusive culture where differences are valued and our people feel a sense of belonging.

Measurement helps us to understand the demographics of our workforce. Representation, retention, and advancement data informs our progress and helps us to identify and break down barriers – whether they are cultural, ethnic, generational or gender-based.

Beyond statistics and metrics, we show our commitment to building inclusion and belonging through raising awareness, listening, creating conversations, striving for fair treatment, and building skills. We believe this will positively contribute to strong employee engagement and business performance.

An inclusive and diverse leadership, workforce and culture is a central principle in many of our commitments, policies, programs and tools.

Suncor's inclusion and diversity strategy includes initiatives and actions in five focus areas:

- leadership
- processes, policies and programs
- understanding and skill development
- employee involvement
- community and industry partnerships.

## Leadership

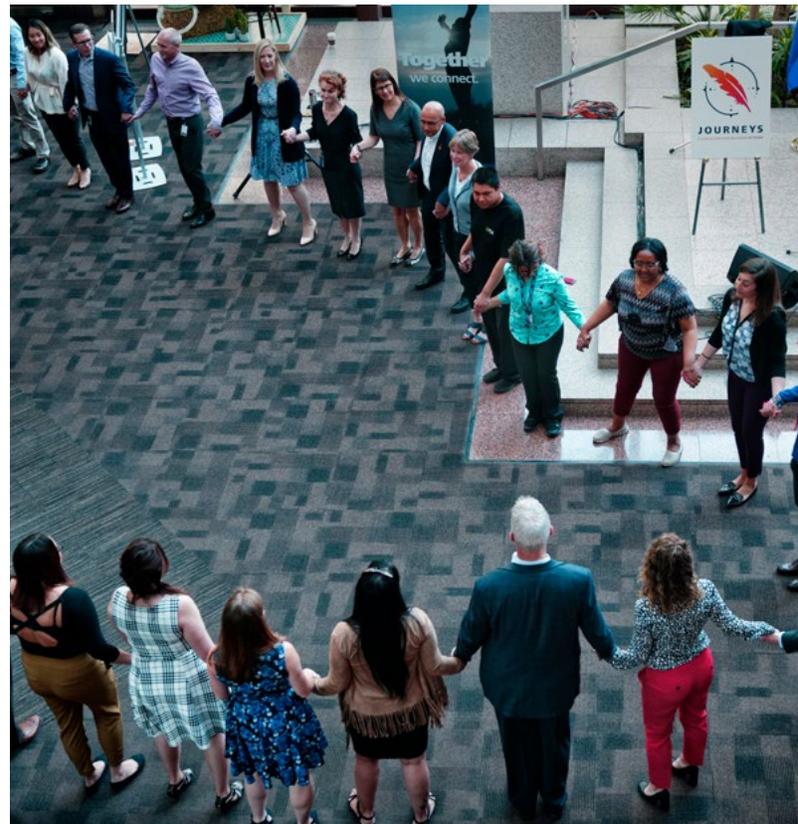
Suncor's leadership is committed to progressing inclusion and diversity (I&D), beginning with our Board of Directors' diversity policy, our company-wide goals as set by our CEO and the I&D Council made up of senior leaders across the organization. Together, these leadership bodies set goals, strategies, initiatives and action plans to address systemic barriers and foster opportunities to become a more inclusive workplace.

Our purpose, values and new leadership imperative launched in 2019 drive an inclusive culture. The imperative is a reminder of the role of all people leaders in creating and modelling a respectful and inclusive environment that's safe, fair and trusted.

## Our commitment to inclusion and diversity

Recent events and conversations, across North America, around the globe and within our organization, have heightened the need to deepen our commitment to an inclusive and respectful workplace and seek to address systemic bias. This commitment means we must listen, understand, learn, and adapt our practices to grow and support inclusion and diversity.

Along with other members of the Business Council of Canada, we have signed a statement denouncing racism in all its forms, demonstrating our commitment to driving positive change to eliminate discrimination of all kinds.



## Inclusion and diversity

### Processes, policies and programs

Our new [Equal Opportunity and Inclusion Policy](#) and supporting Respectful Workplace Standard, approved in 2019 and published in 2020, demonstrate our commitment to inclusion, equity and diversity.

Also in 2020, we introduced a Parental Leave Top-up Plan for Canadian employees that supports families of all types. Open to birth and adoptive parents, of all genders, the plan enables gender equity and career development for women, while also helping all employees find a balance that works best for their career and family.

### Understanding and skill development

We support and are building understanding by celebrating diversity days during the year, including International Women's Day, National Indigenous People's Day, Black History Month, International Day for Cultural Diversity, Pride Month, Orange Shirt Day, International Day for Persons with Disabilities, World Mental Health Day and many more.

We support a variety of ways for employees to learn about, celebrate and recognize diversity, such as employee stories on our intranet, newsletters, internal social platform Yammer, guest speakers, workshops and events. We also have our continued formal programs, Unconscious Bias training and Indigenous Awareness and Cultural training, and a collection of resources and tools for employees and leaders to learn more.

### Employee involvement

Employees and employee networks play a critical role in fostering inclusion and respect for diversity, equity, engagement and belonging in the workplace.

We now have seven employee networks that play a valuable role in building a sense of belonging, supporting personal and professional development, learning and networking opportunities.

We recognize the importance of listening to employees and stakeholders to understand where opportunities lie to improve inclusion and diversity, and to celebrate our successes. To ensure we are hearing feedback from all areas of our business, in 2019 our Inclusion and Diversity Council held 18 in-person inclusion labs with more than 130 employees and leaders across Suncor.



*Welcoming a new baby into your home is the start of an incredible adventure, and we want to help our employees find a balance that works for them leading up to, during and coming back from their leave, with our financial support.*

Paul Gardner  
chief people officer

### Board diversity

The board has a written diversity policy with a measurable gender diversity target of 30%. Suncor exceeds this with 40% of the 2020 directors being women.

### Women in management

34% female representation

### Employee diversity

3.2% Indigenous representation in our workforce  
(our Social Goal target by 2025 is 4%)

For additional information about this chart and its data, please refer to performance data notes (#13 – notes on workforce)



Our future will be shaped by how we respond to a number of complex – and sometimes competing – challenges. The amount of energy we require will continue to increase and, if we are to avoid the worst impacts of climate change, we will have to collaboratively tackle the emissions challenge associated with that growth.

# Climate change

- › CFO message
- › Our perspective
- › Leading energy system transformation
- › Governance
- › Climate-related risk management
- › Strategy
- › Metrics and targets
- › Low-carbon innovation

Achieving a shared vision for **energy system transformation** requires collaboration and thoughtful engagement across the value chain

Contributing to significant **advancements in biofuels**

**Scenario planning**, including a new 2°C scenario, helps us assess the resilience of our long-term strategy



## CFO message



**Alister Cowan** chief financial officer

Addressing climate change remains one of the world's most complex and pressing challenges. It has the potential to affect all aspects of our society, and collectively, we all have a part to play in transforming the energy system to reduce emissions while supporting a prosperous and safe world.

In line with the rising urgency around climate change, interest and engagement from the capital markets have increased in recent years. The energy sector, in particular, has drawn significant attention from investors and financial institutions on climate change risk. Much of the financial sector including pension funds, asset managers, banks and insurers, have coalesced around the recommendations from the Task Force on Climate Related Financial Disclosures (TCFD). Suncor publicly declared support for the TCFD recommendations in 2018.

We recognize the importance of carbon risk and engaging with our shareholders and financial partners on this risk. As such, I am happy to share the fourth edition of Suncor's dedicated disclosure on climate risk and resilience. Carbon management has been a focus for our business for decades and we're making significant progress to achieve our current goal to reduce our GHG emissions intensity by 30% by 2030. We also value active engagement with investors and financial partners directly and through organizations like Climate Action 100+ and Ceres. These opportunities allow us to share knowledge and seek bold new approaches for continued business success.

We've used the TCFD recommendations to structure our report, provide information to support decision making, and continue supporting high-quality engagement. I encourage you to read about our GHG performance and robust governance approach. We also share some of our notable investments in low-carbon technology and our strategy

to remain successful in a rapidly transforming world including insights from our new 2°C scenario.

Despite a challenging economic environment today, we continue to invest in reducing emissions from our base business as well as new opportunities for energy system transformation, as these are critical to business resiliency and long-term shareholder value.

While we have plans for further investment in the energy transition, the market downturn and global pandemic have required us to adjust the timing of some initiatives. To ensure the financial health of the business, we delayed the replacement of our coke-fired boilers and the Forty Mile Wind Power Project. These decisions are clear reminders that we depend on a financially healthy business today to support investments in low-carbon innovations for tomorrow.

Our portfolio of high-quality assets, prudent management and strong investment-grade credit rating, along with our history of transparent climate disclosure and active engagement, have established Suncor as a trusted provider of energy in Canada. Our strategy, commitment to shareholder value, and our focus on sustainability position us well in a low-carbon future.

A handwritten signature in black ink, appearing to be 'Alister Cowan', written in a cursive style.

Alister Cowan  
chief financial officer

# Our perspective

We support the Paris Agreement to limit global temperature rise to below 2°C. This requires an urgent and collaborative effort from all governments, businesses and individuals to reduce greenhouse gas (GHG) emissions while meeting the world's energy needs. Solutions across all parts of the economy must be pursued, addressing improvements to existing energy systems and implementing new energy sources to advance the energy transformation the world needs.

Suncor is well positioned for this transformation with a strong upstream portfolio integrated with efficient downstream refineries and strategic investments in new technology and low-carbon innovation to reduce carbon emissions and lower costs across all aspects of our business. In addition to stewarding our 2030 goal to reduce GHG intensity, carbon risk is embedded within Suncor's approach to governance and decision-making.

We have supported the desire for consistency and transparency embodied in the Task Force on Climate-related Financial Disclosures (TCFD) recommendations since 2018, and view information disclosed in alignment with those recommendations as foundational for stakeholder engagement. Information that follows provides GHG emissions trends, our strategy and progress toward our GHG goal, updated information on our input into climate policy development, and our engagement activities including embedding sustainability considerations within our supply chain.

We also share our approach to innovation and how our foundational governance framework and risk processes ensure we address climate threats and opportunities appropriately. New this year, we are introducing our 2°C scenario, developed to inform our long-term business planning and corporate strategy. We welcome the evolution of standardized and consistent climate risk disclosure to meet the needs of all stakeholders and contribute to understanding the requirements of transforming to a low-carbon future.

## Performance highlights

We are aiming to reduce our emissions intensity by continuing to drive operational efficiency improvements while accelerating the adoption of new technology. We are measuring our progress towards a goal of achieving a 30% GHG emissions intensity reduction of our products by 2030 relative to a 2014 baseline. At the end of 2019, we had achieved approximately 10% reduction against this baseline and we continue to pursue opportunities to advance low-carbon energy<sup>4</sup>.

In 2019, our total absolute GHG emissions rose approximately 4% compared to 2018 primarily due to Fort Hills operating at higher rates as it ramped up from commissioning in 2018; although this asset operated at lower-than-optimal utilization due to the Government of Alberta mandatory production curtailment<sup>5</sup>. However, company-wide GHG emissions intensity remained relatively flat, as 2018 and 2019 performance reflect the benefits of the low-carbon paraffinic froth treatment (PFT) technology deployed at Fort Hills.

In order to meet our GHG performance goal there must be additional advances in technology. Suncor continues to significantly invest in technology development and deployment, to optimize current assets and develop next-generation facilities. We believe technology and innovation have the potential to move emissions reduction from incremental to step-change improvements, particularly beyond 2030 when many of these technologies are expected to be commercially available.

<sup>4</sup> We expect there to be impacts to our GHG intensity due to government mandated production curtailment and COVID-19 impact on demand.

<sup>5</sup> <https://www.alberta.ca/oil-production-limit.aspx>

# Leading energy system transformation



## Advancing solutions through engagement

Transitioning an energy system requires a shift in social, cultural, technological and economic parameters and a shared vision for the future. Through both Suncor and the Suncor Energy Foundation, we support organizations that engage Canadians in meaningful discussions on the energy system and the connections between the environment and the economy. We are working with our foundation partners to promote an understanding of the changing energy realities of the 21<sup>st</sup> century and raise awareness among Canadians of the role their choices and lifestyles play in reducing emissions.

Collective dialogue and collaboration are important elements of how we develop relationships to understand diverse perspectives, experiences and viewpoints about the role we all play in creating our energy future. While our views on the pathways to achieving this future may not always align, we can all agree on the need to sustainably produce energy that enhances peoples' lives while caring for each other and the earth.

Over the past year, we engaged with stakeholders through meetings, workshops and conferences. We also advanced supplier engagement efforts and worked together to create more environmental and social impact opportunities within Suncor and the broader marketplace. We are committed to engaging in different ways and we look forward to opportunities to build mutual understanding within the solution space. Examples of these collaborations and highlights over the past year include:

- Partnering with the Energy Futures Lab, a multi-sector collaboration designed to convene a diverse range of stakeholders to help shape the energy future and strengthen Alberta and Canada's position as a global energy leader.
- Working collaboratively to support reconciliation with Indigenous Peoples through leadership development and building community capacity including a focus on environmental priorities.
- Hosting an annual Ceres<sup>6</sup> – facilitated stakeholder panel to review our sustainability progress. In 2019, we received valuable input on our climate scenario analysis, thoughts on further advancing sustainability within our supply chain and improving the usefulness of a sustainability prioritization framework.
  - Key takeaways from this session included support for our use of scenarios, encouragement for more proactive leadership in pursuit of strategic resilience, and the importance of advancing social innovation initiatives. We've responded by providing added disclosure on some of these topics both in this report and in our Report on Sustainability.
- Holding a second engagement with Climate Action 100+. The discussion ranged from Suncor's vision for an energy transition, climate scenario analysis, and the need for emission reduction metrics within compensation programs. We expect engagement to continue in 2020.

<sup>6</sup> Ceres is a non-profit organization that works with investors and companies to build sustainability leadership and drive solutions for a healthy global economy.

## Leading energy system transformation

- Partnering with other companies and the investment community to hold an investor day of learning on the energy transition.
- Participation in several events to advance climate policy and sustainable energy development such as the Energy Disruptors conference, Singularity U Canada Summit, Emissions Reductions Alberta Carbon+ conference, Clean Energy Ministerial Meeting, and sustainable finance expert panel consultations including sustainable finance taxonomy for Canada.

Over the next year, we will continue engagement with investors, including the Climate Action 100+ initiative.

## Engagement with our supply chain

In 2019, we worked to identify baseline risks and opportunities within our supply chain. Through the supplier prequalification process, we now gather data and screen potential suppliers based on sustainability-related criteria. Annually we review our top 50 suppliers' sustainability reports, codes of conduct and [CDP Climate Change](#) responses. We have mapped our suppliers on a global basis and are working to better understand the sustainability risks and opportunities available.

We continue to hold strategic supplier meetings where we share best practices to achieve continuous improvement in sustainability performance throughout the value chain. These discussions contributed to the formalization of a supplier performance assessment survey that incorporates multiple sustainability factors, including questions to our suppliers related to emissions.

In early 2020, our senior leaders met with our key supplier community and industry partners to signal Suncor's intentions to transform relationships so we may accelerate innovation and sustainability performance. The event, called FORGE, created an opportunity to collaborate across the breadth of Suncor's supply chain toward a sustainable future together. We intend to build off the efforts of FORGE to embed sustainable practices in our supply chain, create opportunities for cross-value-chain strategic supplier engagement and enable supply chain contributions to innovation.



## Flight optimization

Collaboration between several Suncor teams and our airline partner, WestJet, led to further optimizing our charter flights to our Northern Alberta operations in 2019. By consolidating flights, we increased flight utilization by 7% and decreased greenhouse gas emissions by 27% from 2018 to 2019.

"Not only was it an opportunity to look at creating a regional working team to standardize the travel model across our operating groups," says Genevieve Dacabra, manager of aviation, "we also quickly saw the broader value in focusing on greenhouse gas emission reduction and working closely with our vendors on our triple bottom line."

Flights were optimized by looking at passenger demand and upcoming work schedules to eliminate flights or change to smaller aircraft. Some flights were consolidated to reduce the number of aircraft used. Operational directives to use less jet fuel based on passenger and baggage load information the day of flight, resulted in even fewer emissions per flight segment.

In 2019, our aviation team also added six new Indigenous service providers from across Canada for charter fixed-wing flights, helicopter and drone services.

## Collaborating and partnering to advance innovation

Innovation is best served by inviting the brightest minds and diverse perspectives to collaborate both within and outside our industry. We invest and participate in several initiatives all sharing the goal of addressing the most pressing environmental and economic challenges of the energy industry and amplifying climate actions, including:

- Co-founding **Evok Innovations** with Cenovus Energy and the BC Cleantech CEO Alliance Inc. This \$100 million technology fund (to which Suncor and Cenovus have each committed up to \$50 million over 10 years) focuses investments on enabling entrepreneurs to advance ideas to commercialize clean technologies and market them globally.
- Technology collaboration efforts through **Canada's Oil Sands Innovation Alliance (COSIA)**. Canada's largest oil sands producers pool expertise and intellectual property to advance technologies and improve performance in four environmental focus areas: GHG, water, tailings and land. COSIA also focuses on developing advanced monitoring technologies to increase the accuracy of area fugitive emissions quantification from our tailings ponds and mine face.

Suncor and other COSIA member companies are advancing the NRG COSIA Carbon XPRIZE, a global competition where international teams, including Canada, are proving their technologies can be economically scaled up to capture and transform CO<sub>2</sub> into valuable, useful products.

- Advancing the work of the **Clean Resource Innovation Network (CRIN)**, an industry-led group created to leverage the oil and gas industry's strengths and contribute to a future in which Canada is a global leader in producing clean hydrocarbon energy from source to end use. The network brings together diverse expertise and facilitates connections to advance technologies for use in Canada, and potentially for export to global markets.
- Investing in clean technology funds such as **ArcTern Ventures**, a Toronto-based venture capital firm investing globally in breakthrough clean technology companies addressing climate change and sustainability.



# Governance

## Board oversight of climate-related risks and opportunities

Suncor's Board of Directors and the management team are both responsible for reviewing company-wide objectives, goals and strategies for achieving them. The board oversees our Enterprise Risk Management (ERM) program, and annually reviews principal risks. Principal risks have the potential to impact or impair Suncor's ability to meet its strategic objectives. Carbon risk is one of these principal risks, requiring the full board to review external trends, carbon risk pathways, and Suncor's mitigation plans at least once a year.

The Environment, Health, Safety and Sustainable Development Committee (EHS&SD) of the board reviews carbon risk quarterly. Its oversight responsibilities include monitoring the effectiveness and integrity of Suncor's internal controls related to operational risks of physical assets and other sustainability matters. The committee also reviews policies and practices respecting operational risks as they relate to climate change.

In addition to overseeing principal risks, the board annually reviews business plans (including capital budget), and in doing so endorses the strategies reflected in long-range plans. The board's Governance Committee also annually assesses Suncor's planning and budgeting process.

Suncor's board practices on performance evaluation and compensation consider various environmental, social and governance factors by:

- evaluating senior executive performance annually against well-defined goals that support and reinforce Suncor's value drivers
- considering Suncor's performance against enterprise-wide sustainability goals related to safety, environmental (including GHGs) and social performance in determining the amount of annual incentive payments to the CEO.

## Role of senior leadership

As a member of the board, our chief executive officer leads an executive leadership team (ELT) that builds and implements a strategy to identify and realize high-quality opportunities while mitigating risks. Collectively, our ELT establishes strategic financial direction and operational objectives, and integrates carbon and climate change considerations into business planning and processes. The ELT also ensures we effectively deliver value chain integration, pursue technology development, support public policy and government interaction, and establish and maintain valuable external relationships.

To help inform the execution of our strategy, our leadership team also receives guidance through several internal collaborative groups which help guide decisions by providing advice and input on innovation and technology investments.

Our chief sustainability officer helps to elevate sustainability considerations and ensure they are properly represented in decision-making. This position reports directly to our CEO and collaborates with other ELT colleagues in strategy, operations and other departments, with focused climate-related accountabilities, including:

- communicating Suncor's carbon risk and mitigation measures to the board
- translating the strategic sustainability direction from the board into corporate action
- serving as a direct link to the Environment, Health, Safety & Sustainable Development (EHS&SD) Committee of the board who assess the risks and impacts of climate change issues on business and growth plans, review impacts of emerging climate legislation and regulations, and review public disclosures on carbon risk
- playing a critical role in supporting Suncor's public policy and government interaction and deepening Indigenous and stakeholder relationships and collaboration.

# Climate-related risk management

## Identifying, assessing and managing climate-related risks

Our commitment to a proactive Enterprise Risk Management (ERM) program contributes to effective decision-making through consistent identification and assessment of risks inherent to our assets, activities and operations. Evaluation of potential climate-related risks and opportunities is integrated consistently along with other economic, environmental and social factors into these decision-making processes and our overall ERM program.

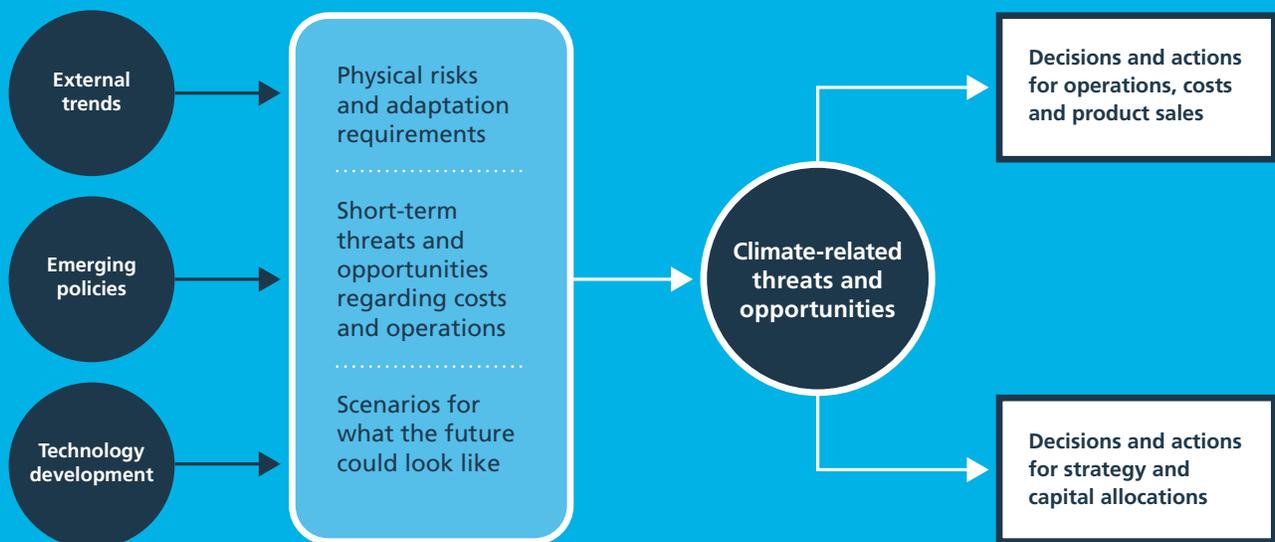
Climate-related risks can affect every aspect of our business. Our integrated approach to identifying and assessing climate-related risks addresses the influence and impacts of these risks across organizational boundaries and allows co-ordinated efforts to manage and mitigate the risk for the entire company. Board-level oversight of these risks and mitigation efforts and dedicated executive management ensures an integrated, co-ordinated approach across our business.

A dedicated risk matrix supports the assessment and prioritization of all risks and opportunities using a common measure of likelihood and consequence to identify different types of risk, including reputational, financial and environmental impacts.

Additional processes and risk management evaluation techniques include:

- an established strategic issues management process inclusive of climate change risks and opportunities
- an annual carbon price outlook developed to incorporate existing regulations and expected cost and credit trajectories into the economic evaluation of projects and assets in multiple scenarios
- internal project and asset development model, which includes a review of climate change implications early in the process and before the commitment of significant resources
- strategy formulation to enhance energy efficiency and to advance carbon reduction technologies through collaboration of cross functional teams including environmental engineering, corporate technology development, corporate strategy, and capital portfolio management
- an annual business unit and functional level assessment of key business risks and opportunities, including the potential physical risks posed by the effects of climate change, the outcomes of which feed into our overarching enterprise risk program and processes
- facility-focused GHG emissions forecasts which inform the potential impact of identified risks and optimize business planning.

## Integrated approach to evaluating threats and opportunities



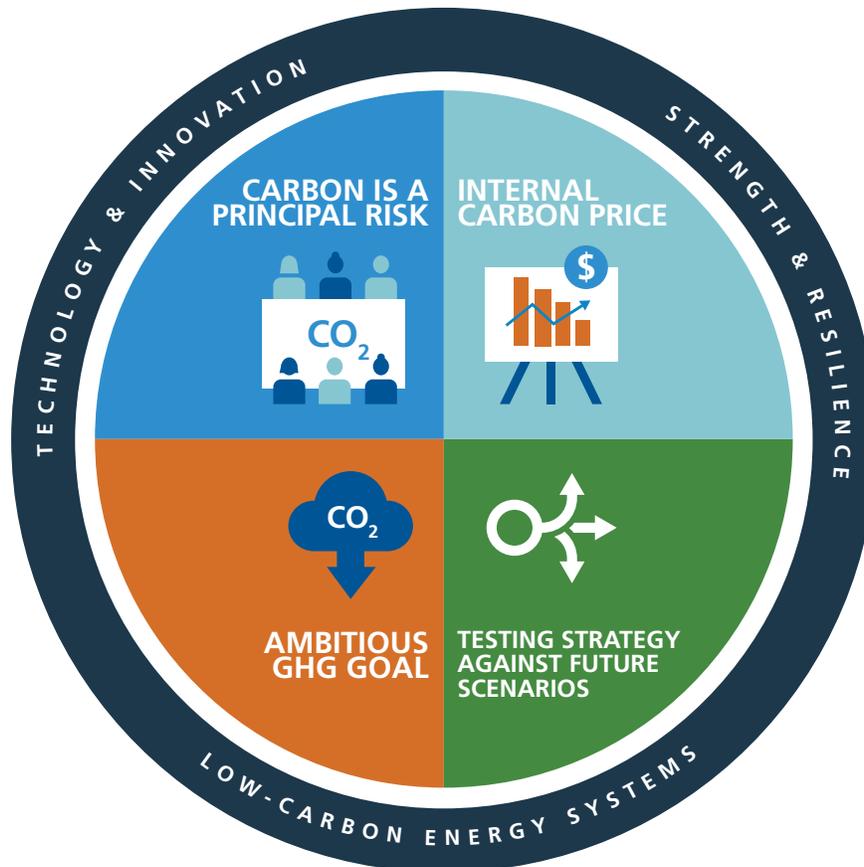
## Integration of carbon pricing into our decision-making processes

The energy system is changing, and our business is adapting to these changes. We consider several inputs to our planning process. Each year, as part of our normal integrated business planning process, we develop multiple price assumptions for a variety of economic variables, including carbon price forecasts.

For 2020 and all long-term planning, carbon prices consider existing regulations and their expected trajectory as they apply to our assets. Our business planning process also stress tests lower commodity prices combined with higher-carbon pricing, adding confidence to our capital decisions. These assumptions help evaluate all business, acquisition, divestiture, capital and strategic planning activities.

In addition to carbon price, we incorporate other climate-related considerations including:

- testing our portfolio against internal performance goals in the context of longer-term GHG impacts of our decisions
- understanding the impact to our business and long-term resilience by evaluating multiple scenarios, including higher-carbon pricing linked to 2°C pathways consistent with the Paris Agreement
- continued commitment to capital spending toward measurable reductions in our GHG emissions
- exploring opportunities that lower the carbon intensity of our products during the project development phase
- evaluating potential life-cycle emissions to determine credit generating opportunities.



## Facility resilience to extreme weather events

We assess specific risks to our physical assets, including the risk of extreme weather events, which are possible in the areas where we operate. We manage these risks through facility design and operational procedures, and maintain insurance for damage to, or loss of, assets as well as production interruption.

### Temperature extremes

Many of Suncor's facilities routinely operate in an annual temperature range of -40 to +40°C and are built to mitigate extreme weather events. Prolonged periods of extreme cold could force these facilities into extended shutdowns to ensure worker safety and prevent undue stress on equipment. Prolonged periods of extreme heat may lead to production cuts if an adequate supply of cooling water is not available. Suncor's refineries in Montreal and Sarnia have access to extremely large bodies of cooling water, greatly reducing exposure to this risk.

### Hurricanes and icebergs

Suncor's Terra Nova floating production, storage and offloading (FPSO) installation, off the coast of Newfoundland, operates in an area of the Atlantic, which is subject to extreme weather conditions.

Aboard the FPSO, we use a continuous weather tracking service to monitor storm systems in the North Atlantic, mitigating risks during hurricane season. There is also a risk in the region of icebergs causing damage to our installation. The risk is mitigated through facility design and a continuous monitoring system tracking iceberg locations. We complete regular flyovers to monitor movement of the icebergs and chart their paths. Where the course of an iceberg cannot be altered, an emergency response system allows the FPSO to disengage and move to safer water. While this results in production disruption, it protects the asset and mitigates environmental risks.

## Precipitation, droughts and wildfires

Most of Suncor's operated facilities are not in stressed watersheds where the availability of water, or severe restrictions on water withdrawals, could compromise our ability to operate. We manage limits to oil sands water withdrawal during winter low-flow periods through on-site water storage where facility design permits. The Commerce City refinery, owned and operated by our U.S subsidiary Suncor Energy (U.S.A) Inc., is located in a region with a future potential risk for water stress<sup>7</sup> where curtailment of water supply would require bringing in water by pipeline or truck. Water management is a priority at Suncor, driving industry-leading innovation at our facilities to reduce, recycle, reuse and return water.

There is also a risk of seasonal flooding in certain areas where we operate, which we manage through contingency plans to protect facilities including backup generators and pumps to drain critical operating units and equipment. In May 2020, the Regional Municipality of Wood Buffalo experienced severe flooding as a result of the spring ice break up. Although Suncor's oil sands operations were not affected, some of the community of Fort McMurray was evacuated and Suncor and other industry partners housed evacuees at camps within the region and assisted in the response.

Suncor's oil sands facilities are located within Canada's boreal forest and wildfires pose a risk to our operations and the communities nearby. To mitigate this risk, we manage our production facilities in line with FireSmart<sup>8</sup> guidance. We have detailed emergency preparedness and response plans in place to ensure emergency situations resulting from wildfire risks are managed effectively. Suncor also partners with other operators and the Regional Municipality of Wood Buffalo in mutual aid agreements to collectively manage emergencies.

<sup>7</sup> According to both the World Wildlife Fund's Water Risk Filter Tool and the World Resources Institute's Aqueduct Water Risk Atlas. These tools evaluate overall physical, regulatory and reputational risks at the watershed level and indicate that the Commerce City refinery in Colorado exists within a "medium-high" water stress region of the Mississippi River Basin, which indicates a future potential risk for water stress.

<sup>8</sup> FireSmart Canada leads the development of resources and programs designed to empower the public and increase community resilience to wildfire across Canada. More information is available at [firesmartcanada.ca](https://firesmartcanada.ca)

# Strategy

Suncor's energy transition strategy is to steadily improve the efficiency and reduce the carbon footprint of our base business while investing in new lower-carbon forms of energy, consumer products and services, consistent with our new purpose – to provide trusted energy that enhances people's lives, while caring for each other and the earth.



## Business strategy for a changing energy future

The global oil and gas industry has made structural adjustments over the past decade, largely through technology that unlocked shale oil and reduced the supply cost curve. As a new decade begins with focused attention on pandemic recovery efforts, business plans of leading companies must consider evolving trends and consumer preferences to be capable of thriving in a range of possible scenarios.

Emissions reduction strategies will need to consider broader technology and policy pathways in order to deliver energy to a growing global population, particularly the increased energy needs in developing economies. Fundamentally changing the energy mix moving forward will require a decoupling of economic growth and carbon emissions, and we expect oil demand and the role of oil in the global energy consumption mix to change.

As an integrated energy provider, we're able to leverage a strong value chain with a resourceful approach to reduce costs and lower the carbon intensity of our base business while investing in new forms of low-carbon energy, consumer products and services.

## Upstream

### Oil Sands

Suncor's Oil Sands operations are a concentrated oil play with a low decline, multi-decade resource base in the Athabasca oil sands located in northeastern Alberta. We have operated here for more than 50 years, with most of our production coming from this region. In low oil demand scenarios and correspondingly low oil price environments, the substantial scale and physical integration of our operations help to enhance a number of inherent advantages, including:

- minimal finding and exploration costs or risk
- long operating asset life, with steady output and low production decline rates
- leveraging location and logistical synergies between facilities allows us to drive efficiencies, improve reliability and enhance our environmental stewardship commitments including actions that support our GHG goal.

We continue to invest in strategic initiatives and technologies that support continuous improvement across our operations at both our Base Plant operations and Fort Hills. These include value chain optimization and automation of mining and upgrading through autonomous haul systems (AHS). This technology is now fully deployed at our North Steepbank Extension mine at Base Plant and full deployment at our Fort Hills mining project is projected in 2020.

## Strategy

Our ownership in the Syncrude joint operation creates opportunities to leverage our deep operating experience and to share technical and reliability best practices with the operator to further advance energy efficiency improvements.

For our in situ operations, we're advancing opportunities and investments to reduce the energy intensity of the extraction process for our existing and future assets. Work is progressing on solvents, wellbore enhancement and decarbonizing steam generation.

### Offshore oil production

Suncor has an interest in every major operating asset offshore of Canada's east coast. Suncor operates Terra Nova and has interests in the Hibernia, White Rose and Hebron projects. We are a non-operating partner in the Buzzard and Golden Eagle fields in the United Kingdom North Sea and have expanded our options in this area through the purchase of a participating interest in the Rosebank pre-development opportunity. We also have non-operated interests in the Oda and Fenja developments located in the Norwegian Sea. With diligent management of produced methane, offshore crude oil is generally among the lowest carbon intensity sources of crude globally.

### Low-carbon and renewable power generation

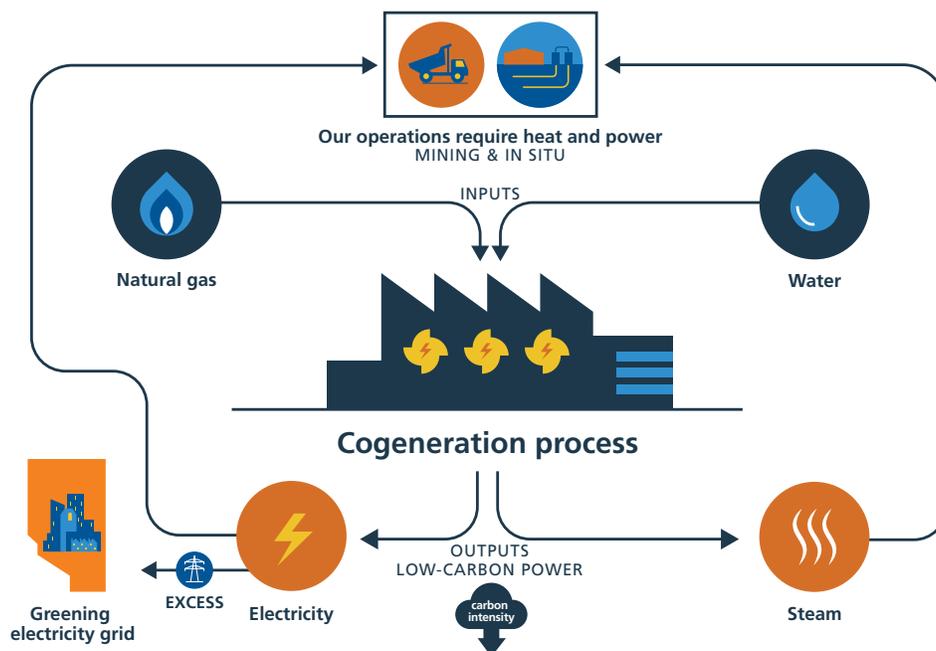
The requirement for steam in crude oil extraction, processing and refining facilities creates the opportunity for high efficiency cogeneration, which provides reliable steam and power to our facilities in addition to supplying surplus power to the electricity grid at a carbon intensity lower than any other hydrocarbon-based generation.

## Cogeneration

For an energy system in transition, cogeneration offers substantial benefits; in addition to providing a reliable, low-cost baseload, low-carbon source of energy, cogeneration power can help to manage the intermittency of renewable power generation sources like wind and solar. Where we have invested in cogeneration, the excess power we generate is reducing the need for coal based power and other less efficient forms of power generation that have higher GHG emissions. Moreover, industrial cogeneration investments produce excess electricity supplied to the grid which creates increased reliability for the public without the capital burden at the expense of the public rate payers.

We currently have cogeneration units installed at our Oil Sands Base Plant, Firebag, and Fort Hills facilities, and we export low-carbon excess electricity generated from these units to the Alberta provincial grid. This synergistic opportunity continues to be a focus area for us producing and exporting more affordable, low-carbon power to the provincial electrical grid.

We plan to replace the coke-fired boilers with cogeneration units at our Oil Sands Base Plant. In addition to providing the facility with steam needed for operations, the cogeneration units may export an additional 800 megawatts (MW) of electricity to the provincial grid, equivalent to roughly 7% of Alberta's current electricity demand, and reduce emissions by approximately 2.5Mt/y, equivalent to displacing 550,000 cars from



### Cogeneration and renewable power capacity

Suncor's combined investments in cogeneration and wind power generation make us one of the largest and most carbon-competitive independent power producers in Alberta by generation capacity. Across our operations, we have working interest in approximately 1,400 MW of renewable and cogeneration capacity and provide approximately 740 MW to regional grids. Sanctioned projects are expected to add another 1,000 MW of capacity.

the road. The project is also expected to reduce GHG emissions intensity at our Oil Sands Base Plant by approximately 25% by replacing coke, a high-carbon fuel source with lower-carbon natural gas. The timeline of this project has been extended by up to two years due to the current market conditions, reminding us that a financially healthy base business is required to enable investments in low-carbon innovation.

We were an early entrant in the renewable power generation business in 2002. Since then, we have developed eight wind projects totaling 395 MW. Today, we are partners in four operational wind power facilities with a generating capacity of 111 MW. In 2019, we sanctioned phase one (200 MW) of the Forty Mile Wind Power Project in Alberta. Similar to the replacement of our coke-fired boilers at Base Plant, this permitted and sanctioned project has also been delayed by up to two years due to current market conditions.

Suncor has a strong portfolio of renewable power development sites across Canada that will further reduce reliance on higher-carbon-intensive grids in regions like Alberta and Saskatchewan.

We will continue to identify and develop low-carbon power generation opportunities that provide synergistic benefits to our base operations. As part of the investment evaluation of these opportunities, we assess economic, environmental and social benefits, including Indigenous partnerships. We also assess the potential for these investments to generate emission credits that can be used to offset the emissions in our operations. An enabling factor will be market design allowing for dynamic interaction between a renewable, but intermittent, power source and baseload sources like cogeneration.

### Downstream low-carbon fuels and new consumer solutions

We are focusing our efforts in the downstream on producing low-carbon fuels, and offering new consumer services and solutions.

Our downstream and marketing business was not immune to the global collapse in demand for liquid fuels caused by the COVID-19 pandemic.

We expect demand to recover as governments lift stay-at-home restrictions and induce economic recovery through stimulus spending.

Long-term gasoline demand is expected to be moderated by efficiency improvements in internal combustion engines, policy actions by various governments, and increased uptake of biofuels, as well as hybrid and electric vehicle penetration rates. Suncor's integrated model that connects our reliable source of crude oil with our refining assets combined with our investments in biofuels technology will allow us to continue to meet the demand for liquid fuels while at the same time reducing carbon intensity.

Governments at all levels in Canada are seeking to diversify transportation fleets to use lower-carbon-intensity fuels and, as a result, the transportation fuelling landscape is expected to change over time. Reducing GHG emissions from the transportation sector is arguably one of the toughest challenges, in that transportation is fundamental to economic productivity.

We believe diesel will remain the predominant fuel in North America for heavy haulage, aviation, marine and rail, and we see demand



## Strategy

growth with increasing economic activity as the world recovers from the COVID-19 pandemic. Heavy-duty vehicle fuel efficiency standards and biodiesel blending are expected to offset some of the economically driven demand growth, and we see value in exploring the potential for renewable diesel production as a result of this shift.

While it remains to be seen whether consumer adoption of alternative energy vehicles will wane in light of sustained low oil prices, we believe hybrid, plug-in hybrid, and electric vehicles will remain cost-effective additions to the passenger vehicle fleet and will, along with fuel efficiency standards, contribute to moderating growth in global gasoline demand. We also believe safety, low-cost, consumer convenience and improvements in carbon intensity mean liquid fuels will remain the primary fuel source in vehicle mobility for many years to come.

Suncor remains committed to providing our customers with multiple low-carbon fuelling choices. In addition to providing fast-charging EV infrastructure, we continue to reduce the emissions intensity of our liquid fuels in several other ways. One way is through biofuel blending.

Suncor owns and operates the largest ethanol plant in Canada, which provides the ethanol we blend into our gasoline. Heavy haul trucks, aviation and marine fuels of the future will require advanced biofuel blending. We are evaluating optimization work at our St. Clair ethanol plant to increase the quality of our products and develop lower-carbon-intensity ethanol. We are also increasing the bio-content of our diesel and gasoline.

Suncor also monitors technologies being developed by other parties to determine if, and when, an investment in the technology could be applied to our business. In 2019, we invested in Enerkem, which manufactures biofuels and renewable chemical products from household garbage that would otherwise be landfilled. We also continue to invest in sustainable fuel technology companies such as LanzaTech and LanzaJet.



## Focusing on our customers

While we continue to reduce the emissions intensity of our liquid fuels, we are evolving and expanding our current product offering to meet growing customer demand. Through our Petro-Canada™ brand, we completed construction in 2019 of Canada's Electric Highway™, a coast-to-coast electric vehicle (EV) fast-charging network spanning more than 50 Petro-Canada™ stations. These sites are positioned no further than 250 kilometres apart and provide universal charging options to a variety of electric vehicles.

We invested in level three direct-current fast chargers, a step-change technology that is built beyond the needs of today's EV technology and positioned for the future of EV charging in Canada. This exciting initiative supports customers wanting to reduce their carbon footprint with choices for their energy needs and enables us to learn more about this emerging market as we continue to evaluate options and respond to evolving customer needs.

™ Trademark of Suncor Energy Inc.

## Scenario planning

Suncor uses three energy futures scenarios to 2050 and is introducing a new 2°C scenario to 2100 to test and assess the resiliency of our business strategy. We consistently develop several distinct, challenging, relevant and plausible world trajectories, adjusting all variables in an internally consistent manner. Some of the aspects we consider in our scenario development include demographics, economics, environment, (geo)politics, legal, social and cultural, and technology.

### Energy future scenarios to 2050

These scenarios<sup>9</sup> are all plausible and could affect our operating environment and business strategy in markedly different ways.

Under each of these scenarios, including the one with the most aggressive decline in oil demand, we believe a substantial amount of oil will be required for decades as the world gets on track to meet its climate ambitions. This view is also supported by forecasts from organizations such as the International Energy Agency and the U.S. Energy Information Administration. Meeting that demand at either low, or highly volatile, oil prices will be a challenge.

These scenarios also confirm the need to continually lower costs and carbon intensity throughout our business. However, as the energy system transitions away from carbon intensive sources of energy, we believe some level of hydrocarbons will continue to be needed for consumer products, transportation, agriculture and industrial uses.

Each scenario has an implied crude oil price range and climate change regulatory impact. Two of the three reflect the current global aspiration toward reducing carbon emissions; what differentiates the scenarios is the context, pace and scale at which that comes about.

Of these scenarios, “Autonomy” is the scenario we consider best represents the technology and policy context that would be essential to meet the aspiration of limiting cumulative emissions to 450 ppm.

The scenarios are used annually by the CEO, the executive leadership team and the Board of Directors to assess business and growth strategy and identify alternative strategic directions. This process continues to be a useful tool for stress-testing our business on several key dimensions, including climate risk.

## Autonomy

Rapid technological and societal change transforms the energy landscape in Autonomy, supported by a peaceful and collaborative world.

- Millennial shift – focus on sustainability and collaboration, sustainable urbanization.
- Falling costs and improved reliability of clean energy allow developing countries to bypass large-scale hydrocarbon-based energy infrastructure.
- Natural gas is a transitional fuel for power generation, but after 2030 increasingly renewable power generation fuels a largely electrified energy system.
- Breakthrough battery technology development supports growth in electric vehicles.
- Oil’s role in geo-politics is substantially diminished contributing to a generally stable geo-political environment. Stable moderately strong economy.
- Carbon-intensive industries face high regulatory costs and requirements.
- No new export pipelines are built out of the Athabasca oil sands region.

### Energy markets impact

- Abundant and cost-effective supply of energy coupled with moderation and eventual decline in demand, particularly in transportation, drives oil prices to stay low in the long term.
- Oil exploration and production slows as investment moves to other sectors, reducing but not choking supply.
- High cost supply falls off fast.
- Oil is still required and continues to provide a significant share of the world’s energy need.

### Expected impact on Suncor

- No existing assets are stranded.
- Existing long-life assets continue to produce, funding their own sustaining capital or modest growth capital requirements for incremental production expansion.
- New oil sands growth projects are challenged and unlikely to proceed.
- Oil sands continue to provide a stable dividend base while growth options in other resource basins are considered.
- Only the top tier refineries remain profitable – Suncor’s Downstream maintains a focus on reliable, efficient and low-cost operations.

<sup>9</sup> These scenarios are substantially based on the IHS Markit Autonomy, Rivalry and Discord scenarios. IHS changed Vertigo to Discord in 2019. The scenario descriptions have been modified by Suncor for applicability to its business.

## Rivalry

In Rivalry, population growth, urbanization and growing middle class drive energy demand – diverse supply is required to satisfy demand, with intense competition for market share between energy sources.

- Improving standard of living and greater personal wealth, particularly in China.
- Expanding use of advanced technologies increases demand for energy.
- Shift of economic power to millennials with the desire and means to address pollution and climate change.
- Geo-political landscape remains tense and strong global economic growth shifts global influence.
- Technology advancements allow access to greater oil reserves, with unconventional supply growing.
- Natural gas and LNG play a larger role in transportation.
- Strong growth in renewable energy.
- Carbon-intensive industries face high regulatory costs and strict standards.

### Energy markets impact

- High global energy demand fed by diverse energy supply.
- Refined products still dominate transportation fuels, but are losing market share to alternative fuels.
- Fuel efficiency standards and technological innovation moderate growth in refined product demand.
- Oil and natural gas are increasingly costly to produce and the oil price continues to trend upwards with some cyclical downturns.

### Expected impact on Suncor

- No existing assets are stranded.
- High price and market access enable robust oil sands growth and further investment in improved extraction techniques.
- Continued focus on carbon footprint reduction through capital projects, technology development and efficient operations.
- Competitive downstream provides robust returns and enables physical integration of oil sands crude.

## Vertigo

Continued conflict and geo-political instability are at the forefront of the world. Vertigo is a world with economic volatility, unbalanced wealth distribution, and overall weaker GDP growth.

- International trend towards isolation and self-preservation with energy security a key concern.
- Air quality, traffic congestion lead to smaller, higher-efficiency vehicles and some electric vehicle adoption.
- Extreme weather events lead to social unrest.
- Investor risk aversion and tight capital markets constrain both technology advancement and high capital projects.
- Pipeline projects constrained by stakeholder protests and investor risk aversion.
- Unstable, boom/bust energy market.
- Environmental progress and climate change mitigation take a back seat to economic concerns.

### Energy markets impact

- Fossil fuels remain the primary source of affordable energy and dominate the global energy mix.
- The price of oil recovers from current levels but fluctuates widely with rapid shifts in demand and supply.
- Slower economic growth and technological progress limit the proliferation of electric and other alternative fuel vehicles; energy mix does not change significantly.
- Slower economic growth limits growth in energy, oil and refined product demand.

### Expected impact on Suncor

- No existing assets are stranded.
- Long-life assets able to deliver free cash flow through commodity price volatility, enabling Suncor to maintain competitive returns to shareholders.
- Integrated model helps smooth oil price cycles.
- Growth projects rigorously tested to ensure ability to deliver returns in volatile oil price environment.
- Financial strength is leveraged to consolidate assets at the bottom of the cycle.

## A new 2°C scenario

In 2019, Suncor developed a new 2°C scenario with IHS Markit<sup>10</sup> in line with our support for both the Task Force on Climate-related Financial Disclosures (TCFD) and the Paris Agreement. This work is informing our long-term business planning and corporate strategy and allows us to understand what a pathway could entail to keep global temperatures from rising 2°C, or less, by 2100 compared with pre-industrial levels.

Developing this scenario pushed us to think critically about the characteristics of a plausible, relevant and consistent view of the future. The process was valuable and provided us with a number of key takeaways including the need for co-ordinated global action on climate change, the power of carbon pricing to incentivize low-carbon technology, and the changing energy mix required to power the world's economies amidst a growing population. Our work to develop this scenario is the beginning of what we expect will be numerous opportunities to engage with stakeholders and other experts to refine it over time.

### Key insights

#### Peak emissions

Our 2°C scenario begins with a period of rising emissions, consistent with the historical trend of increasing energy use and continues until approximately 2030. At this point, a combination of cost and

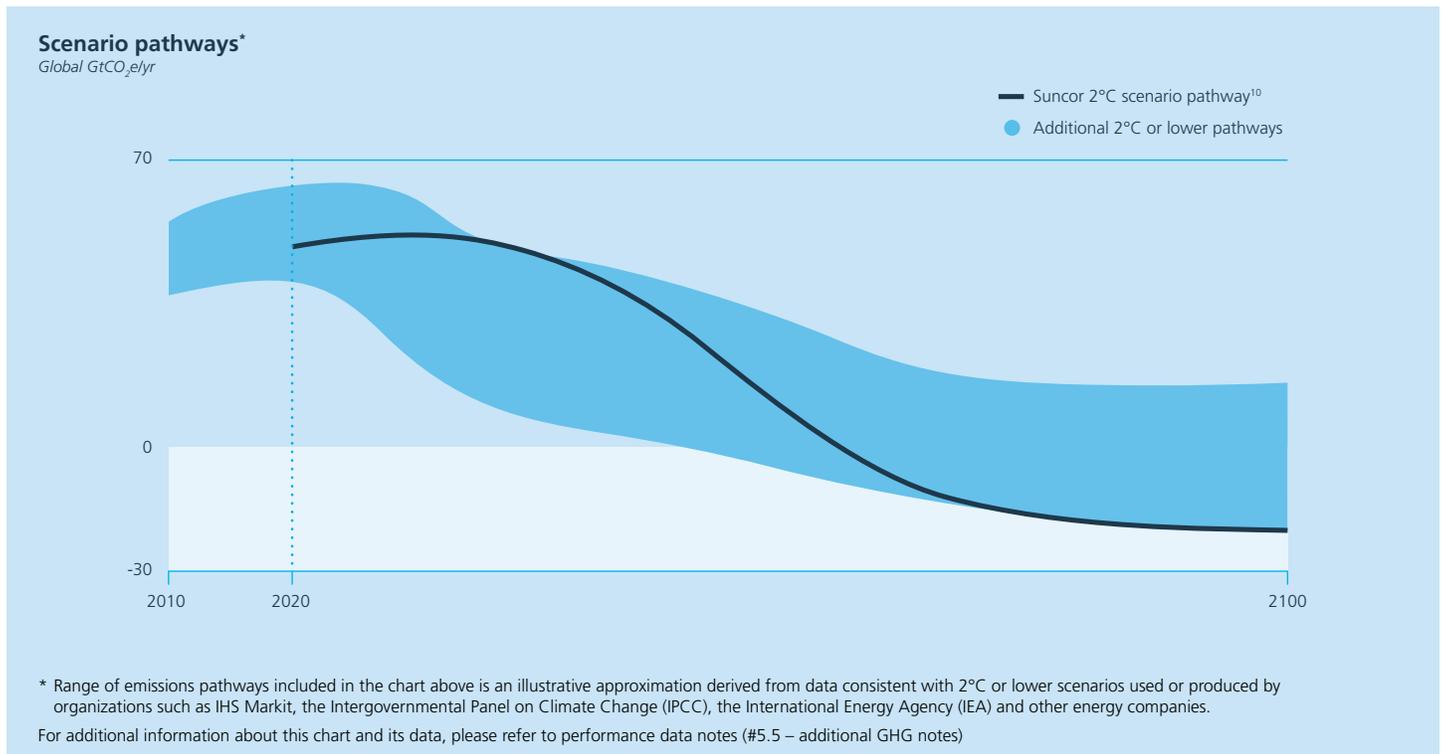
generational pressures, technological innovation, and political unity bring enough of the world together to take dramatic and unified action to change the trajectory of GHG emissions.

This scenario provides a valuable reflection of both the current state of emissions, and continued demand for energy with the economic and technical challenges inherent with reducing emissions from that demand.

This trajectory of rising emissions implies a sharper decline in GHG emissions sometime after co-ordinated and unified action begins. Beyond a decline in GHG emissions, this transition necessitates a significant period of negative emissions in the latter half of the century.

#### Requires co-ordinated and united action

Given the global nature of this challenge, our scenario indicates that an international alliance with a shared 2°C (or lower) ambition, along with transparent collaboration in technology, trade and environmental approaches is essential. By the late 2020s, this scenario envisions an international group of nations taking a co-ordinated approach to pursuing more aggressive climate change action. Government plays an active role pricing carbon to discourage the consumption of high emissions intensity products and rewarding low GHG intensity products. Large organizations, including Suncor, also have a unique role to play in climate change solution scaling and commercialization.



<sup>10</sup> IHS Markit acted as external market consultant for this data and analysis, in 2019. The use of this content was authorized in advance by IHS. Any further use or redistribution of this content is strictly prohibited without written permission by IHS Markit. All rights reserved.

## Strategy

### Broad-based carbon pricing

A price on carbon throughout the economy is required to reduce consumption and incent the adoption and improvement of low-carbon technology. In this scenario, carbon prices are assumed to increase to approximately US\$300 per tonne CO<sub>2</sub> (in real 2018 terms) by 2100 to compensate for the peak emissions period.

In conjunction with carbon pricing, governments encourage market-based solutions within the alliance, including open carbon markets to buy, sell and trade offsets across a vast economy.

### Shifting primary energy mix

Oil plays a continued, albeit diminished role to 2100, while renewables and nuclear power become more prominent post-2050.

In the power sector, the demand for coal faces sustained pressure globally as a result of its relatively high emissions intensity. Renewables continue to gain market share on improved cost profiles, dedicated policy support and the firm capacity offered by improved storage in the form of hydro, batteries, and hydrogen. Nuclear power increases market penetration with lower costs, and new, safer technologies and policies.

In the transportation sector, the world shifts away from oil. Oil demand in the second half of the century transitions to demand for petrochemical feedstock and materials. The decline is most pronounced in the light duty vehicle segment where electrification, biofuel and hydrogen supply opportunities are assumed. The decline is slower in the heavy goods vehicle segment, and hydrogen as a transportation fuel grows as costs come down.

### Emissions reduction

Our 2°C scenario takes a holistic view of emissions including both energy and non-energy sources. Today non-energy emissions represent approximately 25% of total GHG emissions. Aggressive emissions reduction is required in all sectors, and solutions to remove GHGs from the atmosphere are required to reduce the total concentration of CO<sub>2</sub> by 2100.

Although there are challenges with reaching a net negative emissions state, this is seen to be more plausible than not having a peak emissions period in the early years of the scenario. It is in everyone's interests to limit the peak emissions period; higher peak emissions will require more global effort for developing net negative emissions solutions which are currently not feasible without new carbon capture technologies.

### 2°C scenario outcomes

Conducting this 2°C scenario work is informing our collective understanding of actionable steps as we transition to a low-carbon economy, including:

- adjusting our strategy to focus our leadership in areas where we can best support efforts to transition to a low-carbon economy
- developing a new ambition framework to complement our existing GHG intensity reduction goal
- continuing to cultivate an integrated portfolio of low-carbon investments into our base business such as low-carbon fuel and oil, low-carbon power, enhanced consumer engagement, and carbon capture and sequestration
- continuing our participation in early stage investments in innovation, technology and clean energy venture capital funds to reduce GHG emissions.

## Scenario signposts

Along with scenarios, we also develop and annually update our signposts, which are milestones to identify critical shifts in the external context. The world is in a constant state of change, sometimes moving faster than we expect; 2020 being a prime example with the COVID-19 pandemic paired with oil market turmoil. Tracking the pace and direction of the change is an integral part of our scenario work and helps us develop and evaluate strategic alternatives for our business by incorporating both global and Canadian current events, trends and actions.

Signposts include changes in global energy demand and supply mix, political and economic indicators, climate data, policy and consumer trends, and technology advances. Current signposts tell us:

- while energy demand has been negatively impacted by COVID-19, the long-term global energy mix shows signs of demand strength for all forms of energy
- volatility and uncertainty in geopolitical and global economic environments could hinder the growth of the global economy
- technology continues to evolve at a rapid pace, which drives down costs and improves energy efficiencies for producers and consumers alike
- economic priorities and geopolitical tensions appear to impede co-ordination on climate change action
- G20 member countries require further action to achieve their targets consistent with Paris commitments<sup>11</sup>.

11 United Nations Environment Programme (2019). Emissions Gap Report 2019. UNEP, Nairobi.

## Leadership in climate policy

We operate in multiple jurisdictions across Canada and internationally, requiring thoughtful constructive engagement with governments and political parties, Indigenous Peoples, think tanks, universities, and environmental advocacy groups. These efforts help to advance the transition toward a low-carbon economy through the development of smart policies that promote cost and carbon competitiveness.

Good policy instills confidence in the industry, enables continued prosperity to help fund the low-carbon economy transition, and incents investment in technology and innovation that can lower emissions globally. We continue to advocate for environmental policies and regulations that help us address climate change, including supporting a broad-based price on carbon. If applied broadly across the economy to producers and consumers, it can be one of many effective market and regulatory mechanisms to lower GHG emissions while promoting low-carbon innovation.

We demonstrate our commitment to support fair, effective, practical and cost-efficient policy design by contributing to:

- The development of national low-carbon policies such as:
  - Pan-Canadian Framework on Clean Growth and Climate Change
  - Clean Fuels Standard (CFS) in Canada
  - Greenhouse Gas Pollution Pricing Act (GGPPA) which encompasses the development of the consumer fuel tax and the industrial output-based pricing system and associated emissions trading program
  - Net-zero by 2050 and Just Transition legislation, both under development.
- The development of provincial low-carbon policies such as:
  - Alberta’s Technology Innovation and Emissions Reduction Regulation
  - Quebec’s cap-and-trade program and Energy Transition Action Plan
  - Ontario’s Emission Performance Standard and renewable fuel regulations
  - British Columbia’s CleanBC Climate Action Plan and Renewable & Low Carbon Fuel Requirements Regulation
  - Design of fair, efficient and openly competitive electricity policies.

We also support several climate initiatives and participate in critical global energy discussions, including:

- the [Canadian Institute for Climate Choices](#), which assists government decision-making through rigorous research and analysis, broad engagement with experts, industry, and other key stakeholders
- the World Bank Carbon Pricing Leadership Coalition (CPLC), a voluntary initiative that aspires to catalyze action toward the successful implementation of global carbon pricing
- the World Economic Forum and the United Nations Climate Change Conference of Parties (COP).



## Carbon policy and impacts on Suncor

Since the 2016 ratification of the Paris Agreement, the focus of governments globally is on the technology pathways and policy frameworks required to achieve a stable and responsible transition to a low-carbon energy system while continuing to meet rising global demand for energy. We operate in many jurisdictions that regulate, or have proposed to regulate, industrial GHG emissions. Currently, 100% of our Scope 1 and 2 GHG emissions from assets and facilities we operate are in regions implementing various forms of carbon pricing mechanisms and/or GHG reduction targets.

We remain supportive of broad-based carbon pricing capable of achieving sustainability and energy security objectives. It is also important that policies are designed to avoid the potential for carbon and investment leakage by mitigating competitiveness impacts on trade-exposed sectors while continuing to accelerate emissions performance improvements.

Additional information about environmental regulations and initiatives related to climate change and GHG emissions relevant to our business is available in our 2019 Annual Information Form. The following is a summary of the direct impacts that carbon policies have on Suncor's operations.

### Canadian federal government

The federal *Pan-Canadian Framework on Clean Growth and Climate Change* (PCF)

- Requires all provinces and territories to implement a carbon price starting at \$20 per tonne of CO<sub>2</sub>e in 2019, rising to \$50 per tonne in 2022.
- Jurisdictions can implement an explicit price-based system, a carbon levy and performance-based system, or a cap-and-trade system. Within these programs, provinces have discretion to manage competitiveness of their energy-intensive, trade-exposed industries.

*The Greenhouse Gas Pollution Pricing Act* (GGPPA)

- Serves as a regulatory carbon pricing backstop to the PCF for jurisdictions that request it or have not otherwise implemented a compliant carbon-pricing regime.
- Consists of an economy-wide consumer carbon levy on the use and combustion of fossil fuels and a regulatory emissions trading system known as an output-based pricing system (OBPS). The OBPS is applied to heavy industrial sectors and is partially adjusted to mitigate the competitiveness impacts on trade-exposed sectors like oil and gas. It imposes limits on emissions, a "credit" for entities that operate below their limit, and a "charge" for those who exceed it.

*Clean Fuel Standard (under development)*

- Objective of achieving annual CO<sub>2</sub>e emissions reductions of 30 megatonnes (Mt) by 2030 and is expected to be finalized and enacted 2022-2023.

### Alberta

A regulated carbon price applicable to large industrial sectors has been in effect since 2007, and as of 2020 under the new provincial *Technology Innovation and Emissions Reduction Implementation Act* (TIER) our Oil Sands Base Plant, Fort Hills, Firebag, MacKay River, and Edmonton refinery assets are subject to a carbon price of \$30 per tonne. Starting in 2020, these facilities are also required to reduce emissions by 10% and an additional 1% per year thereafter or assessed at the prevailing carbon price.

Compliance costs in 2018 and 2019 under the previous *Carbon Competitive Incentive Regulation* were \$47 million and \$83 million.

The *Oil Sands Emissions Limit Act* includes a precedent-setting 100 Mt emissions limit<sup>12</sup> by 2030 on oil sands development. As a limit on emissions, rather than production, it allows production to grow as long as the total emissions of the sector remain under the limit. The emissions limit is expected to encourage the innovation required to reduce both carbon and cost in the oil sands industry.

As of Jan. 1, 2020, the federal government partially imposed their federal carbon pollution pricing system under the GGPPA where the federal economy-wide consumer carbon levy is applied on the use and combustion of fossil fuels in Alberta.

### Ontario

As a result of withdrawing its participation in the Western Climate Initiative's cap-and-trade program (WCI) with California and Quebec in 2018, Ontario became subject to the two-part federal government GGPPA program in 2019. Suncor's Sarnia refinery and St. Clair ethanol plant are both regulated facilities under the federal OBPS. In 2019, under the OBPS, the Sarnia refinery qualified for emissions credits of \$430,000, and the St. Clair ethanol plant's compliance cost was \$750,000.

Suncor continues to work with the provincial government as it explores a proposed [Emissions Performance Standards](#) carbon pricing system for large emitters. The federal government's GGPPA, however, may be in place until provincial and territorial programs are reviewed in 2022.

### Newfoundland and Labrador

Performance standards for large industrial facilities in Newfoundland and Labrador are legislated under the *Management of Greenhouse Gas Act* (MGGA) and associated regulations. Applicable to facilities that emit more than 25,000 tonnes of GHG's per year, the MGGA's carbon price is consistent with the federal scheme for 2019 at \$20 per tonne of CO<sub>2</sub>e increasing to \$30 per tonne in 2020.

<sup>12</sup> Emissions from the production of power through cogeneration are excluded from this limit, as is an incremental 10 Mt of upgrading capacity.

## Strategy

Regulated facilities are assigned a GHG reduction target of 6% below their 2016 to 2017 historical average emissions-to-output ratio for 2019. The reduction target rises to 10% below its 2016 to 2018 historical average for 2020, then 10% below in 2021 and 12% below in 2020 and subsequent years. Fixed process emissions are excluded and for offshore petroleum facilities, the MGGGA further excludes both methane from venting and fugitive emissions because they are already federally regulated. The 2019 compliance obligation for our operated Terra Nova asset was \$2.3 million.

### Quebec

Suncor's Montreal refinery in Quebec is regulated under a cap-and-trade program linked to the WCI. Regulated refining facilities receive an allowance allocation that aligns with a performance benchmark accounting for competitiveness and trade exposure. In 2019, our Montreal refinery's cost of compliance for stationary emissions was \$2 million. Fuel suppliers are also required to purchase allowances to cover the tailpipe emissions of all fuel sold, the cost of which is expected to be largely passed-on to the consumer, thus acting as a carbon price akin to an additional tax on fuel consumption.

### Transportation fuels policies in Canada

Transportation emissions account for approximately 25% of total emissions in Canada<sup>13</sup>. Jurisdictions across the country are considering policy mandates and incentives for alternative fuels, as well as major public transit and urban planning initiatives intended to reduce the carbon intensity of transportation.

British Columbia's *Renewable and Low-Carbon Fuel Requirement Regulation* requires fuel suppliers to meet a provincial fuel pool carbon-intensity target through blending incremental renewable fuel or investing in alternative fuels infrastructure. Federal and provincial renewable fuel standards mandate blending of ethanol into gasoline and blending biodiesel into diesel. Under these standards, fuel suppliers like Suncor incur a cost to acquire and blend the incremental renewable fuels, which is largely passed on to the consumer.

In addition, the federal government has recently proposed implementing a national Clean Fuels Standard (CFS), applicable to liquid, gaseous and solid fuels used in Canada. Rather than increasing the federal carbon price, the CFS will compel producers, distributors and importers to increase the use of lower-carbon fuels, energy sources, and technologies. It is intended to be complementary and additional to other climate policies such as the federal carbon levy rising to \$50/t in 2022. It is expected that the CFS will ultimately result in additional costs being passed on to Canadian consumers.

<sup>13</sup> <https://www.canada.ca/en/environment-climate-change/services/environmental-indicators/greenhouse-gas-emissions.html>

<sup>14</sup> These figures reflect our best understanding of carbon emissions regulations, policy impacts and production forecasts at the time of publication, many of which are in flux with a high degree of uncertainty. Upstream includes Oil Sands and Exploration & Production segments. Downstream includes Refining and Logistics and biofuels production, excluding distribution.

### U.S. GHG regulations

The U.S. Environmental Protection Agency (U.S. EPA) mandates that all large facilities (facilities emitting greater than 25,000 tonnes of CO<sub>2</sub>e per year, including Suncor's refinery in Commerce City, Colo.) must report their GHG emissions. The mandate of the U.S. EPA is under review by the current administration. In 2019, Colorado passed a suite of energy- and climate-related legislation including state-wide GHG reduction targets for 2025, 2030 and 2050. The legislation also includes rules to reduce emissions from the oil and gas sector and to transition Colorado's electricity system to become 80% renewable by 2030, and 100% renewable by 2040.

Suncor continues to monitor these developments. The outcome of these changes in approach to GHG emissions is currently unclear and the impact on Suncor, including its Commerce City refinery, is unknown at the time of publication.

### Impact of climate change regulations

Our 2020 carbon price outlook applies provincial and federal carbon regimes within Canada and a price of \$30 per tonne of CO<sub>2</sub>e, assuming a steady increase to approximately \$100 per tonne on an increasing percentage of our emissions by 2040. As most of our facilities are regulated under various carbon-pricing regimes, the impact of our outlook is built into our planning assumptions.

New this year, we've evaluated the outlook and cost impacts for emerging and evolving emissions regulations and how they apply to GHG emissions (scope 1 and 2), from the working interests in both our upstream and downstream assets. An improvement upon previous disclosures, these estimates more accurately reflect the integrated nature of our business. The after-tax cost per barrel of our upstream net production over the next ten years is estimated at an average of \$0.33 cents per barrel. The estimated average after-tax cost per barrel of our downstream saleable yield over this same period is \$0.13 cents per barrel<sup>14</sup>.

# Metrics and targets

## GHG emissions and energy use

### 2019 GHG performance<sup>15</sup>

Through Suncor's culture of operational excellence, we focus on safe, reliable and energy-efficient operations.

In 2019, Suncor's company-wide absolute GHG emissions were 23 million tonnes of CO<sub>2</sub>e. 2019 was also the first full year of operations for the Fort Hills facility, although this asset operated at lower-than-optimal utilization due to the Government of Alberta mandatory production curtailment<sup>16</sup>.

While both the total emissions and production increased approximately 4% year-over-year, the lower GHG emissions intensity associated with the paraffinic froth treatment (PFT) extraction process at Fort Hills helped to maintain the corporate emissions intensity flat compared to 2018, at 62 kilograms (kg) of CO<sub>2</sub>e per barrel (bbl) of oil equivalent production.

The GHG performance in our other upstream oil sands operations was slightly higher than their three-year average. These variations are attributed to a combination of factors such as curtailment, a longer-than-usual outage event at MacKay River which disproportionately affected production in 2019, and higher steam-to-oil ratio (SOR) at the Firebag facility.

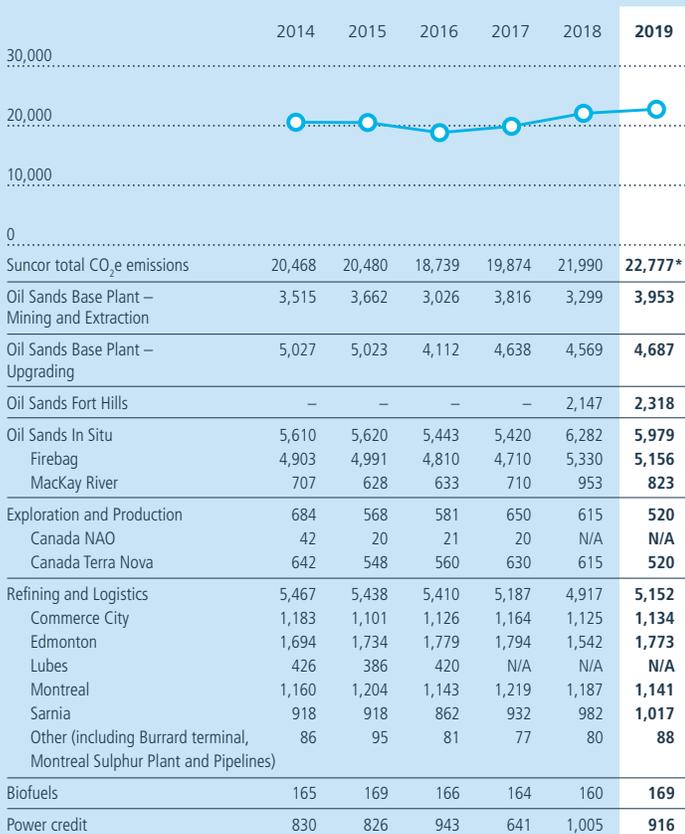
The emissions intensity of our downstream Refining and Logistics facilities remained relatively flat in 2019, driven by maintained energy efficiency improvement initiatives and optimized refinery utilization rates.

GHG emissions are closely linked to energy use, with approximately 90% of direct GHG emissions and nearly all indirect emissions accounted for by consumption of energy for operations.

Suncor is committed to continuously improving energy management and reducing GHG emissions as part of everyday operational excellence. Similar to the GHG trends, energy use slightly increased in 2019 with the addition of Fort Hills but total intensity remained relatively flat.

### Suncor-wide absolute GHG emissions

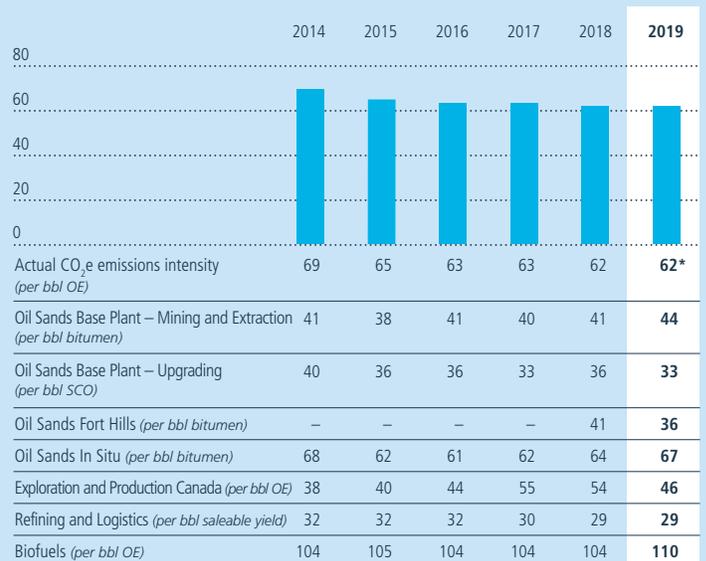
thousand tonnes CO<sub>2</sub>e equivalents (CO<sub>2</sub>e)



\* Our total GHG emissions and total GHG emissions intensity figures have been reviewed and assured by Ernst & Young LLP.

### Suncor-wide GHG emissions intensity

kg CO<sub>2</sub>e / barrel (bbl) of saleable product



Absolute CO<sub>2</sub>e emissions represents the total Scope 1 and 2 emissions with no credit taken for low-carbon power production. The power credit above is calculated using the cogeneration power exported to the Alberta grid and the intensity in which this power was generated. It is included in determining the GHG emissions intensities.

The Suncor-total intensity calculation incorporates net facility production, minus internal transfers, resulting in a production value reflective of our product sales to market.

Our Oil Sands Base Plant operations reflect integration between mining activity that recovers oil sands bitumen, and upgrading portions of this mined oil sands bitumen along with some in situ production. The upgrader's end product is refinery-ready synthetic crude oil (SCO).

Converting corn into fuel is more energy intensive than turning hydrocarbons into fuel. We are evaluating optimization work at our St. Clair facility to develop lower carbon intensity ethanol. The GHG benefit of biofuels is that the carbon emitted during end-use combustion came from plants that recently captured CO<sub>2</sub> from the atmosphere. Its combustion is considered net neutral with regards to carbon emissions.

For additional information about this chart and its data please refer to the performance data notes 3, 4 and 5

<sup>15</sup> All GHG performance values reflect Suncor-operated facilities only and represent 100% of the direct and indirect emissions at these facilities. Data is not broken down by working interest and does not include non-operated facilities.

<sup>16</sup> <https://www.alberta.ca/oil-production-limit.aspx>

# Performance highlights

## Oil Sands Base Plant

Despite the Government of Alberta mandatory production curtailments, 2019 production increased 12% due to major maintenance turnaround events at the upgrader in 2018. As a result, absolute emissions from operations increased 10% from 7.9 million tonnes of CO<sub>2</sub>e in 2018 to 8.6 million tonnes of CO<sub>2</sub>e in 2019. Emissions intensity decreased slightly, to 72 kg of CO<sub>2</sub>e per bbl of oil equivalent, largely due to increased production.

## Fort Hills mining

2019 represented the first full year of operations at Fort Hills, resulting in 26% higher production compared to 2018. This asset was disproportionately impacted by the mandatory curtailment and was not able to operate at full rates throughout 2019. Despite operating at higher production rates than 2018, absolute emissions only increased 8%, with the facility accounting for 2.3 million tonnes of CO<sub>2</sub>e compared to 2.1 million tonnes of CO<sub>2</sub>e in 2018. This is because the facility was not operating as efficiently during ramp-up in 2018.

The less energy- and carbon-intensive extraction process used at Fort Hills removes heavy hydrocarbon molecules to create a lighter, higher-quality bitumen requiring less diluent for shipping. As a result, the 2019 GHG intensity of production decreased by 13% to 36 kg of CO<sub>2</sub>e per bbl of oil equivalent and full life cycle (well-to-wheels) emissions intensity was similar to the average refined barrel in the U.S.<sup>17</sup>

## In Situ

The absolute emissions at our steam assisted gravity drainage (SAGD) operations decreased 5% year over year to about 6.0 million tonnes of CO<sub>2</sub>e, due to the Government of Alberta-mandated production curtailment that more significantly impacted the Firebag asset. Suncor's In Situ facility intensity was 5% higher compared to the previous year, at 67 kg of CO<sub>2</sub>e per bbl of oil equivalent in 2019. The intensity increase was due to curtailment and a higher steam-oil-ratio at Firebag in 2019, and an extended outage at the MacKay River facility.

## Exploration and Production

On the East Coast of Canada, Terra Nova emissions decreased 15% to 0.5 million tonnes CO<sub>2</sub>e in 2019. The 2019 emissions intensity decreased by 15% as well, from 54 kg of CO<sub>2</sub>e per bbl of oil equivalent to 46 kg of CO<sub>2</sub>e per bbl of oil equivalent. The reduction of emissions was due to a significant decrease in flaring in 2019. Terra Nova is the only East Coast Canada asset that Suncor operates. Other international and offshore production interests are joint ventures and not within our direct operational control.

## Refining and Logistics

Total GHG emissions at our downstream facilities increased 5% to 5.2 million tonnes of CO<sub>2</sub>e. Performance in 2019 was comparable to 2017, as there were various turnarounds and shutdowns at refineries in 2018. Emissions intensity held relatively steady compared to 2018, at 29 kg of CO<sub>2</sub>e per bbl of oil equivalent, which is approximately 6% lower than the 2015-2017 average intensity.

## Low-carbon power and low-carbon fuels

We are currently a partner in four operational wind power facilities with a generating capacity of 111 megawatts (MW), enough to power about 52,000 Canadian homes. In 2019, the Adelaide wind power facility in Ontario that we operate, in partnership with Aamjiwnaang First Nation, generated approximately 98,500 MWh of electricity. Performance data reflects operated wind farms only and is not adjusted to reflect ownership share.

We've been blending ethanol in our retail fuels since 1992 and our St. Clair ethanol plant is the single largest ethanol production facility in Canada. There were no notable changes in plant performance in 2019. Absolute emissions were 0.169 million tonnes CO<sub>2</sub> and emissions intensity was 110 kg of CO<sub>2</sub>e per bbl of oil equivalent. Converting corn into fuel is more energy intensive than turning hydrocarbons into fuel, and we are evaluating optimization work at our St. Clair facility to develop lower carbon intensity ethanol. The GHG benefit of biofuels is that the carbon emitted during end-use combustion came from plants that recently captured CO<sub>2</sub> from the atmosphere. Its combustion is considered net neutral with regards to carbon emissions.

Cogeneration produces low-carbon-intensity power along with industrial steam, and we operate units at our Oil Sands Base Plant, Firebag, and Fort Hills facilities. Our owned and operated cogeneration power production at these sites was approximately 6.5 million MWh in 2019, with about half in excess and exported to the provincial grid. Suncor's cogeneration units produce power at a GHG intensity at less than half of the current Alberta grid.

<sup>17</sup> IHS Energy Special Report: Comparing GHG intensity of the Oil Sands and the Average US Crude Oil. May 2014.

**Metrics and targets**

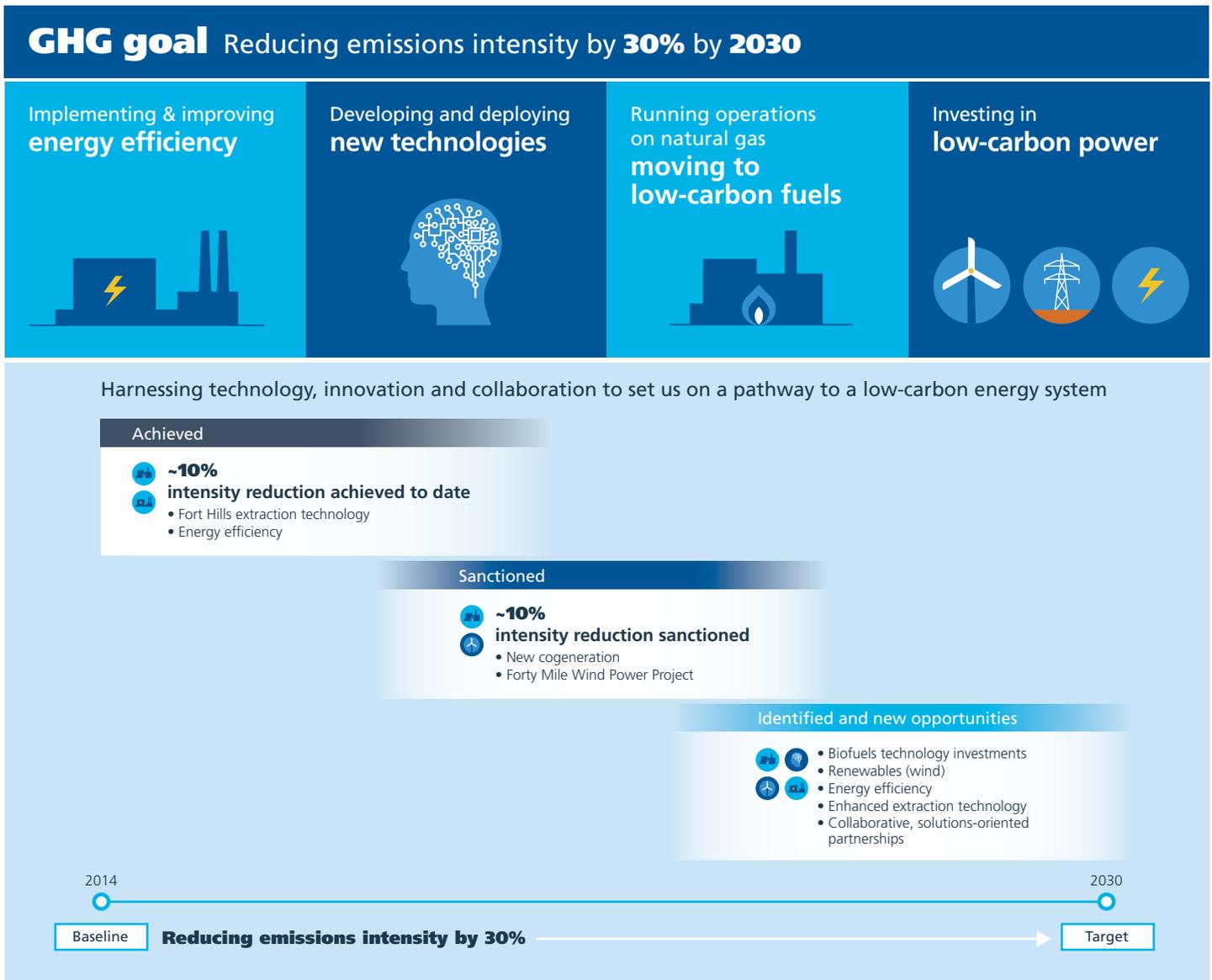
**Integrating our GHG performance goal**

Our GHG goal is intended to embed low-carbon thinking into the day-to-day activities and decisions of our employees and challenge us to harness technology and innovation necessary for transformational solutions. Our progress will be measured by reducing the total emissions intensity of the production of our oil and petroleum products by 30% by 2030, from a baseline year of 2014<sup>18</sup>.

This ambitious goal stretches us beyond our current technology, and ultimately aims to alter the trajectory of our absolute emissions while still allowing us to grow, with the intent to make us a producer of low-carbon intensity crude, refined products and other sources of energy.

While we've made progress since establishing our goal in 2016, we realize the scale of the challenge globally to pursue a low-carbon future.

Over the next decade, our goal will be driving operational, energy and fuel efficiency improvements, accelerating the development and implementation of new technologies, and encouraging the evaluation of potential low-carbon business opportunities. The figure below reflects progress in reducing operational intensity up to 2020 and our current analysis of the contributions from several potential emissions reduction focus areas in helping to achieve our goal. We will continue to work to close the gap in our goal progress over the next decade, realizing the need to continue seeking opportunities to collaborate with solutions-oriented partners in reducing emissions in the energy system.



<sup>18</sup> We expect there to be impacts to our GHG intensity due to government mandated production curtailment and COVID-19 impact on demand.

## Metrics and targets

### We are targeting emissions reductions in four key areas

#### Energy efficiency and continuous improvement

We continue to drive energy efficiency at all our facilities, including:



- implementation of new digital technologies such as advanced process control at Firebag, which through digital optimization can maximize steam generation, use this steam more efficiently, and increase oil production through optimized reservoir management
- development and roll-out of energy/GHG key performance indicators (KPIs) at our upstream sites to continue to develop an energy management mindset within Operations
- leveraging operational experience in the design of new facilities to significantly lower energy intensity
- use of extraction technology at Fort Hills that removed heavy hydrocarbon molecules at the source, and a facility design leveraging high-efficiency cogeneration, recovery of warm process water, and closed-loop cooling for enhanced process heat capture.

#### Developing and deploying new technologies

Our goal pushes us to go beyond today's capabilities, and we are aggressively working on new technologies that lower the costs and carbon emissions of our processes and products.



We invested \$830 million in technology development and deployment and digital technologies in 2019 as part of a robust strategy to optimize current assets and develop next-generation facilities. Emissions-related technology development was approximately 50% of the technology development spend including solvents, upgrading technologies and biofuels. Out of the \$830 million invested, this reflects:

- \$224M technology development spend (includes COSIA, Syncrude R&D and direct strategic investments such as Evok, Emerald, ArcTern Ventures, Enerkem, LanzaTech)
- \$250M on technology deployment spend on permanent aquatic storage structure (PASS), our demonstration pit lake called Lake Miwasin, autonomous haul systems (AHS) and other smaller deployments
- \$356M digital transformation

#### Investing in low-carbon power

Our GHG goal is also driving us to seek and evaluate new business opportunities in our value chain and within the evolving energy system.



- All our oil sands facilities use cogeneration, and we are a net exporter of power to Alberta's electricity grid. By producing both industrial steam and electricity through a natural gas-fuelled process, cogeneration is the most energy-efficient form of hydrocarbon-based power generation. The GHG intensity of the power produced from our cogeneration units is approximately 75% below that of an average coal-fired power plant and 30% below a combined-cycle natural gas facility. Excess power from our cogeneration facilities and our wind energy significantly contribute to reducing the overall GHG intensity of Alberta's electricity grid.
- We have sanctioned a project to replace the GHG-intensive coke-fired boilers with a natural gas-fired cogeneration facility at our Oil Sands Base Plant. In addition to providing the facility with steam and hot water needed for our operations, the cogeneration facility is expected to export up to 800 MW of low GHG-intensity electricity to the provincial grid in Alberta<sup>19</sup>.
- In addition to our current partnerships in wind power, in 2019, we sanctioned phase one (200 MW) of the Forty Mile Wind Power Project in Alberta. We continue to evaluate renewable energy investments that deliver economic, environmental and social benefits.

#### Moving to low-carbon fuels

We continue to look for synergistic low-carbon opportunities in our operations and evaluate new business opportunities in sustainable fuels.



- In addition to providing low-carbon power, our sanctioned boiler replacement project at Base Plant will replace coke combustion with lower carbon intensity natural gas.
- We continue investing in renewable fuels including our 2019 investment in Enerkem which manufactures biofuels and renewable chemical products from household garbage that would otherwise be landfilled.
- We are evaluating optimization work at our St. Clair ethanol plant to increase the quality of our products to develop lower-carbon-intensity ethanol.
- We also continue to invest in sustainable fuel technology companies such as LanzaTech and LanzaJet.

<sup>19</sup> This project has been sanctioned.

## Goal methodology

Suncor's GHG goal is intended to improve decision-making, and our methodology is specifically designed to encourage business choices that will reduce emissions in the global energy system. To support this change, we have established principles that guide the implementation of the goal. The goal should:

- Drive real emissions reductions in the energy system both within and external to Suncor's operations.
- Encourage new, lower-intensity production as part of our evaluation of new projects. Embedding the GHG goal and carbon price assumptions within our asset development execution model enables a rigorous process to promote the selection of efficient assets and technology for any new oil sands, offshore, downstream and renewable projects.

We rely on the following criteria to measure progress against our goal:

### Tracking the GHG intensity of our production within the facilities we operate

Our goal focuses on the assets we control and operate. The baseline GHG emissions intensity of our operated assets therefore includes the direct (Scope 1) and indirect (Scope 2) emissions of our facilities. We can then identify opportunities to reduce emissions directly in our

operations and indirectly within the energy system for the products we produce. We also continue to promote safe and efficient production in our non-operated assets.

### Capturing indirect credits for the actions and/or investments that reduce emissions outside our operational fence lines

Indirect emissions are not directly attributed to our operations but are required to produce our products and include the electricity, hydrogen, or steam that we import from third-party suppliers. In addition to this, our low-carbon products can help reduce indirect emissions within the energy system. For example, the cogeneration power we transmit to Alberta's electricity grid displaces high-carbon sources of power.

### Adjusting the goal to account for changes in asset mix

To drive emissions reductions to meet our goal, we adjust our baseline to account for change of product sales mix, asset acquisitions or divestitures. For example, reducing the sales volume of premium synthetic crude could reduce Suncor's direct emissions but would simply shift emissions downstream and not result in emissions reduction overall. Similarly, buying low-carbon- or selling high-carbon-intensity assets simply transfers ownership and does not reduce global atmospheric emissions. If we change our product mix or portfolio of assets, we adjust our goal baseline so that these transactions do not benefit or hinder our ability to meet our goal.



# Low-carbon innovation

In today's complex and rapidly changing world, it will take new technologies and innovative thinking to further reduce our environmental footprint.

## GHG: Technology development & deployment

	Discover	Design	Develop	Deploy
<b>Improve carbon intensity of Suncor's base business</b>	<ul style="list-style-type: none"> <li>Technology collaborations*                             <ul style="list-style-type: none"> <li>– COSIA</li> <li>– CRIN</li> <li>– Evok Innovations</li> <li>– ArcTern Ventures</li> <li>– Academic and research institutions</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Novel subsurface geotechnologies</li> <li>High temperature reverse osmosis produced water treatment</li> </ul>	<ul style="list-style-type: none"> <li>NRG COSIA Carbon XPRIZE</li> <li>Solvent+</li> <li>Non aqueous extraction</li> <li>Partial upgrading</li> </ul> <p><b>Alternative upgrading</b></p> <ul style="list-style-type: none"> <li>Integrated thermal processing</li> </ul>	<ul style="list-style-type: none"> <li>ES-SAGD (Expanding solvent – steam assisted gravity drainage)</li> <li>Paraffinic froth treatment</li> </ul> <p><b>Alternative upgrading</b></p> <ul style="list-style-type: none"> <li>Slurry phase hydrocracking</li> </ul>
<b>New low-carbon energy ventures</b>	<ul style="list-style-type: none"> <li>Low-carbon energy generation opportunities</li> <li>Bitumen beyond combustion and new products</li> </ul>	<ul style="list-style-type: none"> <li>Natural gas decarbonization</li> </ul>	<p><b>Sustainable liquid fuels</b></p> <ul style="list-style-type: none"> <li>LanzaTech and LanzaJet</li> <li>Low-carbon ethanol production</li> </ul>	<p><b>Sustainable liquid fuels</b></p> <ul style="list-style-type: none"> <li>Municipal solid waste to ethanol (Enerkem)</li> </ul>

Available for commercial implementation    Operational    0-3 Years    4-6 Years    7-10 Years

Examples provided for illustration from the Suncor technology portfolio. Additional information is available at [sustainability.suncor.com/innovation](https://sustainability.suncor.com/innovation)

\* Our technology collaboration efforts span across various stages of technology development and deployment. Information about our collaboration and partnership efforts to advance innovation are provided throughout this report.

Our approach to innovation includes not only technological innovations to change our methods and processes of extraction and production but it also includes an innovative mindset to work with and learn from others.

In some instances, the development and deployment of the technologies we're pursuing will take us beyond 2030.

## Low-carbon mining technologies

We are developing technologies that will allow us to produce crude oil from our oil sands projects at a supply cost and with an environmental footprint (production through refining and consumption) at or below that of conventional oil. This could be achieved in part through the selective decarbonization of our oil sands products.

### Paraffinic froth treatment

Fort Hills uses paraffinic froth treatment (PFT) for secondary extraction. This process selectively removes the low value, heavy fraction of the mined bitumen and produces a lighter, higher-quality bitumen that requires less diluent to transport and requires no additional upgrading

before the downstream processing. The oil sands are the only place in the world that alters the carbon content of oil at the production source before sending it to the market.

As a result of this partial decarbonization process, our greenhouse gas emissions for the average barrel extracted at Fort Hills are similar to the average crude refined in the United States<sup>20</sup> on a full life cycle basis.

### Non-aqueous extraction

Through partnerships with equipment suppliers and research organizations, we are pursuing new technologies to reduce the need for water in bitumen extraction from mining operations. Currently, warm water is used to separate bitumen from the sands. By replacing that water with an alternative solvent, we have the potential to significantly reduce tailings, costs, and our GHG emissions. We have progressed early engineering of the field demonstration unit and technology work continues with a number of partners to advance the technology. We are working with COANDA Research and Development, Innotech Alberta, CanmetEnergy, Devon, and Exergy Solutions, as well as several academic institutions.

20 IHS Energy Special Report: Comparing GHG Intensity of the Oil Sands and the Average US Crude Oil. May 2014.

## Low-carbon in situ technologies

Our current technology for in situ production, steam assisted gravity drainage (SAGD), employs two parallel horizontal wells to recover the bitumen. The top well distributes steam to heat the reservoir, allowing the bitumen to flow to the lower well where it can be pumped to the surface. One of the challenges of SAGD is that it is energy intensive because the reservoir is typically heated to 200°C or more to get the bitumen to flow, consuming a significant amount of natural gas, and necessitating large amounts of water handling and treatment for steam production.

We are advancing a portfolio of in situ technologies to lower the carbon intensity of producing bitumen and improve cost competitiveness for existing processes and for future assets. This means considering how to reduce steam as the dominant process and if successful, would significantly reduce our upstream GHG emissions intensity. We believe the solution will include a hybrid of the technologies we're progressing with the aim to reduce energy and water use, lower capital and operating costs, and improve production rates and resource recovery.

### Solvents

To reduce GHG emissions, we are focused on hydrocarbon solvents as an alternative to steam for bitumen production from in situ reservoirs. Our current focus on solvent recovery processes builds on our experience and background knowledge of solvent-dominated processes, gained from participation in pilots and testing for more than 20 years.

In the solvent-based processes Suncor is pursuing, a light hydrocarbon solvent such as propane or butane is used as the primary means to mobilize the bitumen. We are beginning to pilot a suite of technologies referred to as Solvent+, where the "+" refers to a range of heating technologies that can be coupled with solvent injection. These include wellbore heating, superheated solvent injection, electromagnetic-assisted solvent extraction (EASE) and Enhanced Solvent Extraction Incorporating Electromagnetic Heating (ESEIEH®). If successful, Solvent+ offers the potential for several significant environmental improvements over SAGD including reducing upstream GHG emissions intensity by 50 to 70%.

### ES-SAGD

Expanding Solvent SAGD (ES-SAGD) is an enhancement of SAGD technology wherein a small volume of hydrocarbon solvent is co-injected with steam. The addition of the hydrocarbon solvent is expected to accelerate bitumen production and reduce steam requirements, process water requirements and greenhouse gas emissions. An important component of our evaluation of this technology is enhancing our understanding of solvent retention and recovery.

In 2020, we completed the solvent injection period of the pad-scale demonstration at Firebag and we're now in the monitoring phase post injection, including solvent recovery. We continue to evaluate opportunities to optimize solvent recovery. The estimated emissions intensity reduction on a full well life cycle basis is 5 to 10%. We have regulatory approval for ES-SAGD to deploy on future commercial pads.



## Low-carbon upgrading technologies

We process crude oil into high-quality refined products consumers require. We continue to look for opportunities to minimize the environmental impact that results from the extraction and production of oil, and manufacturing and distribution of fuels.

### Partial upgrading

We are advancing technology development to partially upgrade bitumen, which would increase value by decreasing the cost to upgrade and reducing the amount of diluent required to transport this new bitumen product, and lower greenhouse gas (GHG) intensity from extraction to the end user. The technology when realized could also integrate with existing Suncor infrastructure.

We are progressing research at the Western Research Institute in Laramie, Wyo., where we are using the pilot facility for our partial upgrading development work in 2020 and 2021.

ESEIEH® is a registered trademark of L3Harris Technologies Inc. in the US, Canada, and other countries.

## Low-carbon innovation in renewable liquid fuels

Since 2006, Suncor has been making a significant impact in Canada's emerging biofuels industry. Our ethanol plant provides the ethanol that we blend into our gasoline and we continue to research lower-carbon-intensity ethanol.

We are advancing an active portfolio of projects with universities and companies aimed at developing pathways to produce advanced biofuels from waste, forestry and agricultural excess biomass, and refinery gases. These biofuels have the potential to significantly reduce GHG emissions. Examples of our actions in this area include:

- participating in the Alberta-Based Biorefinery (AB-Bio) project with Alberta Innovates to de-risk sustainable Alberta-based feedstocks to produce low-carbon fuels
- increasing renewable fuel options for our diesel and gasoline blending, including investment in hydrotreated renewable diesel (HRD) and fatty acid methyl ester (FAME)
- investing in companies advancing clean and renewable fuel production capacity.

### LanzaTech

LanzaTech's carbon recycling platform uses novel gas fermentation technology to capture CO-rich gases and convert the carbon to fuels and chemicals. For over 10 years, Suncor has partnered with LanzaTech to support the development of their patented technology portfolio for potential deployment within our existing operations as well as next-generation biofuel plants.

### LanzaJet

LanzaJet will produce sustainable aviation fuel from ethanol derived from a variety of sustainable sources, including wastes and residues. As a founding investor alongside Mitsui & Co., Ltd. and LanzaTech, Suncor's participation will enable the construction of a biorefinery at the Freedom Pines site in Soperton, Ga., and accelerate global commercial access to new sustainable fuels for the aviation sector as it seeks to decarbonize.

### Enerkem

In 2019 we invested in Enerkem, which manufactures biofuels and renewable chemical products from household garbage that would otherwise be landfilled. In addition to a financial investment, a number of Suncor employees have been seconded to Enerkem's facility in Edmonton.

### Low-carbon intensity ethanol

Working with Alberta-based forestry resources, Emissions Reductions Alberta and LanzaTech, we are advancing a pilot scale production of ethanol at a low-carbon intensity. The pilot project converts woody biomass into renewable ethanol through the gasification of the biomass into syngas, and then the fermentation of the syngas into ethanol. By leading this initiative in a regional context, we have the opportunity to create a new value chain that would support the commercial development of advanced biofuels in Alberta.



Suncor strives to be an industry leader in sustainable energy development by continued performance improvements in air emissions, water withdrawals, land reclamation and biodiversity.

# Environment

- › Air quality
- › Water stewardship
- › Tailings management
- › Land and reclamation
- › Biodiversity

**92%**

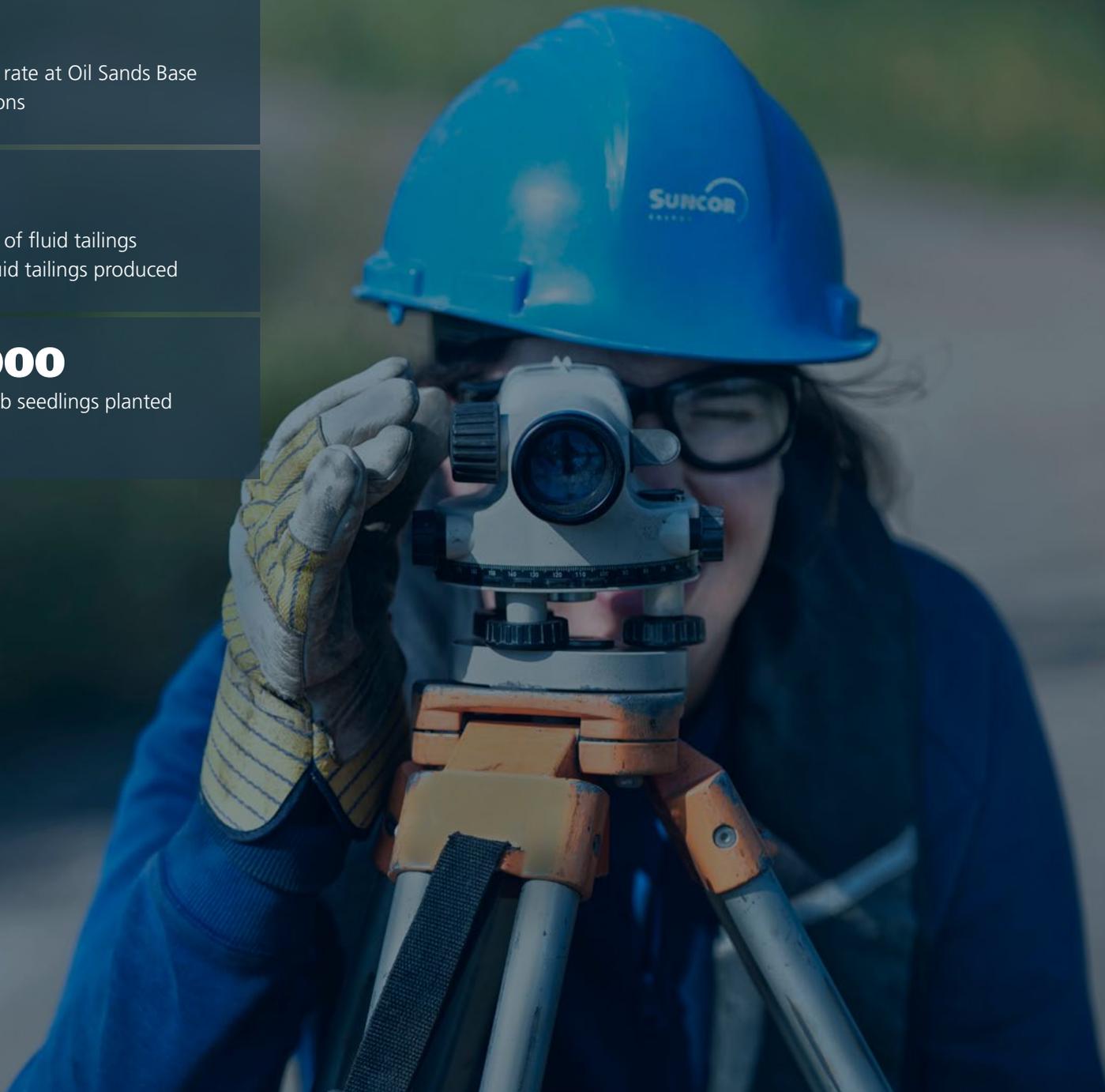
water recycle rate at Oil Sands Base Plant operations

**2.3x**

2019 volume of fluid tailings treated vs. fluid tailings produced

**365,000**

tree and shrub seedlings planted at Base Plant



# Air quality

Suncor is committed to maintaining and improving air quality near all our operations.

Suncor endeavours to become a leading sustainable energy supplier while maintaining and improving air quality near all our operations. Suncor participates in programs to improve our air monitoring capability and understanding with the goal of reducing our air emissions intensity over time. This includes testing and piloting new technologies to grow our understanding of characterization of air emissions.

Suncor works to reduce air emissions from our operations, through operational excellence, project design and innovation and technology. Our focus for air quality management is centred on air emissions (pollutants and greenhouse gases) and odours. Management of air emissions is important for employees and contractors, the surrounding communities and the environment.

## Compliance and monitoring programs

Suncor participates in various provincial and regional emissions management framework programs. All our operations have controls and procedures in place to manage emissions. We also support air monitoring via various airsheds/organizations that monitor and report air quality, ensuring timely availability of results to the public and regulatory agencies in all areas of operations.

## Continuous improvement

We have introduced a number of initiatives at several of our refineries, plants and worksites to help reduce releases of key air pollutants. Examples of technologies and measures implemented to mitigate air emissions include:

- low nitrogen oxides (NO<sub>x</sub>) boilers and heaters
- vapor recovery units to reduce volatile organic compounds (VOC) and hydrogen sulfide emissions
- sulphur recovery units and scrubbers to reduce sulphur dioxide (SO<sub>2</sub>) emissions
- leak detection and repair programs to manage and reduce fugitive emissions on site
- VOC and total reduced Sulphur (TRS) annual monitoring plan to reduce fugitive emissions from mining operations
- selective catalytic reduction technology will be implemented as part of Suncor's Oil Sands Base Plant Coke Boiler Replacement Project to achieve lower NO<sub>x</sub> emissions.

## Collaboration

Suncor regularly engages with community stakeholders, government, and other external agencies on odours, to discuss best practices and odour management strategies, and regularly organizes meetings between industry and community members to discuss any concerns.

We're also engaged in researching and testing new methods and technologies to monitor fugitive emissions. One way we do this is through our involvement in Canada's Oil Sands Innovation Alliance (COSIA), where we support technology development and shared learnings with other partner companies. Other external groups we participate and engage with include the Wood Buffalo Environmental Association, and the Fort McKay Air Quality and Odours Advisory Committee.

Guided by our  
**Environment, Health  
and Safety Policy**

and through operational excellence and bold innovation, we strive to manage and minimize impacts on the environment and improve performance.



## Air quality



### Air quality performance

Our key focus areas for air emissions monitoring and reductions include SO<sub>2</sub>, NO<sub>x</sub> and VOCs.

#### Sulphur dioxide

In 2019, SO<sub>2</sub> emission intensity was relatively consistent with 2018 performance. Reliable operations, fewer plant upsets and reduction in flaring have contributed to stable SO<sub>2</sub> intensity over the last five years.

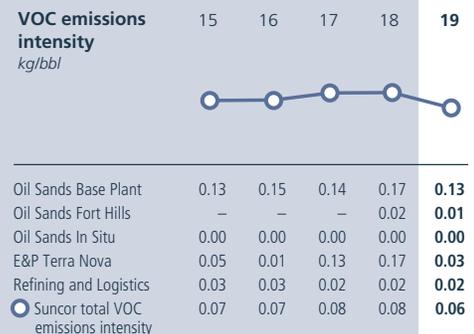
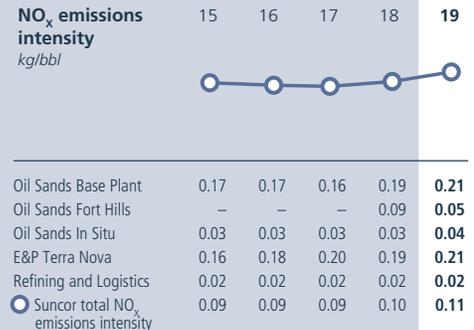
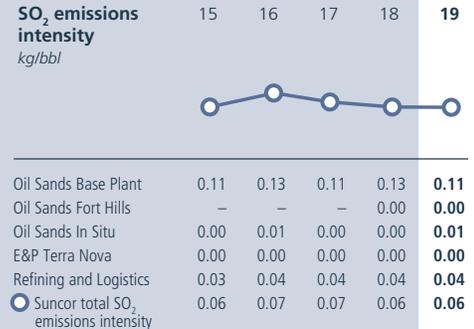
#### Nitrogen oxides

We saw a 8% increase in NO<sub>x</sub> emissions intensity in 2019. This was primarily due to increased diesel consumption for the mine fleet as well as higher utilization of the coke boiler following a 2018 scheduled turnaround at Oil Sands Base Plant. When operational, Suncor's Oil Sands Base Plant Coke Boiler Replacement Project will achieve lower NO<sub>x</sub> emissions through the use of selective catalytic reduction technology.

#### Volatile organic compounds

In 2019, VOC emission intensity decreased by 24% relative to 2018 performance. This is mainly due to the repair of Terra Nova's hydrocarbon blanket gas and recovery system as well as a decrease in annual fugitive emissions at Fort Hills and Base Plant driven by the annual monitoring campaign as per the VOC and TRS monitoring plan.

The Suncor Commerce City refinery experienced two separate operational incidents (Q4 2019 and Q1 2020) resulting in catalyst being released from the Plant 2 fluidized catalytic cracker (FCC) unit. Incident investigations identified that for the 2019 incident, too much gas oil (also called torch oil) was added to the FCC during startup, and for the 2020 incident, faulty wiring in the air blower caused the event. A number of steps have been taken to help mitigate the reoccurrence of these incidents, including; updating the startup procedures, training on these procedures, clarifying roles and responsibilities during startup and repairs to equipment.



For additional information about this chart and its data, please refer to performance data notes (#7 – notes on air emissions)

# Water stewardship

We believe water is a shared and precious resource that must be managed wisely using a balanced, integrated and sustainable approach. Suncor is committed to responsible development in all areas where we operate. Water management is critical to us as a company, to neighbouring communities and to our stakeholders. We strive to raise the bar on water performance and water management practices across all our operations.



Water is an essential part of Suncor's operations. We believe it is important to find ways to continuously improve our water use efficiency (including limiting water withdrawals and maximizing recycling and safe return) across our business units.

Recognizing our role as a steward of a valuable natural resource, we have a water strategy in place that is enabled by the following principles:

- Shared value of water: Understanding that water is a valuable natural resource that holds environmental, social, cultural and economic value.
- Watershed management: Understanding our water use in the context of the watershed where we operate, taking into consideration all values, stakeholders, and users in the watershed.
- Reduce-Reuse-Return: A truly sustainable integrated water management approach must simultaneously balance water reduce-reuse and return considerations.
- Integrated options analysis: Ensuring we balance the trade-offs inherent in managing water and understanding water as one aspect of an interconnected ecosystem.

Aligned with our purpose, we are committed to a culture of operational discipline where we manage our water use and reduce our impacts to protect the environment. We do this through compliance and monitoring programs, continuous improvement measures, collaboration, and investment in technology and innovation.

## Focus on water

Suncor is committed to water stewardship and we are developing a robust framework that will more meaningfully focus our future efforts on water.

## Water stewardship

### Compliance and monitoring programs

We comply with all water-related policy and regulations in the jurisdictions where we operate, as well as the conditions in our project approvals<sup>21</sup>.

Suncor monitors and assesses ecosystem impacts in the watersheds in which we operate on a local level. In addition, through our enterprise risk management system and internal issues management processes we identify and help manage ecosystem, habitat and water-related risks and opportunities. For some operational sites there is more extensive monitoring in place.

### Oil Sands Monitoring Program

Suncor has been an active member of the Oil Sands Monitoring Program since 2012. The mandate of this program is to “provide comprehensive environmental monitoring data and information to improve understanding of the long-term cumulative effects of oil sands development.” As part of this program, monitoring is conducted through approved workplans across multiple areas of focus including air, water, wetlands and biodiversity.

### Continuous improvement

Continuous improvement measures employ an economic incentive to use less water and allow us to go beyond regulatory compliance. For instance, improvements in water efficiency allow Suncor to consistently use less than half of our annual water licence allotment from the Athabasca River. We optimize water reduction and recycling opportunities while trying to balance the net environmental impact and associated costs of both. We also conduct risk assessments for each asset to determine the highest-priority water issues.

### Collaboration

Through discussions with Indigenous communities and stakeholders and our efforts to establish consultation agreements, we collaborate regularly with a variety of stakeholders on water-related issues and opportunities. We engage with local communities during the development of our water management plans and also as projects progress.

Through participation in the Athabasca River Basin initiative, a basin-wide collaborative effort with a variety of stakeholders, we were able to come together and establish a common understanding on the most significant issues and opportunities in the Athabasca River Basin.

Suncor is also a member of a watershed planning and advisory council that evaluates changes to the Athabasca watershed over time and works to advise on potential policy and management actions.



### Water Technology Development Centre

The Water Technology Development Centre (WTDC) is a first-of-its-kind demonstration site for companies to test water treatment technologies at a commercial scale. The \$140 million WTDC, attached to Suncor’s Firebag steam assisted gravity drainage (SAGD) central processing facility, began operations in August 2019 and is testing a number of technologies to improve environmental performance in water, land footprint, waste and GHG impacts.

Convened under COSIA, Suncor and the WTDC partners, Canadian Natural, Husky and CNOOC International, are using the facility to test multiple water technologies concurrently, enabling the partners to conduct more pilots than each could on their own, while sharing the risks and costs. This will allow operators to speed the development and implementation of new water treatment technologies, ultimately shortening the current eight-year timeframe required to field test technologies and move them to commercial application.

In May 2019, the WTDC was named JWN Energy Excellence Awards champion in the Operational and Project Excellence – Oil Sands Category.

[Take a tour of the WTDC](#)

21 We follow the Lower Athabasca Regional Plan (LARP) Surface Water Quality and Quantity Frameworks for monitoring, reclamation and closure and in the Regional Municipality of Wood Buffalo.

## Technology and innovation

When it comes to advancing water-related technology, we continue to invest in research and development to increase efficiency (reduce and recycle) and optimize wastewater treatment.

As Suncor works to advance water treatment technology and innovation, we are sharing best practices and lessons learned with our industry peers, through Canada's Oil Sands Innovation Alliance (COSIA). By doing so, we are confident that together we can reduce industry's footprint and better protect our valuable water resources.

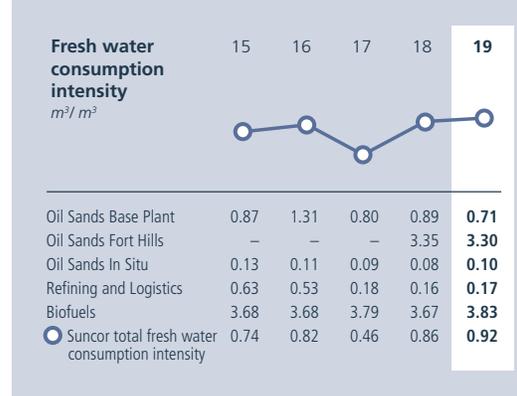
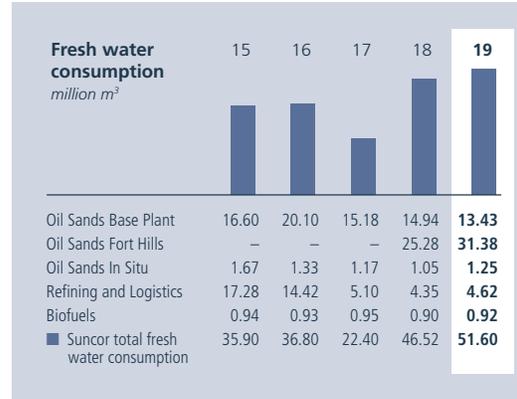
## Water performance

In 2019, we saw improved water efficiency at Base Plant; decreased production and water use at our in situ sites; increased water withdrawal and consumption at Fort Hills as production ramped up; and relatively consistent operations in Refining and Logistics.

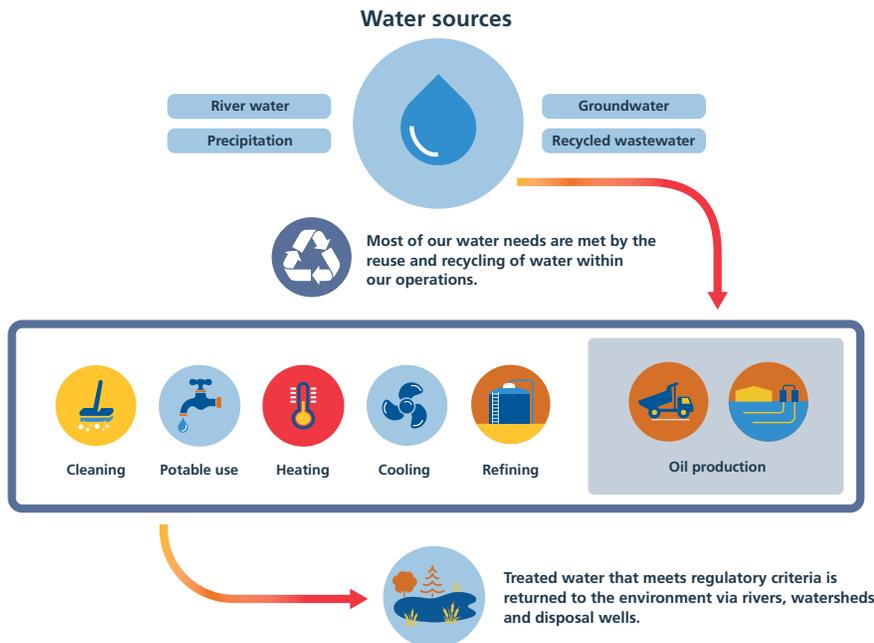
Our intake of fresh and non-fresh water for 2019 was 143 million cubic metres, similar to 145 million cubic metres in 2018. The water intake is used for refining products, with the balance mainly being consumed in oil and gas production.

## Fresh water consumption

In 2019, our absolute freshwater consumption increased by 10% and freshwater consumption intensity increased by approximately 7% compared to 2018 performance, as a result of Fort Hills building up on-site water inventory that will be reused and recycled. Incorporated into the Fort Hills design are plans to maintain a minimum water inventory required for a good recycle water quality.



For additional information about this chart and its data, please refer to performance data notes (#8 – notes on water)



## Water stewardship

### Mining

#### Base Plant

We continue to operate well below our annual water licence, withdrawing less water than we're licensed to withdraw, even as our production levels increase. In 2019, Base Plant freshwater withdrawal decreased by 10%.

At our oil sands Base Plant we continue to optimize wastewater recycle rates to decrease fresh water withdrawal from the Athabasca River. Approximately 92% of the water used by our mining and extraction operations in 2019 was recycled tailings water, which is up from 88% in 2018.

#### Fort Hills

Throughout 2018 and 2019, Fort Hills freshwater consumption and consumption intensity were relatively high due to ramp-up of production at the site and the need to build up initial water inventory. In 2019, absolute freshwater consumption increased by 24%. As we better understand our operational water use and efficiency at Fort Hills, we will continue to explore opportunities to reduce water use and expect water withdrawals to decline in future years.

#### In Situ

##### Firebag

Curtailment restrictions and site outages during 2019 for Firebag led to decreased freshwater consumption. At our Firebag in situ site, approximately 96% of the water used is recycled. Firebag uses recycled wastewater from our oil sands upgrading and utilities operations, surface run-off water collected within the facility boundary and from groundwater wells.

##### MacKay River

In 2019, MacKay River was subject to curtailment restrictions and outages. The asset had also been offline for the month of December due to an unexpected incident. As a result, freshwater consumption decreased. MacKay River had a 99.6% water recycle rate, with the small amount of make-up water required coming from groundwater.

Oil Sands mining operators have not had federal or provincial approval to release treated mine water since the beginning of operations. As a result, operators have focused on efficiencies for recycling water to minimize water volumes on site. While recycling of mine water improves the utilization of water, over time the water quality deteriorates and the concentration of dissolved solids (salt and metal ions, including chlorides) increases. This situation can lead to scaling and corrosion of equipment, that can impact performance, requiring additional maintenance. Oil sands mining companies are required by law to reclaim mine sites, which include land and water features in the final landscapes. The release of treated mine water is a key part of oil sands mine site reclamation and is necessary for progressive and long-term mine site reclamation.



## Water stewardship

### Refining and Logistics

Our refineries use fresh water for heating and cooling. Our refineries water use has remained relatively flat and there have been local initiatives that have resulted in more efficient water use:

#### Edmonton refinery

The Edmonton refinery uses water for heating and cooling. While the refinery's water use over time has remained relatively flat, we are always looking for ways to limit the amount of water we use, including the amount of fresh water directly withdrawn from the North Saskatchewan River. In 2019, approximately 43% of the total water used was from recycled wastewater supplied from the Gold Bar Wastewater Treatment Plant.

#### Montreal refinery

Since 2014, Suncor's Montreal refinery has processed increasing volumes of crudes from Western Canada. In 2017, Suncor partnered with Suez Water Technologies and Solutions and performed extensive testing and analysis to determine the best options for process improvement in the water treatment plant. Their work led to more stable performance of the water treatment system with no environmental exceedances, resulting in higher quality water returned.

#### Commerce City refinery

In 2017, the Commerce City refinery upgraded the existing wastewater treatment facility. It uses a unique technology called membrane ultrafiltration to treat and filter the water. Our facility is one of the first in North America to use this technology in treating refinery wastewater streams.

#### Sarnia refinery

The Sarnia refinery uses water from the St. Clair River as part of our on-site cooling process. In an effort to reduce the impact of microbiological corrosion, we chlorinate incoming water. We then have a process to de-chlorinate the water before it returns to the river. We focus on water quality and quantity that meets all regulatory requirements.

### Exploration and Production

In our East Coast Canada operations, water is either produced offshore through desalination, or is transferred via vessel from St. John's, N.L. On an annual basis, a cross-functional East Coast team reviews the produced water annual performance, and evaluates options for chemical minimization and substitution where feasible. This work helps to ensure effective operation of the produced water system, the floating production storage and offloading (FPSO) vessel and reservoir integrity.



# Tailings management

Suncor is working to reduce the size of our environmental footprint. Tailings reclamation is a story of ongoing collaboration, learning and innovation.



Fluid tailings are the focus of our tailings technology improvements. Although sand separates quickly from the tailings, smaller particles of clay and silt remain in suspension and form fluid tailings, which in the past could take decades to separate.

Greater than 90% of the tailings form coarse tailings deposits that are used to backfill the mine and for construction purposes (e.g. tailings dams) and required no treatment before reclamation. Less than 10% of what remains is fluid tailings that are treated to enable future reclamation into either terrestrial or aquatic features of a healthy closure landscape. Finding ways to treat fluid tailings quickly and cost-effectively is critical to improving our overall reclamation performance.

Suncor is an industry leader in tailings management. Suncor manages tailings stability risk through its tailings facility management system (TFMS). TFMS is a well-established process which is a supporting element of Suncor's overall Operational Excellence Management System (OEMS).

Suncor's tailings management system emphasizes:

- responsible corporate accountability for tailings
- effective operations integrity and governance
- robust dam safety management.

Over the past several years, our holistic TRO™ tailings management approach and the implementation of permanent aquatic storage structure (PASS) treatment process have allowed us to reduce our total fluid tailings inventory at Base Plant. In addition, we have reduced the total number of active tailings ponds by converting one to a fluid tailings treatment area, started the drainage of a second, and made a third trafficable using our coke capping technology.

In 2019, PASS treated more than 25 million cubic metres of fluid tailings, a new annual treatment record. This represents 2.3 times the 2019 volume of fluid tailings produced. This has been a key reason why Base Plant's untreated fluid tailings inventory is shrinking. The treatment is progressing well and the high-quality water demonstrates we are on track to support the accelerated reclamation timelines we predicted before implementation in 2018.



## Permanent aquatic storage structure

Built upon the processes currently used in our TRO™ tailings management approach, Suncor has developed PASS, a fluid tailings treatment process to significantly increase the amount of fluid tailings we can treat in a more sustainable manner.

PASS combines the TRO™ process with the addition of a coagulant to improve the quality of the water expressed from the treated fluid tailings. The treatment process allows us to rapidly dewater the fluid tailings as the clay particles adhere to the flocculant, safely expressing most of the trapped water and providing an effective means for creating a lake that achieves our closure plan, and doing so in an accelerated timeline.

To validate this closure concept, we have constructed a demonstration pit lake, now called Lake Miwasin (meaning "nice/beautiful" in Cree), that contains PASS-treated fluid tailings and has an aquatic cover established in 2018. We plan to monitor and adaptively manage the project for the next 15 years. Pit lakes are considered a mining industry global best practice, and there are a number of pit lakes in Alberta created from former coal mine pits that are now used for recreational fishing and swimming.

Lake Miwasin was named by an Indigenous student in Fort McMurray as part of a naming contest.

™ Trademark of Suncor Energy Inc.

## Tailings management

### Regulatory requirements

Suncor has enhanced its management plans and tailings management approach to meet the requirements of the [Tailings Management Framework \(TMF\)](#), developed by Alberta Environment and Parks under the Lower Athabasca Regional Plan and implemented in 2015.

In 2015 and 2016, Suncor was invited to work with Indigenous communities, the Alberta Energy Regulator (AER) and other stakeholders to support the development of the [Fluid Tailings Management for Oil Sands Mining Projects](#) (Directive 085).

To meet the new requirements, Suncor received approval in 2017 to add treatment capacity to our operations at Base Plant. Meanwhile, Fort Hills received approval in 2019. Both updated plans are based on what we've learned through our implementation of TRO™ and from members of [Canada's Oil Sands Innovation Alliance](#) (COSIA).

In 2017, the AER Directive 085 was finalized. This regulation includes tailings management plan application and tailings performance reporting requirements aligned with the government's Tailings Management Framework.

### Dam safety and integrity

We take tailings dam safety very seriously and have been implementing a robust dam safety program since we began operations in the Athabasca oil sands in the late 1960s. Our dam safety program protects the integrity of tailings dam structures through extensive checks and balances for design, construction and monitoring, including a series of internal and external reviews.

There are stringent requirements governing tailings and dam safety in Canada. Alberta regulators released the new [Dam and Canal Safety Directive](#) in 2018 that establishes requirements for industry-leading practices for dam safety management.

Suncor's tailings management and dam safety practices have continuously improved with the ongoing development of geotechnical engineering practices and industry-leading tailings and dam safety guidelines and regulations. We employ specialized experienced engineers, referred to as geotechnical engineers of record, for each tailings facility and/or dam structure. These individuals are qualified to lead the design work of each area, and work in collaboration with internationally experienced design consultants, referred to as geotechnical designers of record.

In addition, an independent external review board called the Mine Development and Reclamation Review Board reviews and critiques ongoing design, construction and operation of our tailings facilities several times a year.

Additional information is available in Suncor's response to the [Investor Mining and Tailings Safety Initiative](#). Suncor has disclosed an [extensive data table](#) on our tailings facilities including location, dimensions, and status. An [interpretation document](#) has also been provided for additional context.

### Engagement

Suncor is committed to the responsible development of oil sands resources, addressing tailings treatment, and engaging Indigenous communities and stakeholders. In 2019, Suncor used several opportunities to gather feedback from stakeholders on the approach to tailings management. One of these opportunities was the Suncor Sharing Session on Tailings with local community members to share information on Base Plant and Fort Hills tailings performance. The objective



### Coke capping technology



Thanks to breakthroughs that have come from research and development, Suncor continues to make progress in tailings management.

Following the surface reclamation of Pond 1 (now known as Wapisiw Lookout) in 2010, we began creating a trafficable surface on Pond 5, with a reclamation technique called coke capping. The project was completed in 2017, more than two years ahead of what was planned, thanks to teamwork and dedication.

The coke capping technology we developed and commercially deployed at Pond 5 involves placing a geofabric/geogrid on a tailings pond and then placing petroleum coke (a byproduct of upgraded bitumen) overtop to create a solid surface that supports heavy equipment. Giant straws, called vertical strip drains, are added to dewater the fluid tailings. In the future, we will spread overburden or sand over the coke to allow for the placement of topsoil and vegetation (trees and shrubs). This is the first full-scale soft tailings cap of its kind in the industry.

## Tailings management

of the sharing session was to share information on tailings results and plans, and to provide an opportunity for Suncor staff to gather feedback and input from Indigenous community members. Suncor is following up on this feedback and will work to incorporate suggestions into future engagement plans. We continue to enhance how information about our tailings operations is shared.

As the mining industry reviews and improves leading practices for tailings management, Suncor will continue to maintain the highest standards and play an active role in collaborating with industry partners, communities, investors and other stakeholders.

### Fluid tailings management

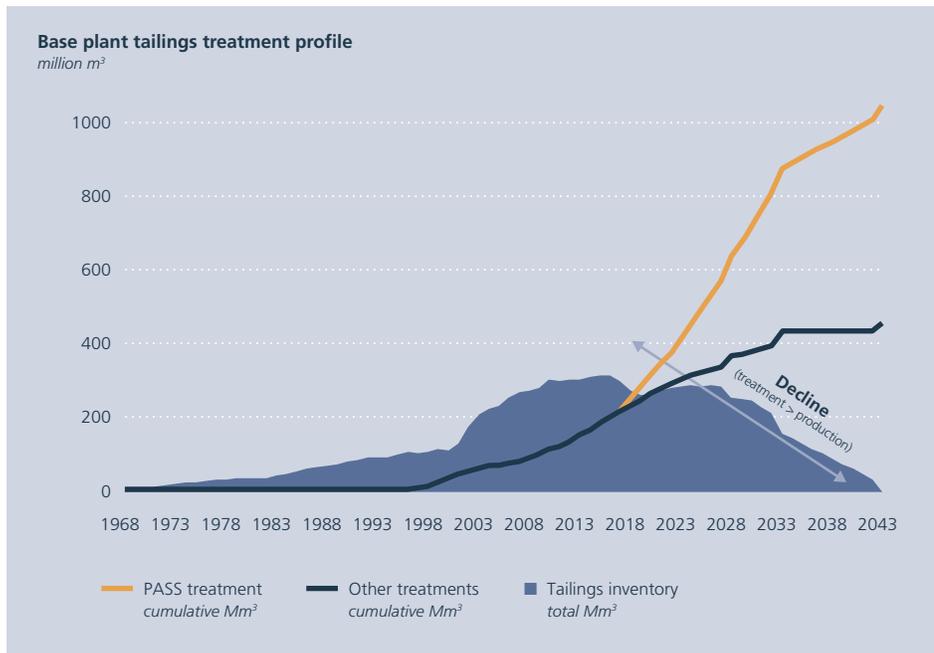
As our mining operations have expanded, the volume of fluid tailings has increased. However, with the implementation of TRO™ in 2010, fluid tailings volumes at site remained steady and have now begun to reduce with the implementation of our PASS technology.

From 2015 to 2019, Base Plant alone has treated more than 100 million cubic metres of fluid tailings. Fluid tailings inventories peaked in 2010

and with this amount of treatment, the total inventories are now reducing so that Base Plant is ahead of regulatory requirements. Since 2018, fluid tailings treatment capacity has increased by commercially implementing our PASS fluid tailings treatment process. This has allowed for a 5% reduction in untreated fluid tailings inventory as of the end of 2019 at Base Plant operations. Base Plant currently has about 263 million cubic metres of fluid tailings.

Suncor is working to reduce the number of active tailings ponds. We have made progress over the last 10 years. Even with the start of a new mining operation (Fort Hills), total number of active tailings facilities has been reduced between 2009 and 2019 with one being surface reclaimed and three more advancing to closure.

Moving forward, we will work toward our strategic priority of continuing to manage our tailings across their life cycle in a safe and environmentally responsible way. In the next few years, another tailings pond will be removed from Base Plant operations because of our PASS technology.



For additional information about this chart and its data, please refer to performance data notes (#10 – notes on tailings)

### Tailings ponds

	2009	2019
Active	8	6
Inactive	1	1
Advancing to closure	1	3
Surface reclaimed	0	1

For additional information about this chart and its data, please refer to performance data notes (#10 – notes on tailings)

# Land and reclamation

Energy development disturbs land – there is no way around it. We help mitigate this by developing detailed reclamation plans that consider the impacts of our operations along with learnings from local Indigenous Peoples and community stakeholders before any kind of disturbance takes place.

Suncor works on three primary areas to reduce the size and duration of our footprint, to facilitate the return of biodiversity and to sustain the function of nearby natural ecosystems in the boreal region:

- Reducing the impact of our operations on land resources through scientific research and best management practices, while also working with neighbouring companies to reduce the cumulative effects of development through collaborative effort to reduce our footprint.
- Accelerating the pace of reclamation of disturbed lands by taking advantage of opportunities for progressive reclamation.
- Working internally, with industry peers and through multi-stakeholder organizations on initiatives to conserve and reclaim habitat for birds, mammals, fish and other species.

End land use, how the land will be used at closure, is an important consideration throughout the life cycle of the project, from planning through reclamation.

## Management approach

### Mining

Before developing a new mine, life-of-mine closure plans are developed that identify how and when the disturbed areas will be reclaimed. These plans are updated regularly throughout the life of the project. This allows project changes and updates to technology to be integrated into the reclamation and closure plan, supporting the ultimate return of the land to self-sustaining boreal forest ecosystem.

The Alberta Energy Regulator (AER) must authorize reclamation and closure plans for all new projects and authorizes updated plans as they are developed.<sup>22</sup>

### In situ

In situ oil sands operators are required to complete a project-level conservation, reclamation and closure plan for the AER's review and authorization, and to update it every five years. This integrated approach to planning and execution provides a project-level plan for achieving equivalent land capability and long-term, sustainable environmental outcomes after closure.<sup>23</sup>

<sup>22</sup> As per Alberta regulations ([SED\\_003](#)), oil sands mine facilities report on land disturbed and reclaimed over time. These regulations specify biodiversity, vegetation, and soil conservation measures to support effective progressive and final reclamation. For a new project, there is a lag time of years between initial development and when land reclamation can begin. As projects proceed there are more opportunities to reclaim disturbed areas when they are no longer required for operations, through progressive reclamation; this includes mine and tailings areas, roads, plant facilities and buildings, well pads, borrow pits and pipelines.

<sup>23</sup> Following the Alberta regulations ([SED\\_001](#)), in situ facilities report on land disturbed and reclaimed over time. Current reclamation opportunities at in situ operations are primarily borrow pits – the source of the clay fill used for the construction of wellpads, roads and central processing facilities. Reclaimed borrow pits will provide a matrix of uplands, wetlands and lakes, reflective of the local boreal forest.



### Naturally occurring reclaimed wetlands



Most of the reclamation at Suncor's Base Plant completed so far has targeted upland forest types found locally in the Athabasca oil sands region. Over time, as reclamation landforms have naturally settled, wetlands have formed in low lying areas. These are called opportunistic wetlands.

- Preliminary data suggests that more than 10% of our reclaimed uplands may have naturally converted to either temporary, seasonal or permanent wetlands.
- Some of these wetlands have been in-fill planted with wetland-specific tree and shrub species to enhance their complexity and maturity.
- Suncor has initiated an assessment of the number, extent, quality, and type of these opportunistic wetlands on our reclaimed lands.

Once the opportunistic wetlands are classified as per the Alberta Wetland Classification System, using a combination of remote sensing and field verification, they will be incorporated into Suncor's reclamation tracking and monitoring programs. Ultimately, the presence of these reclaimed wetlands will result in a final reclaimed landscape which consists of a mosaic of uplands interspersed with wetlands, very similar to what existed before disturbance.

## Reclamation performance

### Mining

Since Suncor began operations at Base Plant in 1967, the project has disturbed 22,245 cumulative hectares (ha) of land in the Athabasca oil sands region. As of 2019, we have cumulatively reclaimed approximately 10.8% of the total land disturbance, including 2,352 hectares of terrestrial reclamation and 48 hectares of wetland and aquatic reclamation.

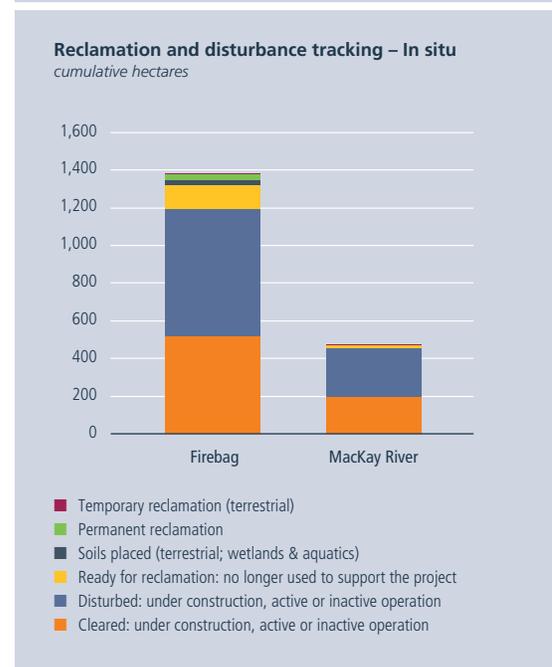
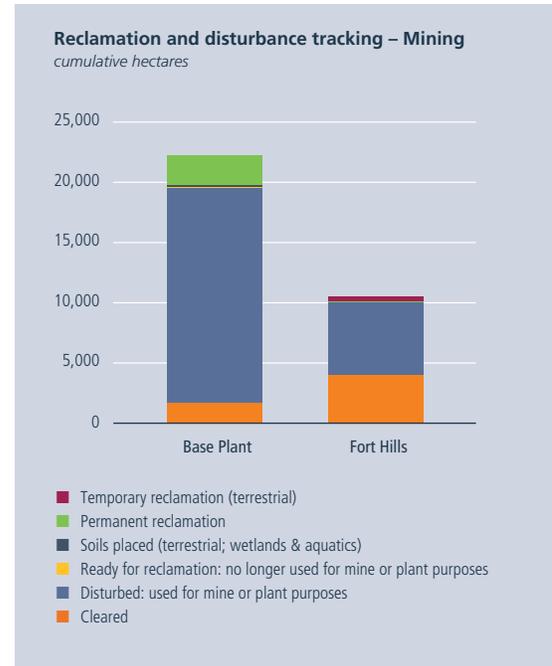
We planted approximately 365,000 tree and shrub seedlings in reclamation areas at Base Plant in 2019, bringing the total cumulative seedlings planted to close to 8.9 million. This is approximately a 7% increase from 2018.

Fort Hills officially began production in 2018. As new mines are developed, the disturbance footprint increases significantly; however, Suncor continually looks for opportunities to minimize our footprint and progressively reclaim areas no longer required for production. Even though Fort Hills is newly in production, reclamation activities have already begun.

As of 2019, Fort Hills had an additional 84 hectares (ha) of temporary<sup>24</sup> reclaimed land bringing the cumulative total of temporary and permanent reclaimed land to 360 ha.

### In situ

In 2019, Suncor compiled a list of the reclamation certificates issued for old roads and observation wells no longer required to support the Firebag and MacKay River in situ operations. Approximately 15 hectares of land has met the requirements for permanent reclamation and has been certified and returned to the Government of Alberta. During the 2019 reclamation work, Suncor also planted more than 51,000 trees and shrubs between the two sites. By planting trees and shrubs reflective of the local area, it is expected that a matrix of upland, wetland and deep water ecosystems will establish and support various wildlife over time.



For additional information about this chart and its data, please refer to performance data notes (#10 – notes on land disturbance and reclamation).

<sup>24</sup> Land reclaimed, either permanently or temporarily is land no longer being used for mine, plant, or in situ production purposes. This value is a subset of the total active footprint. Reclamation is presented as a cumulative number; therefore, the total number of hectares reported from year to year may increase depending on whether reclamation has occurred or whether re-disturbance of previously reclaimed areas was required. Permanently reclaimed lands have met the authorized plans for soil placement and re-vegetation but have not been certified by the Alberta Energy Regulator.

# Biodiversity

Suncor is committed to preserving and promoting biodiversity in all areas where we work. Our commitment drives the conservation of high-value areas and habitats and reclamation of the sites we disturb.



Suncor's operations are located in diverse landscapes, home to ecosystems comprising a variety of plants and animals. In the case of boreal woodland caribou, complex combinations of natural and human-caused factors have had an effect by creating landscape changes and indirectly increasing predation, resulting in a decline in caribou populations. As an operator in the boreal forest, Suncor has a role to play in contributing to caribou recovery and conservation while mitigating our impacts on them.

Our reclamation planning and execution efforts focus on improving the landscape biodiversity outcomes so we can return to the natural diversity of plants and animals at the end of an operating area's life. Guided by the mitigation hierarchy, a tool which aims to help manage biodiversity risk, we seek to avoid, minimize, restore and/or offset impacts to biodiversity from our operations.

- Our land use and management planning processes work to identify where disturbances can be avoided throughout our projects.
- Disturbances are minimized to the extent possible while considering multiple factors, including safety, operation and the environment.
- We work internally and with industry peers and multi-stakeholder organizations on initiatives to conserve and restore habitat for birds, mammals, fish and other species, including species at risk such as caribou.

Approved wildlife mitigation and monitoring programs are in place for our oil sands operations; biodiversity conservation is inherent in our reclamation practices. While biodiversity objectives are outlined in our closure plans, to protect both our people and wildlife that use our sites and nearby associated areas, our internal wildlife standard describes the responsibilities of all employees and contractors working on Suncor sites within the Regional Municipality of Wood Buffalo.

We reduce the impact of our operations and promote accelerated reclamation through scientific research and best management practices. In collaboration with our industry peers, stakeholders and regulatory agencies, we work with organizations such as the Alberta Biodiversity Monitoring Institute (ABMI), the Canada-Alberta Oil Sands Monitoring Program and Canada's Oil Sands Innovation Alliance (COSIA) to:

- mitigate and monitor the impacts of our operations
- reduce the cumulative effects of industrial development
- address regional biodiversity risk.

As a member of the COSIA Regional Industry Caribou Collaboration, we work across tenure and lease boundaries with academia, the Government of Alberta and the ABMI Caribou Monitoring Unit to co-ordinate restoration in priority areas, and to find new ways improve how we understand biodiversity and restore habitat throughout northeast Alberta. These efforts all play a role in caribou recovery.

## Biodiversity

### Land conservation

Suncor has partnered with Alberta Conservation Association (ACA) Boreal Habitat Conservation Initiative (BCHI) since 2002. This award-winning initiative helps protect intact boreal forest and wetlands, ensuring the larger boreal forest ecosystem remains undisturbed and biodiversity is preserved.

Working with ACA, Suncor has secured more than 4,000 hectares of ecologically sensitive land across 43 different conservation sites.

The BCHP proves win-win scenarios are possible: good for business, good for society, and good for biodiversity. By helping to protect intact boreal forest and wetlands, it is an important example of our commitment to sustainability leadership.

ACA – Suncor Boreal Habitat Conservation Initiative (2003-2019)



Evaluation criteria were developed between Suncor and ACA to enable the selection of habitat conservation project sites that reasonably replicate the lands being disturbed by the footprint of Suncor's oil sands operations. While it is recognized that an exact match is not possible, priority is placed on those lands that have high ecological value, which help create biological connectivity with existing protected areas and that support sensitive or endangered species. Approved areas that meet the evaluation criteria are called focus areas. Through the BCHP, habitat is secured by purchase of private lands located within these approved focus areas, outside of Suncor's operations, by ACA often in partnership with other conservation agencies.



### Honouring a colleague through conservation

In May 2019, the Alberta Conservation Association (ACA) dedicated a 125 hectare parcel of land in memory of a beloved Suncor colleague, Peter MacConnachie who passed away in 2017. A self-professed fan of the boreal forest, Peter combined his work in sustainability with a love of the outdoors. Through his participation in the Suncor Boreal Habitat Conservation Initiative, ecologically-sensitive areas of the boreal forest have been conserved in partnership with ACA and the Alberta Fish and Game Association.

The dedication marked an important milestone in the 15-year partnership the Suncor Energy Foundation and Suncor have had with the ACA, reflected in the site plaque:

*"Dedicated in his memory, may the MacConnachie Conservation Area exist not just as a place on the map but also serve as a destination to enjoy Alberta's boreal forest that Peter so appreciated and helped to conserve."*

## Biodiversity

### Biodiversity monitoring

Suncor monitors biodiversity in and around our oil sands in situ and mining operations and reclaimed sites as per our regulatory commitments and in support of broader regional initiatives.

In 2019, cameras at reclaimed sites in northern Alberta recorded more than 6,100 sightings of 13 wildlife species. In the same reclaimed areas, acoustic recording units recorded seven species of bats, and wildlife surveys identified more than 59 species of birds and 14 species of small mammals.



“

*The wildlife program at MacKay River, conducted since 2001, was designed to monitor the effects of our operations on wildlife and show how wildlife is living in reclaimed sites and in the vicinity of our facilities. Remote cameras have been taking amazing photos of our wildlife, demonstrating that wildlife and human operations can coexist. This confirms that Suncor's current measures are effectively protecting our wildlife.*

Roberto Torres  
environmental advisor, MacKay River

We work hard to build and maintain relationships with local communities, Indigenous Peoples and stakeholders, and meaningfully consider their issues and concerns about our operations and the effects of proposed development. Creating vibrant communities requires developing trust, and collaborative and proactive relationships.

# Communities

- › Community investment
- › Indigenous relations
- › Social goal
  - › Strengthening relationships
  - › Partnering with Indigenous youth
  - › Partnering with Indigenous businesses and communities
  - › Improving Indigenous workforce development



**\$33 million**

contributed to Canadian and international charitable and non-profit organizations by Suncor and SEF

**96,067 volunteer hours**

by Suncor employees in their local communities

**\$836 million**

spent with Indigenous businesses and suppliers

**50% increase**

in participation with Indigenous Mentorship Program

# Community investment

Suncor's Community Investment (CI) team and the Suncor Energy Foundation (SEF) embody Suncor's purpose of caring for each other and the earth by connecting business and community strengths to make a positive difference in society. Through partnership and relationship with those who are courageously seeking solutions, we help spark change and propel progress for generations ahead.



We believe we have the opportunity – and responsibility – to help build a better future. Since Suncor began operations in the oil sands more than 50 years ago, this commitment has been demonstrated in our work with communities across our operations, through the efforts of our employees, and with the creation of SEF in 1998.

We believe in partnering and building relationships for the long term. These relationships must be across multiple sectors, as no one type of organization can solve today's complex challenges.

## Our community investment strategy

CI and SEF invest in society while seeking solutions and benefits for others. We believe in the capacity of all people to create solutions to complex challenges, and that combining diverse perspectives can create change.

Our strategic objectives are:

- Support communities to adapt and flourish when change requires new skills, mindsets, capabilities and approaches.
- Amplify youth and community leadership so they are prepared to guide and influence the future.

- Co-create innovative solutions that address our shared challenges and opportunities and allow us to create the conditions for success and action.
- Leverage the interests, strengths and capabilities of our employees to contribute to their community and help create solutions to complex issues.
- Support communities near our operations to address their unique and specific needs that align with community priorities and business needs.

Relating to these objectives, our strategy has three pillars:

- **Strategic funding priorities:** Investing in societal change through others within three areas: Indigenous Peoples, energy future, and community resilience.
- **Community presence:** Investing in local operating communities and employee engagement through SunCares.
- **Social innovation capacity:** Investing in societal change through SEF- and CI-led programs and activities.

## Community investment

Suncor & SEF contributed **\$33M** in value to more than **1,950 charitable & non-profit organizations** across Canada and internationally.



**\$15.1M** contributed to Canadian charitable organizations by SEF



More than **\$4.9M** invested by Suncor & SEF towards the goal of learning from and with Indigenous Peoples

### SunCares: how our employees showed up in community



**29%** of employees participated company-wide



**96,067** hours volunteered by Suncor employees in their local communities



**1,501** community organizations supported



Over **\$5.8M** contributed to communities through SunCares

## Strategic funding priorities

Community Investment and the Suncor Energy Foundation have a long history of investing in societal change and communities through donations to external partners. We focus these investments in three priority areas:

- Indigenous Peoples – Learn from and with Indigenous Peoples to accelerate a reconciliation mindset, youth engagement and Indigenous-led pathways to success
- Community resilience – Enable communities to maximize opportunities and resources to adapt and thrive through change
- Energy future – We participate in energy system transition by combining the strengths of Suncor and community to seek solutions that prepare us for today and the future.

## Ashoka Canada

In 2018, Suncor and the Suncor Energy Foundation (SEF) entered into partnership with Ashoka Canada and began working toward mutual learning for both of our organizations.

Ashoka Canada supports young leaders to develop the mindset and capacity to be the changemakers the future needs. Part of the donation provided by SEF supports Ashoka Canada's work to adapt their processes based on Indigenous ways of knowing and doing, something we also continue to explore and learn about within Suncor.

The focus of the partnership is to:

- drive positive social and environmental change with a priority of amplifying innovations that support Indigenous communities
- build capacity, empathy and resilience among Indigenous and non-Indigenous youth of Canada to become change leaders
- build awareness and commitment to social innovation and changemaking as a sustainable force for positive change

Since the partnership began, we continue to strengthen our relationship, learn from one another, and connect on new initiatives such as Ashoka U, a program focused on changemaking within post-secondary campuses around the world.

## Community investment

### Community presence

CI and SEF invest in local communities where Suncor has operations and offer employee engagement opportunities through the SunCares program.

SunCares inspires employees to contribute to communities and support the causes that are important to them – through volunteering, donation matching, SunCares Community Giving Networks and recognition programs such as SunCares Changemakers.

### Social innovation capacity

CI and SEF describe social innovation as an initiative, product, or process that challenges and/or changes the routines, resources, and beliefs of society. As a part of our strategy, we aim to build capacity for social innovation – including within Suncor. By considering and working with whole systems, and by using the tools and processes of social innovation to design and deliver programs, there is opportunity to transform ourselves, our organizations, and ultimately, society.

### SunCares Changemakers

In 2019, as part of our SunCares employee program, we launched SunCares Changemakers to recognize and celebrate employees who are having a positive impact in community. Five Suncor employees are selected through an annual nomination and internal committee review process, and identified as SunCares Changemakers. Changemakers are then each given the opportunity to identify a community organization of their choice to receive a one-time gift of \$20,000.

### Community Foundations of Canada

In November 2019, SEF confirmed a new three-year partnership with Community Foundations of Canada (CFC) to help expand our knowledge and understanding in social finance under the pillar of social innovation. Social finance is an investment that has a positive social, cultural or environmental impact and also generates return for investors. Types of social finance can vary, and can include loans and investments – and they all make a positive difference. Suncor and SEF have previously worked with CFC on initiatives such as the United Nations Sustainable Development Goals and the setup of a community foundation in the Regional Municipality of Wood Buffalo.

With this new partnership, CFC is expected to be able to expand their pilot project work and share their learnings with other foundations. Along the way, Suncor and SEF aim to learn more about social finance by participating in CFC's work with the goal of advancing new, community-led, multi-sector approaches to raising money and deploying it where needed to support social good.



# Indigenous relations

Partnering with Indigenous communities is foundational to successful energy development.

We engage to build and maintain relationships with Indigenous communities where we operate by listening to concerns about our operations and the effects of proposed development. This includes working together to mitigate potential social and environmental impacts and ensuring local communities share in the benefits of energy development.

## Our approach

Guided by our purpose and policies, we work to maintain mutually beneficial relationships. We are committed to authentic, meaningful relationships with stakeholders and Indigenous Peoples and communities in Canada. Recognizing that there is work to do, we are updating our Indigenous Relations policy.

Beyond commitments outlined in the policies, we also have agreements with Indigenous communities near our operations. These agreements address how we work together on a range of matters from project consultation to realizing the benefits of commercial and business opportunities, as well as supporting skills/employment and training programs.

## Responsibilities and commitments

All Suncor employees, contractors and managers as well as our joint venture partnerships are responsible for applying these policies. Suncor's chief executive officer is accountable to the Board of Directors for ensuring that Suncor's Stakeholder Relations and Canadian Indigenous Relations policies are implemented. Our Board of Directors has included Indigenous representation since 2000.

## Relationships

We are committed to learn about our shared history and mutually seek collaboration and partnerships with Indigenous Peoples. To get us there, we've learned that we must build an inclusive workplace and develop the skills to appropriately engage. Increasing the awareness of our staff to Indigenous cultures, history and rights and having Indigenous views reflected in the composition of Suncor staff and policies is vital. This includes seeking to apply Indigenous knowledge in planning, operations, reclamation and monitoring activity. Journeys is one of Suncor's employee networks that supports Indigenous inclusion at Suncor.

We understand that we need to get to know communities first by listening and seeking to develop relationships – relationships based

on the principles of respect and reciprocity. We will not presume to know what communities need or want. To create mutually beneficial partnerships and outcomes, we look to external influencers and Indigenous thought leaders to regularly calibrate where we are and where we need to go. We're learning from traditional Indigenous ways and are evolving our business practices to incorporate and honour this. We're also working to build internal capability that allows us to understand where existing processes and structures may unintentionally limit Indigenous inclusion.

## Results

We believe that partnering and learning with Indigenous Peoples is a way of improving environmental, economic and social outcomes. One way we measure the effectiveness of our efforts is through the [Canadian Council for Aboriginal Business \(CCAB\) Progressive Aboriginal Relations \(PAR\)](#) program. PAR is Canada's only certification program focused on best practices in Aboriginal relations. In 2017, Suncor became certified at a gold level; our renewal application was submitted for review in April 2020.

The certification process includes external assessment of an organization's performance in four key areas: employment, business development, leadership actions and community engagement.



*The Progressive Aboriginal Relations certification process is a chance for us to reflect on our strengths and look for areas of improvement. We are continuing to evolve our partnerships with Indigenous communities and we are learning about new ways of knowing and being.*

Sheila Innes  
general manager, Indigenous and community relations

# Social goal

We are on a journey to change the way we think and act to increase the participation of Indigenous Peoples in energy development.

Our social goal is a declaration of our intent to do things differently – to choose a new path that focuses on strengthening relationships with Indigenous Peoples and communities starting within Suncor. The goal outlines four areas to focus on through 2025 and beyond, where we can work together to advance greater participation of Indigenous Peoples and communities in energy development.

Shifting culture, behaviour and systems takes time. Since announcing our social goal in 2016, we have seen outstanding results in many areas of Suncor. In 2019, we realized the need to pause and reflect on activities and learnings related to the social goal. We then began a renewal process, which included a detailed review. We engaged employees, Indigenous organizations and thought leaders via surveys, facilitated focus groups, and conducted individual interviews. Through this engagement, we received feedback that we have progressed in setting and achieving quantitative metrics such as increased Indigenous

business spend. However, the feedback has also indicated we need to consider the impact of these metrics and ensure it is leading to cultural shifts and behavioural changes within Suncor.

We are now reflecting on the feedback to gain a better understanding of new opportunities and whether we are truly changing the way we think and act.

One opportunity we are focusing on is the use of storytelling, in addition to metrics. Storytelling is a traditional practice in some Indigenous cultures that sustains and validates experiences, values and beliefs by spoken word.

Informal conversations and feedback play an important role in our understanding of what is working and what is not for Indigenous people. Some of this feedback comes from Indigenous employees, Indigenous suppliers and our Indigenous youth engagement.



# Strengthening relationships

We can do more to learn about the history and experiences of Indigenous Peoples, so we can better understand one another and change the way we think and act.



Strengthening relationships is a priority for Suncor, and we have designed many supporting initiatives to enable our employees along the way. We're focusing on four key areas:

- increasing awareness
- building understanding
- shifting attitudes
- changing behaviours.

By the end of 2019, 8,779 Canadian employees had completed the web-based training and 1,460 Canadian employees had completed classroom training. We also [offer our web-based training to the public](#).

In addition to training, our employees have embraced various learning and cultural opportunities. These opportunities include the creation of a virtual Indigenous Learning Space on our company intranet and the introduction of the [KAIROS Blanket Exercise](#) at Suncor work sites. In 2019, working with our Calgary office building owner/operator, we were pleased to establish procedures to enable smudging for meetings and special events at the Suncor Energy Centre.

We've also seen growth in various employee programs. Our Indigenous Student Program has grown from 17 participants in 2017 to 80 in 2019, with placements in many areas of our operations including Wood Buffalo, Edmonton, Calgary and St. John's. Our Indigenous Mentorship Program has increased by 50% since 2018 and Journeys, an employee inclusion network, has evolved with new members and programs.

## Journeys

Our Journeys employee inclusion network plays an important and active role supporting Indigenous employees to feel a sense of belonging within the company, as well as strengthening Indigenous cultural awareness, relationships and employee personal development.

The network has four circles: Leadership, Cultural Awareness, Community Impact, and Engagement. Within each circle, volunteers organize events and lunch and learns. The network also organizes:

- a program for ambassadors to participate in outreach activities such as recruitment events and mentorship of Indigenous summer students
- Indigenous Insights, which can be shared in Suncor meetings
- Journeys newsletters
- events such as Indigenous Peoples Day and Orange Shirt Day (with activities across the country).

In 2019, Journeys held its first annual gathering to connect and build relationships, celebrate the success of the network, and plan 2020 programs and events that foster inclusion.

The network currently has more than 800 Indigenous and non-Indigenous members. Journeys is viewed as a key stakeholder to seek input from, for the design of Indigenous-related initiatives.

“

*The advancements in Indigenous inclusion and the fostering of positive change within Suncor culture that I have seen come through the Journeys network has been nothing short of amazing. I am very proud to be a part of that and look forward to our future endeavours, within Suncor and beyond.*

Amanda Robert  
maintenance planner, Fort Hills

# Partnering with Indigenous youth

We support the development of Indigenous youth leadership potential through meaningful connections within and outside of Suncor.



Our partners and youth have taught us that organizations and programs rooted in culture and reconciliation lead to pride in self and culture, and we're particularly focused on building stronger connections with Indigenous youth.

The Indigenous Youth Advisory Council (IYAC) was established in 2019 following many years of discussions with several young Indigenous leaders, including those who had attended Suncor Energy Foundation (SEF) Gatherings and participants from the Indigenous Student Program.

The IYAC is an opportunity for the SEF board, our Indigenous and Community Relations team and various senior leaders and Indigenous youth to share, listen, reflect and act on issues of mutual interest that are impacting communities and the lives of Indigenous youth. Aligned with our social goal, it also supports young Indigenous leaders in developing their leadership potential while providing opportunities to participate in the energy system.

The key objective of IYAC is to act as an advisory group to SEF and Suncor to:

- support and inspire Suncor to fulfill its purpose
- advise SEF on strategic areas of focus and future direction
- support and provide advice to our Indigenous Relations VP Forum.

Other objectives of IYAC include:

- discussing and bringing forward Indigenous youth and community issues
- promoting a transfer of knowledge between Indigenous youth, Elders, SEF and Suncor while building trust, rapport and strengthening relationships
- strengthening Elder and youth relationships to support continued cultural learning and connection to the community.

As the relationship between IYAC members, SEF and Suncor evolves, we will revisit these objectives on an ongoing basis.

“

*The Indigenous Youth Advisory Council is an incubator for leadership and an opportunity for meaningful engagement between Canada's largest energy company and Indigenous Youth. We witnessed an empowering exchange when we were seated in a boardroom of experts that were eager to answer our questions and genuinely wanted to understand our perspectives.*

Indigenous Youth Advisory Council members



# Partnering with Indigenous businesses and communities

We are increasing revenues to Indigenous businesses and communities through mutually beneficial marketing arrangements and procurement of materials and services.



Siksika Nation Petro-Canada™ electric vehicle charger station ribbon cutting

Relationships are essential to advancing business opportunities. Meaningful participation requires the ability to understand each other's motivations, strengths and limitations. It can also require the willingness to have challenging conversations in an authentic and respectful way.

Working with Indigenous businesses is essential to creating these partnerships, and it is one thing we can do to contribute to economic reconciliation with Indigenous Canadians. This is aligned to the United Nations Declaration on the Rights of Indigenous Peoples and the Truth and Reconciliation Commission's Call to Action for corporate Canada.

Suncor's social goal includes a business development pillar to "increase spend with Indigenous suppliers." For the procurement of materials and services, there is a target of \$600M by 2025 which was achieved seven years early. In 2018, we spent \$725 million and in 2019, we spent \$836 million with Indigenous businesses and suppliers.

As of 2019, we have 48 Petro-Canada™ retail and wholesale marketing arrangements with Indigenous communities across the country, surpassing the 2025 target of 40 we had originally set.

In 2018, Suncor's president and CEO Mark Little also stepped forward to co-chair the Canadian Council for Aboriginal Business's national Aboriginal Procurement Champions program. The effort is designed to challenge companies to engage more Indigenous businesses in their supply chains.

## Celebration of Indigenous Business Partners

In 2019, our Independent Retail group held a feedback session just ahead of the Indspire<sup>25</sup> event in Calgary called Celebration of Indigenous Business Partners. This was a summit to gather Indigenous business partners together, celebrate successes, recognize achievements, share experiences on how having a Petro-Canada™ site has influenced their communities and most importantly, listen to feedback on how we can improve.

<sup>25</sup> Indspire is a national Indigenous registered charity that invests in the education of Indigenous people for the long-term benefit of these individuals, their families and communities, and Canada.

# Improving Indigenous workforce development

We are committed to an inclusive and diverse work environment where everyone feels valued and respected.



We believe this kind of work environment will help us to attract, retain and develop Indigenous employees. Creating an inclusive and respectful environment is a leadership imperative at Suncor, supported by our executive leadership team. This corporate culture work is also supported and championed by members of our Inclusion and Diversity (I&D) Council. The I&D Council was formed in 2017 and develops and champions the strategy to foster inclusion and respect for broad-based diversity (e.g., race, ethnicity, gender, sexual orientation, experience, backgrounds, etc.). Suncor's social goal includes a workforce development pillar to "increase Indigenous representation in our workforce." We're improving Indigenous workforce development through hiring, retention and advancement of Indigenous employees across our businesses.

As of 2019, we have 3.2% Indigenous representation in our workforce. Our target is 4% representation by 2025.

Through our Indigenous workforce development initiatives, we have an Indigenous workforce advisor and an Indigenous mentorship program. Since 2017, 21 mentees and 63 mentors have participated in the program.

"My time in the mentorship program was very good. We built trust and community as we shared many stories about our heritage, cultures and families and how we speak to these." – Dwayne McLeod, senior advisor, tailings

## Indigenous Student Program

Our Indigenous Student Program creates a talent pool and provides Indigenous post-secondary students with an opportunity to gain valuable work experience at one of our locations.

The program is open to students in any post-secondary program at a college, university or technical school, and candidates have come from a wide range of programs at various stages of their school careers. We work to place students in a position related to their field of study and ensure they have a meaningful experience.

Since 2019, 169 students have participated in the program. Ten students from the program now have full-time roles at Suncor, and three students from 2019 moved into co-op placements. Feedback from students has been positive.



*As an Indigenous summer student, Suncor made me feel like I had a voice in a larger picture.*

Matthew Hayden  
Sarnia supply chain management student 2019 program

# Appendix

- › Performance data
- › Performance data footnotes
- › Independent assurance statement
- › GRI and SASB disclosure index
- › TCFD disclosure index
- › UNGC communication on progress
- › Advisories



# Performance data

Our sustainability performance data provides annual (Jan. 1 to Dec. 31) operational, environmental, economic, health and safety, and workforce data for 2019, with five-year performance trends where possible. Business segment or facility-level information is also provided, where possible. Environmental performance indicators reflect assets operated by Suncor only, unless otherwise stated. Economic metrics are reported in a manner consistent with our [2019 Annual Report](#). Footnotes provide additional information for specific boundary conditions, changes in methodology, restatements, and definitions, where applicable. Any data point that is accompanied by the (A) symbol has been independently reviewed and assured by Ernst & Young LLP.

Detailed information can also be downloaded on [sustainability.suncor.com](https://sustainability.suncor.com).

Indicators – Suncor company totals	2015	2016	2017	2018	2019
<b>Operational performance<sup>4</sup></b>					
<b>Total upstream and downstream production</b> <i>million m<sup>3</sup>/yr</i>	48.24	44.71	48.53	53.95	<b>55.85 (A)</b>
<b>Total upstream and downstream production</b> <i>million BOE/yr</i>	303.42	281.22	305.24	339.33	<b>351.28 (A)</b>
<b>Upstream processed volumes and net production</b> <i>million m<sup>3</sup> OE/yr</i>	27.29	24.23	27.22	34.19	<b>36.00 (A)</b>
<b>Upstream processed volumes and net production</b> <i>million BOE/yr</i>	171.65	152.40	171.21	215.05	<b>226.40 (A)</b>
<b>Downstream net production</b> <i>million m<sup>3</sup> refined product/yr</i>	27.62	27.23	27.98	26.92	<b>27.57 (A)</b>
<b>Downstream net production</b> <i>million BOE/yr</i>	173.72	171.27	175.99	169.32	<b>173.42 (A)</b>
<b>Ethanol production</b> <i>million litres of ethanol product/yr</i>	417.91	414.39	407.80	402.00	<b>399.57</b>
<b>Wind energy generated</b> <i>MWh</i>	313,283	106,912	76,589	100,850	<b>98,419</b>
<b>Greenhouse gas (GHG) and energy<sup>5,6</sup></b>					
<b>GHG (Scope 1 and 2) emissions</b> <i>thousand tonnes CO<sub>2</sub>e</i>	20,480	18,739	19,874	21,990	<b>22,777 (A)</b>
GHG (Scope 1) emissions <i>thousand tonnes CO<sub>2</sub>e</i>	–	–	–	20,577	<b>21,432</b>
GHG (Scope 2) emissions <i>thousand tonnes CO<sub>2</sub>e</i>	–	–	–	1,413	<b>1,345</b>
<b>GHG emissions intensity</b> <i>kg/bbl</i>	65	63	63	62	<b>62 (A)</b>
<b>GHG (Scope 3) emissions</b> <i>thousand tonnes CO<sub>2</sub>e</i>	1,549	1,623	1,881	1,525	<b>1,607</b>
<b>Energy use</b> <i>million GJ</i>	310.40	285.80	301.98	336.10	<b>346.31</b>
Direct energy use <i>million GJ</i>	301.00	276.00	287.89	328.30	<b>340.33</b>
Indirect energy use <i>million GJ</i>	9.78	10.02	14.08	7.78	<b>5.98</b>
<b>Energy intensity</b> <i>GJ/bbl</i>	1.02	1.02	0.99	0.99	<b>0.99</b>

## Performance data

Indicators – Suncor company totals	2015	2016	2017	2018	2019
<b>Low-carbon cogen power generation</b> <i>MWh</i>	5.50	4.96	4.88	7.15	<b>6.54</b>
<b>Low-carbon cogen power export</b> <i>MWh</i>	3.03	2.76	2.33	3.69	<b>3.33</b>
<b>Air emissions<sup>7</sup></b>					
<b>SO<sub>2</sub> emissions</b> <i>thousand tonnes</i>	18.40	21.10	20.51	20.50	<b>20.78</b>
<b>SO<sub>2</sub> emissions intensity</b> <i>kg/bbl</i>	0.06	0.07	0.07	0.06	<b>0.06</b>
<b>NO<sub>x</sub> emissions</b> <i>thousand tonnes</i>	27.90	24.90	26.64	33.29	<b>36.98</b>
<b>NO<sub>x</sub> emissions intensity</b> <i>kg/bbl</i>	0.09	0.09	0.09	0.10	<b>0.11</b>
<b>VOC emissions</b> <i>thousand tonnes</i>	21.10	19.50	23.14	25.96	<b>21.30</b>
<b>VOC emissions intensity</b> <i>kg/bbl</i>	0.07	0.07	0.08	0.08	<b>0.06</b>
<b>Water use<sup>8</sup></b>					
<b>Water withdrawal</b> <i>million m<sup>3</sup></i>	142.47	162.18	105.07	144.69	<b>143.43 (A)</b>
Surface water withdrawal <i>million m<sup>3</sup></i>	118.92	124.78	74.90	106.88	<b>110.99</b>
Groundwater withdrawal <i>million m<sup>3</sup></i>	2.72	2.51	2.26	3.13	<b>3.92</b>
Municipality / city / district water withdrawal <i>million m<sup>3</sup></i>	4.27	4.22	4.20	4.12	<b>4.16</b>
Treated wastewater withdrawal <i>million m<sup>3</sup></i>	1.51	1.37	1.60	1.52	<b>1.74</b>
Industrial run off water withdrawal <i>million m<sup>3</sup></i>	15.05	29.30	22.10	29.04	<b>22.61</b>
<b>Water withdrawal intensity</b> <i>m<sup>3</sup>/m<sup>3</sup></i>	2.95	3.63	2.16	2.68	<b>2.57 (A)</b>
<b>Water returned</b> <i>million m<sup>3</sup></i>	97.46	105.12	65.99	77.44	<b>77.10</b>
<b>Water consumption</b> <i>million m<sup>3</sup></i>	45.33	57.19	39.07	67.24	<b>66.33</b>
<b>Water consumption intensity</b> <i>m<sup>3</sup>/m<sup>3</sup></i>	0.94	1.28	0.81	1.25	<b>1.19</b>
<b>Fresh water consumption</b> <i>million m<sup>3</sup></i>	35.90	36.80	22.40	46.52	<b>51.60</b>
<b>Fresh water consumption intensity</b> <i>m<sup>3</sup>/m<sup>3</sup></i>	0.74	0.82	0.46	0.86	<b>0.92</b>

## Performance data

Indicators – Suncor company totals	2015	2016	2017	2018	2019
<b>Land disturbance and reclamation<sup>10</sup></b>					
<b>Total land disturbed</b> <i>cumulative hectares</i>	23,757	23,613	23,960	33,772	<b>34,525</b>
<b>Total land reclaimed</b> <i>cumulative hectares</i>	2,154	2,140	2,239	2,621	<b>2,795</b>
<b>Waste<sup>9</sup></b>					
<b>Total waste generated</b> <i>thousand tonnes</i>	2,391	2,148	2,123	2,487	<b>2,420</b>
<b>Hazardous waste generated</b> <i>thousand tonnes</i>	1,992	1,982	999	983	<b>1,049</b>
Hazardous waste incinerated <i>thousand tonnes</i>	2.38	3.60	3.54	4.14	<b>3.46</b>
Hazardous waste deep well injection <i>thousand tonnes</i>	1,980	1,963	985	958	<b>1,010</b>
Hazardous waste landfilled <i>thousand tonnes</i>	5.70	12.01	7.25	6.16	<b>7.55</b>
Hazardous waste otherwise disposed or treated <i>thousand tonnes</i>	4.09	3.15	3.27	15.04	<b>28.22</b>
<b>Non-hazardous waste generated</b> <i>thousand tonnes</i>	399	167	1,124	1,503	<b>1,371</b>
Non-hazardous waste incinerated <i>thousand tonnes</i>	1.56	0.69	0.09	0.17	<b>0.02</b>
Non-hazardous waste deep well injection <i>thousand tonnes</i>	0.80	0.87	986.85	1,315	<b>1,174</b>
Non-hazardous waste landfilled <i>thousand tonnes</i>	383	161	135	179	<b>184</b>
Non-hazardous waste otherwise disposed or treated <i>thousand tonnes</i>	13.92	4.27	1.62	9.71	<b>13.08</b>
<b>Waste recycled, reused or recovered</b> <i>thousand tonnes</i>	135.00	123.00	71.00	96.18	<b>151.82</b>
<b>Environmental compliance<sup>11</sup></b>					
<b>Environmental non-compliance</b> #	–	5	4	8	<b>7</b>
<b>Environmental regulatory fines</b> <i>thousand CND\$</i>	–	275	413	282	<b>113</b>
<b>Significant spills</b> #	–	0	0	0	<b>0</b>
<b>Economic<sup>14</sup></b>					
<b>Revenues and other income</b> <i>\$ millions</i>	29,680	26,968	32,079	38,986	<b>38,989</b>
<b>Operating, selling and general expense (OS&amp;G)</b> <i>\$ millions</i>	8,607	9,150	9,245	10,573	<b>11,244</b>
<b>Employee costs</b> <i>\$ billions</i>	3.30	3.40	3.20	3.30	<b>3.60</b>

## Performance data

Indicators – Suncor company totals	2015	2016	2017	2018	2019
<b>Royalties and taxes paid</b> <i>\$ millions</i>	1,805	105	1,489	1,695	<b>2,555</b>
<b>Distribution to shareholders</b> <i>\$ millions</i>	2,565	2,889	3,069	3,230	<b>3,439</b>
<b>Economic value retained</b> <i>\$ millions</i>	16,677	14,789	18,249	23,488	<b>21,751</b>
<b>Enterprise value</b> <i>\$ billions</i>	67	89	89	76	<b>81</b>
<b>Capital and exploration expenditures</b> <i>\$ millions</i>	6,667	6,582	6,551	5,406	<b>5,558</b>
<b>Political donations</b> <i>\$ thousands</i>	15	3	0	0	<b>0</b>
<b>Purchases of goods and services</b> <i>\$ billions</i>	12.80	11.91	11.64	10.62	<b>9.90</b>
<b>Total Indigenous supplier – spend</b> <i>\$ millions</i>	599	445	521	703	<b>836</b>
Indigenous supplier – spend direct <i>\$ millions</i>	593	428	497	628	<b>804</b>
Indigenous supplier – spend indirect <i>\$ millions</i>	6	17	24	21	<b>32</b>
<b>Community investments<sup>15</sup></b>					
<b>Total contributions to charitable, non-charitable and community groups</b> <i>\$ thousands</i>	26,346	33,800	26,557	28,980	<b>33,102</b>
Value of cash donations <i>\$ thousands</i>	24,425	22,843	25,466	27,843	<b>32,747</b>
Value of time donations <i>\$ thousands</i>	408	83	800	161	<b>160</b>
Value of in-kind donations <i>\$ thousands</i>	382	10,873	291	1,137	<b>187</b>
Value of management cost donations <i>\$ thousands</i>	988	953	994	1,143	<b>1,378</b>
Value of external resources leveraged <i>\$ thousands</i>	143	744	232	945	<b>786</b>
<b>Suncor's donation to the Suncor Energy Foundation (SEF)</b> <i>\$ thousands</i>	4,500	10,164	16,600	18,455	<b>20,255</b>
<b>Suncor Energy Foundation (SEF) donations</b> <i>\$ thousands</i>	16,055	14,881	16,649	15,817	<b>15,143</b>
<b>SunCares Employee Program</b>					
Employee participation %	–	–	27	26	<b>29</b>
Organizations supported #	–	–	1,271	1,377	<b>1,501</b>
Value of Suncor and SEF donations <i>\$ thousands</i>	–	–	1,668	2,822	<b>2,660</b>

## Performance data

Indicators – Suncor company totals	2015	2016	2017	2018	2019
Value of employee personal donations \$ thousands	–	–	1,313	2,719	<b>3,138</b>
Volunteer hours #	–	–	80,706	73,259	<b>96,067</b>
<b>Health and safety<sup>12</sup></b>					
<b>Total lost time injury frequency</b> # per 200,000 hours worked	0.04	0.04	0.03	0.03	<b>0.04</b>
Employee lost time injury frequency # per 200,000 hours worked	0.05	0.04	0.03	0.02	<b>0.06</b>
Contractor lost time injury frequency # per 200,000 hours worked	0.04	0.05	0.04	0.03	<b>0.03</b>
<b>Total recordable injury frequency</b> # per 200,000 hours worked	0.45	0.33	0.40	0.37	<b>0.39</b>
Employee recordable injury frequency # per 200,000 hours worked	0.27	0.27	0.30	0.29	<b>0.39</b>
Contractor recordable injury frequency # per 200,000 hours worked	0.56	0.36	0.45	0.41	<b>0.41</b>
<b>Fatalities</b> #	0	0	1	0	<b>1</b>
<b>Tier 1 and 2 loss of primary containment events</b> #	180	87	46	45	<b>38</b>
<b>Workforce<sup>13</sup></b>					
<b>Suncor employees</b> #	13,235	13,243	12,649	12,626	<b>13,718</b>
Full-time employees #	13,042	12,888	12,389	12,317	<b>13,004</b>
Part-time employees #	97	121	111	98	<b>97</b>
Temporary/casual employees #	96	252	149	211	<b>617</b>
<b>Long-term contractors</b> #	2,663	757	809	559	<b>2,216</b>
<b>Unionized workforce</b> %	34.50	34.60	32.80	33.20	<b>31.62</b>
<b>Women</b> %	23.40	24.50	23.80	23.20	<b>24.73</b>
<b>Men</b> %	75.70	75.50	76.20	76.80	<b>75.27</b>
<b>Indigenous Peoples</b> %	1.60	1.90	3.00	3.10	<b>3.24</b>
<b>Visible minorities</b> %	10.30	12.60	14.70	12.60	<b>11.79</b>
<b>Persons with disabilities</b> %	0.50	0.80	0.700	0.70	<b>0.73</b>

## Performance data

Indicators – Suncor company totals	2015	2016	2017	2018	2019
<b>Women in management</b> %	24	29	27	28	<b>34</b>
<b>New employee hires</b>					
Male new employee hires %	70.70	77.00	76.90	69.70	<b>73.01</b>
Female new employee hires %	29.30	23.00	23.10	30.30	<b>26.99</b>
<b>Employee turnover</b> %	7.60	7.00	5.80	6.00	<b>4.76</b>
Male employee turnover %	6.50	6.40	5.40	5.80	<b>4.37</b>
Female employee turnover %	11.30	8.90	7.10	6.80	<b>5.11</b>
<b>Percentage of basic salary</b> %	–	–	–	–	<b>97</b>
Management %	–	–	–	–	<b>96</b>
Individual contributor %	–	–	–	–	<b>97</b>

# Performance data footnotes

## 1 Overview

Performance data provided throughout our Report on Sustainability in tables and graphs includes social, environmental and economic indicators from the 2019 reporting year with five-year trends, where feasible. Economic data is reported in a consistent manner with our 2019 Annual Report. These notes provide additional details on boundary conditions, and changes in methodologies, definitions, business segment structure changes or changes to historical data. We also implement our own internal guidelines and definitions for data gathering and reporting.

## 2 Reporting boundaries

Other than royalties, which represent Suncor's proportionate share of joint operations, environmental and social performance data is collected and reported for all facilities operated by Suncor (100%, not adjusted for Suncor's ownership share), and our joint venture interests operated by other organizations are not included. Facilities are subject to annual planned and unplanned maintenance activities, which may impact consistent year-over-year trends. Facilities that are purchased and subsequently operated by Suncor in the middle of a reporting year are pro-rated based on the date of operatorship.

## 3 Summary of business segments and operations included in performance data:

- a. Suncor-totals reflect consolidation of data where relevant and applicable.
- b. Upstream (Oil Sands Base) include Millennium and North Steepbank mining, extraction and integrated upgrading facilities, integrated Poplar Creek cogeneration facility (owned and operated by Suncor as of 2015), and associated infrastructure for these assets, but does not include Syncrude.
- c. Upstream (Fort Hills)
- d. Upstream (Oil Sands In Situ operations) data includes oil sands bitumen production from Firebag and MacKay River operations and supporting infrastructure.
- e. Upstream Exploration and Production (E&P) includes:
  - E&P Terra Nova FPSO vessel situated off the east coast of Canada.
  - E&P North America Onshore natural gas assets operated by Suncor. Assets were significantly divested from 2013 to 2015 and in 2018 Suncor sold its mineral land holdings in north-eastern British Columbia to Cambrium Energy Inc.
  - Additional information about our E&P business can be found at [www.suncor.com](http://www.suncor.com).
- f. Downstream (Refining and Logistics) includes refining operations in Montreal, Sarnia, Edmonton, and Commerce City Colo. Suncor previously operated a lubricants business in Mississauga, Ont, which was sold Feb. 1, 2017. 2017 performance data reflects this sale. Other assets include a petrochemical plant and sulphur recovery facility in Montreal, and product pipelines and terminals in Canada. Additional information about our downstream business is available at [www.suncor.com](http://www.suncor.com).
- g. Renewables includes wind power facilities operated by Suncor, and in graphs are reported with the St. Clair ethanol plant, located in Ontario.

## 4 Notes on operational performance and production

- a. See "Advisories," as barrels of oil equivalent and cubic metres of oil equivalent may be misleading indicators of value.
- b. Oil Sands Base production is gross sweet and sour synthetic crude oil associated with mining, extraction and upgrading and includes unprocessed volumes. This may be different than production reported in our 2019 Annual Report.
- c. Fort Hills production is partially upgraded bitumen associated with the paraffinic froth treatment process.
- d. In situ production is net bitumen sales associated with total plant saleable product.
- e. East Coast (Terra Nova) production is total amount of product sold, not flaring or internally produced fuel.
- f. Refining and Logistics net production is reported on a business unit level, where transfers between our facilities have been removed from facility production totals.

## Performance data footnotes

- g. St. Clair ethanol plant production is ethanol produced and converted to cubic metres of oil equivalent, on an energy basis.
- h. Wind energy production is in megawatt hours, from Suncor-operated wind facilities, (100%- not adjusted for ownership).
- i. Our refineries that blend ethanol into gasoline are Sarnia, Montreal, Commerce City and Edmonton.
- j. Production data is inconsistent with our 2019 Annual Report due different reporting boundaries.

## 5 Notes on greenhouse gas emissions (GHG)

### 5.1 GHG emissions factors

Emissions factors allow us to estimate GHG emissions from a unit of available activity data (e.g. quantity of fuel consumed or product produced). The metric we use in our Report on Sustainability for reporting GHG emissions is metric tonnes of carbon dioxide equivalent (CO<sub>2</sub>e). This common unit for reporting GHGs represents volumes of gases that have been studied to have an impact on the global atmosphere. CO<sub>2</sub>e means that individual GHGs have been multiplied by their assessed global warming potential (GWP) compared to carbon dioxide (CO<sub>2</sub>). This report (and our 2015-2019 Reports on Sustainability) uses the 100-year GWPs issued by the Intergovernmental Panel on Climate Change's (IPCC's) fourth assessment report (2007), which aligns to several jurisdictions of GHG reporting, including Environment Canada and the U.S. Environmental Protection Agency.

The major impacts of using the GWPs issued by the IPCC's fourth assessment report are that emissions from methane increase slightly due to an increase in the GWP factor from 21 to 25. Emissions from nitrous oxides (N<sub>2</sub>O) decrease slightly with that factor decreasing from 310 to 298. Other GHGs have also had their GWPs adjusted but have little to no material impact on our total GHG emissions.

### 5.2 Measuring potential GHG emission sources

As an integrated energy company spanning multiple jurisdictions, sectors and operations, we use several different externally developed and publicly accepted emission factor protocols to develop facility-specific emission calculation methodologies. We select the appropriate protocol for the site-specific fuel type and composition, emission source, facility or jurisdiction being considered. As required by regulators and verified by external auditors, we use internationally accepted GHG protocols and methodologies in determining our overall emissions profile.

In addition to using fuel-specific emission factors, some GHG emissions are calculated using process- or equipment-specific consumption rates in units such as run-hours, and not fuel volumes. Many of our sites have complicated processes that require specific emission factors and methodologies to accurately calculate their emissions.

Primarily, our sites use protocols and methodologies that are required by their operating jurisdiction. However, if no prescribed methodology is required, it may be necessary to use a combination of standardized methodologies at a single facility due to site-and sector-specific details that may not be completely covered by a single standard or regulation. On occasion, more accurate emission factors – measured, calculated from compositional data, or manufacturer-supplied – may be available for specific equipment. These are used whenever and wherever appropriate to ensure we gather the best quality data and use the most accurate measures.

Specific emission factors are calculated from actual measured data rather than applying generic estimated default factors as frequently as possible. In other cases, such as when calculating indirect emissions from externally purchased electric power, we use factors primarily from site-specific factors if available, secondarily where prescribed by regulation and finally, from published emission factors for remaining emission sources.

Due to the unique nature of each site, we have more than 1,400 standard emission factors in our Environmental Information Management System that are applied at different sites. This number does not include thousands of additional factors that are calculated daily for different fuels and sites based on fuel composition analysis. These factors give us real-time gas composition and resulting carbon content.

### 5.3 The role of regulation in GHG reporting

Many jurisdictions have, or are in the process of developing, prescriptive regulations that specify which factors can be used. For example, the EPA and regulators in Western Climate Initiative jurisdictions such as Quebec and British Columbia all required operators to use specified factors for the 2019 reporting year.

Alberta requires large emitting facilities to use the standard methodology and emission factors in the Carbon Competitiveness Initiative Regulation (CCIR). Each of our sites that report through the CCIR successfully generated positive (approved) verifications for the 2019 reporting year at a reasonable level of assurance.

## Performance data footnotes

### 5.4 GHG standard practices and methodologies

External agencies have developed industry-accepted standard methodologies that operators can choose to use in the absence of prescribed methods. The standard practices and methodologies we follow are widely accepted, well researched and documented so the numbers produced are verifiable by governments and third parties, and are consistently applied from year to year.

A partial list of these standard methodologies and guidance documents includes:

- American Petroleum Institute Compendium of Greenhouse Gas Emissions Methodologies for the Oil and Natural Gas Industry, 2009
- US EPA Mandatory Greenhouse Gas Reporting Rule
- IPCC Fourth Assessment Report 2007
- World Business Council for Sustainable Development/World Resources Institute Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard 2004
- Environment Canada Greenhouse Gas Inventory 1990 – 2007 Report 2009
- Intergovernmental Panel on Climate Change 2006 Guidelines for National Greenhouse Gas Inventories
- Western Climate Initiative (WCI) Design for the WCI Regional Program, July 2010
- National Renewable Energy Laboratory Life Cycle Assessment of Hydrogen Production via Natural Gas Steam Reforming
- Alberta Quantification Methodologies for the Carbon Competitiveness Incentive Regulation and the Specified Gas Reporting Regulation (Version 1.4)
- O. Reg. 390/18: Guideline for Quantification, Reporting and Verification of Greenhouse Gas Emissions 2019
- Regulation respecting mandatory reporting of certain emissions of contaminants into the atmosphere 2019
- Environment Canada Facility Greenhouse Gas Reporting Program: Canada's Greenhouse Gas Quantification Requirements 2019
- Environment Canada National Inventory Report, 1990-2017
- Canadian Association of Petroleum Producers: Guide Calculating Greenhouse Gas Emissions, April 2003

### 5.5 Additional GHG notes

- a. GHG emissions are calculated using facility-specific and referenced methodologies accepted by the relevant jurisdictions each facility is required to report GHG emissions to. Methodology has been followed where a jurisdiction has a prescribed one and if none exist then the most applicable and accurate methods available are used to quantify each emission source.
- b. Absolute CO<sub>2</sub>e emissions represents the total Scope 1 and 2 emissions with no credit taken for low carbon power production. The power credit above is calculated using the cogeneration power exported to the Alberta grid and the intensity in which this power was generated. It is included in determining the GHG emissions intensities.
- c. The Suncor-total intensity calculation incorporates net facility production, minus internal transfers, resulting in a production value reflective of our product sales to market. Suncor-total intensity will therefore not equal the weighted average of business unit intensities. Upstream intensity is the production-weighted average intensities of our Oil Sands Base, Fort Hills, E&P and Fort Hills assets.
- d. In situ (MacKay River) indirect emissions methodology reported since 2014 include electricity purchased from the grid, purchased electricity and steam from the third-party TransCanada cogen. Firebag cogeneration units are owned and operated by Suncor and therefore all cogen emissions contribute to total direct emissions including emissions associated with generating electricity that is sold to the Alberta grid.
- e. Absolute (total) GHG emissions are the sum of direct and indirect emissions.
- f. Direct (Scope 1) GHG emissions are from sources that are owned or controlled by the reporting company. Refining and Logistics direct emissions do not deduct CO<sub>2</sub> transfers to third parties, such as the food and beverage industries.
- g. Indirect (Scope 2) GHG emissions are energy-related emissions that are a consequence of our operations, but occur at sources owned or controlled by another company (e.g. purchases of electricity, steam, heat, and cooling). The indirect energy calculation methodology credits operations for electricity exported to external users and/or other Suncor facilities. Emissions are calculated based on actual supplier data where possible and published literature where supplier data is unavailable.

## Performance data footnotes

- h. Indirect (Scope 3) GHG emissions include hydrogen purchased from third parties and CO<sub>2</sub> volumes sold from our facilities to third-parties for further processing, and can fluctuate annually depending on supplier demand. This is consistent with provincial government reporting requirements. Additional Scope 3 emissions include:
- aviation (commercial and charter)
  - facilities (Suncor Energy Centre, East Canada and USA)
  - ground transportation services for employees and contractors
  - licensed fleet vehicles on site
  - lodges
- i. Annual variance in indirect (Scope 3) emissions from 2016 to 2019 is attributed to the following:
- reporting more information (more complete data set)
  - emission factors were updated
  - scope changes
  - actual data instead of estimated
- j. Suncor's GHG goal is designed to encourage business choices that reduce Suncor's emissions and the emissions in the global energy system. To support tracking our goal progress, Suncor developed a methodology that includes both direct emissions reductions from our operated assets and indirect reductions from the use of our products. The data in the GHG performance section reflects our owned and operated assets emissions. Direct and indirect CO<sub>2</sub>e emissions are included for this report. No credit is taken for GHG reductions due to internally generated performance credits, purchased offsets, ethanol lifecycle GHG reductions or wind-generated offsets.
- k. Scenario pathways graph: Daniel Huppmann, Elmar Kriegler, Volker Krey, Keywan Riahi, Joeri Rogelj, Steven K. Rose, John Weyant, et al., IAMC 1.5°C Scenario Explorer and Data hosted by IIASA, release 1.1. Integrated Assessment Modeling Consortium & International Institute for Applied Systems Analysis, 2018. Accessed July 9, 2020, doi: <https://doi.org/10.22022/SR15/08-2018.15429>; url: <https://data.ene.iiasa.ac.at/iamc-1.5c-explorer>.

## 6 Notes on energy consumption

- a. Total energy is equal to the sum of direct and indirect energy. Electricity that is produced and sold to the provincial grids by oil sands and in situ cogeneration units and operated wind farms is converted to an equivalent amount in GJs and deducted from total energy use.
- b. Direct energy is primary energy consumed on-site by Suncor operated facilities.
- c. Indirect energy includes imported electricity, steam, heating and cooling from third parties. The indirect energy calculation method credits operations for electricity exported to external users and/or other Suncor facilities.
- d. The energy intensity of renewables business is based on energy input for ethanol production with wind energy production deducted from that total energy input.

## 7 Notes on other air emissions

- a. Air emissions data reported (NO<sub>x</sub>, SO<sub>2</sub>, and VOC) include point and non-point sources.
- b. Fort Hills 2018 VOC emissions were revised based on changes to emission factors and over-reporting of fugitive emissions. An outlier/erroneous value was removed from the fugitive emissions dataset.
- c. We report to the Canadian National Pollutant Release Inventory and the US Toxic Release Inventory annually and additional information on our performance can be found through these reporting mechanisms.
- d. Graphs associated with SO<sub>2</sub>, NO<sub>x</sub> and VOC emissions intensity only include facilities that are material sources of these emissions for our business. Oil Sands estimation accuracy for VOC emissions intensity is greater than +/- 10% and limited by currently accepted methodology and measurement instruments.
- e. The increase in total NO<sub>x</sub> emission intensity was primarily due to increased diesel consumption for the mine fleet as well as higher utilization of the coke boiler following a 2018 scheduled turnaround at Oil Sands Base Plant.

## Performance data footnotes

### 8 Notes on water use and return

- a. Total water withdrawal is the removal or purchase of water from any source, either permanently or temporarily. Also referred to as water abstraction or water intake. Fresh and non-fresh water sources are included.
- b. Total water return is the sum of effluents and other water leaving the organization's boundary and released to surface water, groundwater or to third parties over the course of the reporting year.
- c. Fresh water is characterized by a low total dissolved solids content for which limits are defined by regulation in the jurisdiction of the Suncor activity. Where no regulatory definition of freshwater exists, default to the Alberta Environment limit of freshwater having less than 4000 mg/L of total dissolved solids.
- d. Water consumption is the total water withdrawn minus water returned and reflects quantity of water used and not returned to its proximate source or no longer available in its original form.
- e. Freshwater consumption and intensity graphs: Oil Sands Base Plant and Fort Hills in this graph do not include industrial runoff water, which is subject to annual variances based on precipitation. Withdrawal and consumption including industrial runoff volumes are shown in the performance data tables. Water measurement and estimation methodology on select Refining and Logistics operations is greater than +/- 10% uncertainty.
- f. Freshwater consumption intensity is the volume of fresh water consumed (m<sup>3</sup>) per volume of hydrocarbon produced (m<sup>3</sup>).
- g. Oil Sands base mining water withdrawal includes surface water, groundwater and industrial run-off water as per regulatory withdrawal licences and are subject to annual variances based on precipitation. Water returned comprised treated industrial waste-water and runoff from non-process areas that gets collected, diverted and eventually discharged to the environment (destination is the Athabasca River).
- h. In Situ water withdrawal includes licenced groundwater wells, treated wastewater and industrial run-off water.
- i. East Coast operations water withdrawal includes freshwater (transferred by vessel from St. John's domestic water system) bunkered to the FPSO potable water tanks for domestic use on the facility. It also includes topside seawater intake flow used for process cooling and water injection for production purposes.
- j. Refining and Logistics surface water withdrawal sources and return destinations vary by refinery facility location.
- k. 2019 freshwater consumption increased due to increased production at Fort Hills. Fort Hills is building up water inventory for recycling. As we better understand our operational water use and efficiency at site, we will continue to explore opportunities to further reduce water use.

### 9 Notes on waste management

- a. Waste volumes are dependent on site activities or periodic equipment maintenance and may fluctuate annually.
- b. In Situ waste that is sent to deep well injection is primarily related to blowdown from our SAGD operations at Firebag, consisting of concentrated water impurities that accumulate during the steam generation process. This boiler feedwater is intentionally wasted from the boilers to avoid concentration of impurities during continuing evaporation of steam. Deepwell disposal methods of this nature are safe, viable and part of normal operating parameters and our operations are within the disposal limits for these waste streams (regulated by the Alberta Energy Regulator). Our operations also have exceptionally high water recycle rates, above regulated levels.
- c. Total 2019 waste generated volumes reflect decreased production at in situ sites, decreased construction at Fort Hills and relatively consistent Refining and Logistics operations.
- d. 2019 volumes for waste recycled, reused or recovered increased due to improved waste recycling programs throughout our operations.

### 10 Notes on land disturbance and reclamation/ tailings

- a. Total land disturbed presented in the performance data table represents the total active footprint of our Base Plant mining operations, Fort Hills operations and approved in situ projects, which include the cumulative hectares for areas cleared of vegetation, soil disturbed, ready for reclamation, soils placed, and permanently reclaimed. The categories used are consistent with reporting to the Alberta Energy Regulator in the annual reports.

## Performance data footnotes

- b. Land reclaimed is land that is no longer being used for mine or plant purposes or in situ production purposes and has been permanently or temporarily reclaimed. This value is a subset of the total active footprint. Reclamation is presented as a cumulative number; therefore, the total number of hectares reported from year to year may increase depending on whether reclamation has occurred or whether re-disturbance of previously reclaimed areas was required. Permanently reclaimed lands have met the authorized plans for soil placement and re-vegetation but have not been certified by the Alberta Energy Regulator.
- c. Mining and In Situ reclamation data presented in the land and reclamation graphs:
- Certified land is returned to the Crown and does not count toward the total active footprint
  - Disturbed means soil has been disturbed
  - Cleared means vegetation has been removed and soils are intact
- d. The dam safety regulation in Alberta is through the Water (Ministerial) Regulation and detailed in the Dam and Canal Safety Directive. The regulation and directive governs dam safety requirements for all dams and canals in the province, including defining dam classifications:
- Active is defined as in operation for either ongoing tailings management or progressing to closure
  - Inactive is defined as not in operation but not yet closed
  - Closed is defined as having completed closure activities but still owned by the operator

## 11 Notes on environmental compliance

- a. In 2018, we improved the environmental compliance metrics we report on a company-wide level, which better align with our internal tools, processes and metrics and also to Global Reporting Initiative Standards. Our focus is always in incident prevention, and all spill events are recorded and investigated. Root cause is determined and remedial actions are implemented to minimize risk and chance of recurrence. Historical environmental compliance metrics using this improved methodology aren't available; however, prior year environmental compliance information is accessible in past versions of our Report on Sustainability.
- b. Environmental non-compliance data aligns with our risk matrix (defined by Suncor) and guiding principles for managing risk and reflects at minimum an event triggering a regulatory exceedance or non-compliance, resulting in a regulatory investigation and administrative actions and/or more stringent penalties imposed on Suncor.
- c. Environmental regulatory fines also align to our risk matrix, and reflect financial penalties levied by the regulator or the courts and paid in the reporting year as a result of a regulatory non-compliance or exceedance. This includes administrative penalties, but not enforcement tickets.
- d. Significant spills reflect unplanned or accidental release of material whose impact off property takes longer than seven months to remediate, or on property one year or more to remediate or reclaim. These could be into the environment or into a location that does not usually contain the material, as specified by geographical regulation.
- e. Our enterprise-wide environmental compliance metrics help identify incidents with the greatest environmental and regulatory risk. The intent of these metrics is to learn from environmental incidents to prevent reoccurrence and promote the consistent enterprise-wide application of appropriate mitigations.
- f. In 2019, notice of non-compliance was issued by the regulator for an incident that occurred in 2018; therefore, we have restated 2018 environmental non-compliance for Fort Hills and Suncor-wide performance data.
- g. The sum of fines paid during the reporting period were due to violating waste requirements in the U.S., and for a release that occurred in 2015 at one of the terminals in our Refining and Logistics business.
- h. All compliance information reported in this filing is based on data as of March 1, 2020. Compliance data is subject to restatement for a full year as events are updated and reclassified to ensure consistency and accuracy in publicly available information.

## 12 Notes on health and safety

- a. Downstream Refining and Logistics health and safety data includes our St. Clair ethanol plant. Our U.S. operations use the Occupational Health and Safety Administration definitions to classify their injuries, which differ slightly from Canadian standards.

## Performance data footnotes

- b. Beginning in 2018, the health and safety data reflects the new regional organizational structure for Suncor's operations in the Regional Municipality of Wood Buffalo (RMWB). This now reflects health and safety data for Suncor's Fort Hills operations and the Regional Services organization: a team that provides support services to Suncor's assets in the RMWB.
- c. Lost time injury is a work-related injury that results in lost days from work. Fatalities are included in lost time injuries. Frequency is calculated as the number of lost time injuries multiplied by 200,000 (based on 100 workers working full-time for one year) divided by the actual exposure hours. This tells us how many workers who are injured for every 100. Prime contractor incident data is excluded from this metric.
- d. In 2018, one contractor event which was a medical treatment became a lost time in July 2019. Therefore, we have restated 2018 contractor lost time injury frequency for Regional Services and Suncor-wide performance data.
- e. Recordable injury frequency is the number of recordable injuries (including medical treatment, restricted work access and lost time) multiplied by 200,000 (based on 100 workers working full-time divided by the actual exposure hours). This tells us how many people are injured for every 100 workers in a calendar year. Prime contractor incident data is excluded from this metric.
- f. In 2018, one employee event which was a medical treatment was downgraded to a First Aid by the company physician in September 2019. Therefore we have restated 2018 employee recordable injury frequency for Downstream and Suncor-wide performance data.
- g. Contractors refer to any organization, company or individual who provides goods and/or services to Suncor.
- h. Fatalities are reported for employees and contractors (excluding prime contractors). The prime contractor for a work site is (a) the person in control of the work site; or (b) a person designated in writing by the person in control of the work site. Prime contractors have full care, custody and control meaning they manage their own work and are responsible for maintaining safe working environments. In 2017, a contract worker was fatally injured when inside an excavation. In 2019, we suffered the tragic loss of a contractor colleague at Fort Hills.
- i. Process Safety Tier 1 and 2 Loss of Primary Containment (LOPC) events are unplanned or uncontrolled release of any material from primary containment resulting in consequences as specified by American Petroleum Institute Recommended Practice 754 Second Edition, 2016 and International Association Oil & Gas Producers Report 456: Process Safety Recommended Practice on Key Performance Indicators Version 2.0, 2018. The LOPC data is a sum of Tier 1 and 2 LOPC events.
- j. All health and safety information reported in this filing is based on data as of April 1, 2020. Health and safety data is subject to restatement for a full year as events are updated and reclassified to ensure consistency and accuracy in publicly available information.

## 13 Notes on workforce

- a. New employee hires are any externally hired regular full-time or part-time employee whose permanent start date falls within the reporting period.
- b. Employee turnover is the percentage of employees who leave Suncor under any circumstance in the reporting year. Only terminations are included for full-time and part-time employees.
- c. Suncor employees include regular full-time, regular part-time, students, casuals or temporary employees. Leaves, other than long-term disability, such as maternity, paternity, personal leave, as well as short-term disabilities, are considered active and are included.
- d. Long-term contractors are individual workers engaged as a contractor to support short-term, variable work and have been determined by the number of contractors holding a position at Suncor in the organizational structure
- e. Unionized workforce data is only applicable in areas where there is a unionized environment.
- f. Certain operating regions prohibit collecting information on gender; therefore, diversity data may not reflect our entire workforce due to data availability. Workforce diversity is calculated based on information provided voluntarily by employees. Indicators referring to ethnicity and disability reflect only those employees who consented to release this information.
- g. Women in management is classified as members of the management committee or members of the corporate committee. In 2019, calculation methodology was updated and data has been restated for 2015 to 2018.
- h. All workforce information reported in this filing is based on data as of April 1, 2020. Workforce data is not consistent with the 2019 Annual Report, as data has been updated and reclassified to ensure accuracy in publicly available information.

## Performance data footnotes

- i. Ratio of basic salary and remuneration of women to men:
  - For the purpose of this calculation females are the numerator and males are the denominator.
  - Ratio only reflects full-time and part-time, salaried, and non-unionized employees.
  - Unknown genders are not included in the ratio calculation.
  - Salary band is used to calculate the ratio at each band level to group similarly paid individuals. A weighted average is applied to each band level to obtain the overall ratio for Individual Contributors and Management categories.
  - Annual salary conversion was applied to all countries based on finance department's guidance on usage of the average yearly exchange rate for each currency.
  - Management is defined by the following leadership levels: front-line leaders, mid-level leaders, management committee and corporate committee.
  - Individual contributors are defined as positions with no direct reports.

## 14 Notes on economic performance

- a. Select economic figures have been calculated according to the International Financial Reporting Standards. For complete disclosure of our financial information, see our 2019 Annual Report.
- b. Operating, Selling and General (OS&G) expenses are subject to historical restatements due to reclassifications within our income statement. Employee costs are reported in our annual report under OS&G and include salaries, benefits and share-based compensation. Typically a portion of employee costs are capitalized as part of fixed assets.
- c. Royalties and taxes paid include monies remitted to government, including income, property, and other taxes, Crown royalties, and lease bonuses and rentals.
- d. Under GRI Standard 201-1, economic value retained reflects the direct economic value generated (revenues) minus economic value distributed (operating costs (including employee costs), taxes and royalties paid, distribution to shareholders and community investments).
- e. Capital and exploration expenditures includes capitalized interest.
- f. As of June 1, 2016, Suncor no longer makes political contributions as a matter of policy, except in exceptional circumstances. Any such contributions will continue to be disclosed in this report.
- g. Indigenous supplier-spend:
  - Direct spend is considered contracting work directly with an Indigenous business that includes those with a minimum of 51% ownership by Indigenous individuals or organizations.
  - Indirect spend is considered contracting with a non-Indigenous supplier who sub-contracts to an Indigenous business that is greater than or equal to 51% owned for work that is being performed on behalf of Suncor, contracting with an Indigenous supplier who has a minority ownership in a non-Indigenous business, or a non-Indigenous supplier who has a commercial agreement where revenue received from work being performed for Suncor goes back to the community.
- h. Values reported for Indigenous supplier revenues reflect amounts captured in our enterprise software data management system, minus 5% GST.
- i. Inclusion of contracts in the reporting year is based on the payment date, not the date of services rendered.
- j. In prior years, the enterprise value was mistakenly reported as market capitalization, with the difference between the two being that enterprise value includes debt and deducts cash and cash equivalents. Going forward, we will continue to report the enterprise value. For disclosure on market capitalization, see our 2019 Annual Report.

## 15 Notes on community investments

- a. Since 2014, values for community investments are calculated by Suncor and the Suncor Energy Foundation (SEF). The SEF is audited annually by KPMG. The value of total contributions includes cash, volunteer rewards and in-kind donations; also as of 2019 this includes Suncor's contribution through Syncrude community investment.

## Performance data footnotes

- b. Value of time donations is reported by employees to Suncor voluntarily. The hours represent hours volunteered during working hours.
- c. Value of management cost donations from 2015 to 2019 is for SEF only.
- d. External resources leveraged represents cash and in-kind value generated as a result of Suncor's involvement, but which is not a cost to the company (e.g. employee contributions through our SunCares employee programs, food donations, and matching donations from other funders).
- e. The SEF is limited to providing donations to registered Canadian charitable organizations, and Suncor's contribution to SEF represents donations, operating budget and appropriate allocations to a reserve fund which protects multi-year commitments going forward.
- f. Suncor launched a new SunCares employee program in 2017, and prior year data is not available. Suncor and SEF donations include corporate and volunteer rewards, matching donations and the value of volunteer time during work hours. Employee personal donations include employee and retiree donations and donations made through the public SunCares Community Impact Portal.

# Independent assurance statement



Ernst & Young LLP  
Calgary City Centre  
2200 – 215 2nd Street SW  
Calgary, Alberta  
Canada T2P 1M4

Tel: +1 403-290-4100  
Web: [www.ey.com](http://www.ey.com)

To the Board of Directors and Management of Suncor Energy Services Inc. (Suncor)

## Scope of our engagement

Our responsibilities included providing limited assurance over a selection of performance indicators as presented in Suncor's 2020 Report on Sustainability (the Report).

## Subject matter

We have performed limited assurance procedures for the following quantitative performance indicators as presented in the respective sections of the Report and the overall performance data tables for the year ended December 31, 2019 (the Subject Matter). Unless otherwise noted, the indicators were assured on a corporate-wide basis.

- Total upstream and downstream production (55.85 million m<sup>3</sup>/year)
- Upstream net production (36.00 million m<sup>3</sup> OE/year)
- Downstream net production (27.57 million m<sup>3</sup> refined product/year)
- Greenhouse Gas (GHG) Scope 1 and 2 emissions (22,777 thousand tonnes CO<sub>2</sub>e)
- GHG emissions intensity (62 kg CO<sub>2</sub>e/ bbl production)
- Water withdrawal (143.43 million m<sup>3</sup>)
- Water withdrawal intensity (2.57 m<sup>3</sup>/m<sup>3</sup>)
- Employee and Contractor fatalities (1 fatality)
- Total land disturbed (Oil Sands Base plant and Fort Hills) (32,704 cumulative hectares)
- Total land reclaimed (Oil Sands Base plant only) (2,400 cumulative hectares)

## Criteria

Suncor has prepared its performance data in accordance with the Global Reporting Initiative (GRI) GRI Sustainability Reporting Standards (GRI Standards) and internally developed criteria (the Criteria).

## Suncor management responsibilities

The Report was prepared by the management of Suncor, who is responsible for the assertions, statements, and claims made therein including the assertions we have been engaged to provide limited assurance over, collection, quantification and presentation of the performance indicators and the criteria used in determining that the information is appropriate for the purpose of disclosure in the Report. In addition, management is responsible for maintaining adequate records and internal controls that are designed to support the reporting process.

## Our responsibilities

Our limited assurance procedures have been planned and performed in accordance with the International Standard on Assurance Engagements (ISAE) 3000 "Assurance Engagements other than Audits or Reviews of Historical Financial Information".

Our procedures were designed to obtain a limited level of assurance on which to base our conclusion. The procedures conducted do not provide all the evidence that would be required in a reasonable assurance engagement and, accordingly, we do not express a reasonable level of assurance.

## Independent assurance statement

While we considered the effectiveness of management's internal controls when determining the nature and extent of our procedures, our assurance engagement was not designed to provide assurance on internal controls and, accordingly, we express no conclusions thereon.

This assurance statement has been prepared for Suncor for the purpose of assisting management in determining whether the Subject Matter is in accordance with the Criteria and for no other purpose. Our assurance statement is made solely to Suncor in accordance with the terms of our engagement. We do not accept or assume responsibility to anyone other than Suncor for our work, or for the conclusions we have reached in this assurance statement.

## Assurance procedures

We planned and performed our work to obtain all the evidence, information and explanations considered necessary in relation to the above scope. Our assurance procedures included but were not limited to:

- Interviewing relevant personnel at the head office and at various sites to understand data management processes related to the selected performance indicators.
- Checking the accuracy of calculations performed – on a test basis – primarily through inquiry, variance analysis and performance of re-calculations.
- Checking that data and statements have been correctly transcribed from the corporate system into the Report.
- Assessing risk of material misstatement due to fraud or errors relating to the selected performance indicators.
- Evaluating the overall presentation of the Report, including the consistency of the Subject Matter.

## Limitations of our work performed

Our scope of work did not include expressing conclusions in relation to:

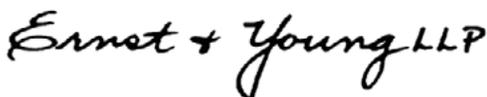
- The materiality, completeness or accuracy of data sets or information relating to areas other than the Subject Matter, and any site-specific information.
- Information reported outside of the Report.
- Management's forward-looking statements.
- Any comparisons made by Suncor against historical data.
- The appropriateness of definitions for internally developed criteria.

## Independence and competency statement

In conducting our engagement, we have complied with the applicable requirements of the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants (IESBA).

## Our conclusion

Based on our procedures for this limited assurance engagement as outlined above, nothing has come to our attention that causes us to believe that the Subject Matter is not, in all material respects, reported in accordance with the relevant criteria.

The signature of Ernst & Young LLP is written in a cursive, handwritten style in black ink.

Ernst & Young LLP  
Calgary, Canada

July 14, 2020

# GRI and SASB disclosure index

This Report on Sustainability has been prepared in accordance with:

- the Core option of the **Global Reporting Initiative (GRI)** Standards with additional use of the GRI's Oil and Gas Sector Disclosures.

This index describes:

- which GRI Standards and material topics have been covered in this report
- where to find additional information in this report, other public disclosures, or omissions
- standards that have been externally assured
- the **Sustainability Accounting Standards Board (SASB)** as the most relevant to long-term value creation for the industry we operate in. We value disclosure as a foundational activity for investor engagement and support efforts which seek to drive consistency and comparability of sustainability performance data. Due to the integrated nature of our business, we've elected to refer to several SASB standards including Metals and Mining, Oil & Gas – Exploration & Production, and Oil & Gas – Refining and Logistics. Any values that

are classified within the Midstream categorization will be included within the Refining and Logistics section. We'll continue to evaluate additional SASB metrics for potential disclosure in future reports.

The disclosure index below contains information and additional links that relate to specific content within the 2020 Report on Sustainability and other annual disclosures published by Suncor Energy, which supply useful information for gathering a full understanding of the company.

Legend:

- ROS – Suncor's 2020 Report on Sustainability
- CRRR – Suncor's 2020 Climate Risk and Resilience Report
- AIF – Annual Information Form dated February 26, 2020
- MPC – Suncor's 2020 Management Proxy Circular
- AR – Suncor's 2019 Annual Report
- CDP Climate – Suncor's 2020 CDP Climate Change Response
- CDP Water – Suncor's 2020 CDP Water Security Response

SASB code	GRI code	Description	Response, link or additional information
<b>General</b>			
	102-1	Name of the organization	Suncor Energy Inc.
	102-2	Activities, brands, products, and services	ROS – Operations summary
	102-3	Location of headquarters	Calgary, Alberta (Canada)
	102-4	Location of operations	ROS – Operations summary
	102-5	Ownership and legal form	<a href="#">AIF (p. 5)</a>
	102-6	Markets served	ROS – Operations summary
	102-7	Scale of the organization	ROS – Operations summary ROS – Performance data <a href="#">AR (p. 3)</a>
EM-MM-000.B	102-8	Information on employees and other workers	ROS – Performance data
	102-9	Supply chain	ROS – Supply chain
	102-10	Significant changes to the organization and its supply chain	ROS – Performance data <a href="#">AR (pp. 29-31)</a>
	102-11	Precautionary Principle or approach	ROS – Our purpose
	102-12	External initiatives	ROS – Engagement

## GRI and SASB disclosure index

SASB code	GRI code	Description	Response, link or additional information
	102-13	Membership of associations	<p>The following is a list of organizations and trade associations of which we are a member and that may engage in lobbying of governments.</p> <p>\$50K - \$100K</p> <ul style="list-style-type: none"> <li>• Business Council of Canada</li> <li>• Canadian Chamber of Commerce</li> <li>• Canadian Manufacturers and Exporters</li> <li>• Ceres</li> <li>• Colorado Petroleum Association</li> <li>• Colorado Oil and Gas Association</li> <li>• Denver Metro Chamber of Commerce</li> <li>• Industrial Gas Users Association</li> <li>• Public Policy Forum</li> <li>• Resource Works Society</li> <li>• Strathcona Industrial Association</li> <li>• World Economic Forum</li> </ul> <p>&gt;\$100K</p> <ul style="list-style-type: none"> <li>• Canadian Propane Association</li> <li>• American Fuel and Petrochemical Manufacturers</li> <li>• Canadian Association of Petroleum Producers</li> <li>• Canadian Fuels Association</li> <li>• Canada's Oil Sands Innovation Alliance</li> <li>• Colorado Asphalt Pavement Association</li> <li>• International Association of Oil and Gas Producers</li> <li>• Canadian Propane Association</li> <li>• Sarnia &amp; Lambton Environmental Association</li> </ul> <p>For a listing of the groups that receive funding from the Suncor Energy Foundation, please refer to the <a href="#">Canada Revenue Agency</a> website and search for Suncor.</p> <p>Additional information:            ROS – Engagement            ROS – Performance data</p>
	102-14	Statement from senior decision-maker	ROS – CEO message
	102-15	Key impacts, risks, and opportunities	ROS – Corporate governance ROS – Economic impact ROS – Performance data ROS – Risk management ROS – Sustainability goals CRRR <a href="#">AR (pp. 59-69)</a>
	102-16	Values, principles, standards, and norms of behavior	Our commitment to integrity and ethics is the foundation for our Standards of Business Conduct code and the company policy guidance and standards that reinforce it. <a href="#">Suncor's purpose and values</a> <a href="#">The Way We Do Business</a> <a href="#">Standards of Business Conduct Statement</a>
	102-17	Mechanisms for advice and concerns about ethics	Our commitment to integrity and ethics is the foundation for our Standards of Business Conduct code and the company policy guidance and standards that reinforce it. <a href="#">Suncor's purpose and values</a> <a href="#">The Way We Do Business</a> <a href="#">Standards of Business Conduct Statement</a>

## GRI and SASB disclosure index

SASB code	GRI code	Description	Response, link or additional information
<b>Governance</b>			
	102-18	Governance structure	ROS – Corporate governance <a href="#">MPC – Schedule B: Corporate Governance Summary (p. B-1)</a>
	102-19	Delegating authority	<a href="#">MPC – Schedule B: Corporate Governance Summary: Risk Oversight (pp. B-8 to B-9)</a>  Additionally, a Strategic Issues Management Process is in place to effectively manage our strategic issues. The process identifies, monitors and manages key environmental, economic and social issues most critical to our business and our external stakeholders and sets up a governance system to oversee the management of the issues.
EM-EP-530a.1 EM-RM-530a.1	102-20	Discussion of corporate positions related to government regulations and/or policy proposals that address environmental and social factors affecting the industry	ROS – Corporate governance  We have several senior leadership positions whose roles include sustainability oversight in the organization, including but not limited to: <ul style="list-style-type: none"> <li>• chief sustainability officer (directly reports to the CEO)</li> <li>• general manager, sustainability</li> <li>• general manager, Indigenous &amp; community relations</li> </ul>
	102-21	Consulting stakeholders on economic, environmental, and social topics	ROS – Engagement ROS – About our report <a href="#">MPC – Schedule B: Corporate Governance Summary, Stakeholder Communications and Shareholder Engagement</a>
	102-22	Composition of the highest governance body and its committees	<a href="#">AIF – Directors and executive officers (pp. 74-79)</a>
	102-23	Chair of the highest governance body	<a href="#">MPC – Schedule C: Position description for independent board chair (p. C-1)</a>
	102-24	Nominating and selecting the highest governance body	<a href="#">MPC – Schedule B: Corporate Governance Summary (pp. B2 to B3)</a> <a href="#">MPC – Schedule C: Position description for independent board chair (p. C-1)</a> <a href="#">MPC – Schedule E: Board Terms of Reference (p. E-3)</a>
	102-25	Conflicts of interest	<a href="#">MPC – Schedule B: Corporate Governance Summary – Conflicts of Interest (pp. B-14 to B-15)</a>
	102-26	Role of highest governance body in setting purpose, values, and strategy	<a href="#">MPC – Schedule E: Board Terms of Reference – Part IV: Mandate of the Board of Directors (pp. E-4 to E-5)</a>
	102-27	Collective knowledge of highest governance body	<a href="#">MPC – Schedule B: Corporate Governance Summary – Orientation and Continuing Education (pp. B-13 to B-14)</a> ROS – Corporate governance  Additionally, our Board of Directors receives periodic reports from our chief sustainability officer. The Environment, Health, Safety & Sustainable Development committee of the board also receives quarterly updates and stewardship on our priority sustainability issues.
	102-28	Evaluating the highest governance body's performance	The board completes an annual self-evaluation. <a href="#">MPC – Schedule B: Corporate Governance Summary – Annual Evaluation Process (pp. B-5 to B-6)</a>  Specific information about topics reviewed and action plans that are developed are confidential and not reported.
	102-29	Identifying and managing economic, environmental, and social impacts	The board oversees Suncor's Enterprise Risk Management program. <a href="#">MPC – Schedule B: Corporate Governance Summary – Risk Oversight (pp. B-8 to B-9)</a>

## GRI and SASB disclosure index

SASB code	GRI code	Description	Response, link or additional information
	102-30	Effectiveness of risk management processes	The board oversees Suncor's Enterprise Risk Management program. <a href="#">MPC – Schedule B: Corporate Governance Summary – Risk Oversight (pp. B-8 to B-9)</a>
	102-31	Review of economic, environmental, and social topics	The board oversees Suncor's Enterprise Risk Management program. <a href="#">MPC – Schedule B: Corporate Governance Summary – Risk Oversight (pp. B-8 to B-9)</a>
	102-32	Highest governance body's role in sustainability reporting	Our Executive Leadership Team, including the CEO, review and approve this report before publication.
	102-33	Communicating critical concerns	Issues of concern are elevated through the Strategic Issues Management Process to a senior leadership governance body. The Environment, Health, Safety & Sustainable Development committee of the board also reviews the effectiveness to which we achieve objectives pertaining to the environment, health, safety and sustainable development. This committee also receives a quarterly update and stewardship on our priority sustainability issues.
	102-34	Nature and total number of critical concerns	Throughout 2019, key issues remained focused on climate change, water and engagement activities with local stakeholders and Indigenous communities. In-depth discussions, goal setting and initiatives to address these issues have been ongoing and will continue to evolve.  ROS – About our report
	102-35	Remuneration policies	<a href="#">MPC - Board of Directors Compensation and Executive Compensation, (pp. 15-51)</a>
	102-36	Process for determining remuneration	<a href="#">MPC - Board of Directors Compensation and Executive Compensation, (pp. 15-51)</a>
	102-37	Stakeholders involvement in remuneration	<a href="#">MPC - Advisory Vote on Approach to Executive Compensation (p. 14)</a>
<b>Stakeholder engagement</b>			
	102-40	List of stakeholder groups	Our stakeholders include: <ul style="list-style-type: none"> <li>• Indigenous Peoples</li> <li>• landowners and local community residents</li> <li>• trappers</li> <li>• shareholders</li> <li>• all levels of government</li> <li>• regulators</li> <li>• non-government organizations and environmental groups</li> <li>• community investment partners</li> <li>• business groups</li> <li>• customers and suppliers</li> <li>• employees</li> </ul> ROS – Engagement
EM-MM-310a.1	102-41	Percentage of active workforce covered under collective-bargaining agreements	31.6% ROS – Performance data
EM-MM-310a.2		Number and duration of strikes and lockouts	No work stoppages occurred in the reporting year due to strikes or lockouts
	102-42	Identifying and selecting stakeholders	ROS – Engagement
	102-43	Approach to stakeholder engagement	ROS – Engagement

## GRI and SASB disclosure index

SASB code	GRI code	Description	Response, link or additional information
	102-44	Key topics and concerns raised	ROS – About our report ROS – Indigenous relations ROS – Personal and process safety ROS – Water stewardship CRRR
<b>Reporting practices</b>			
	102-45	Entities included in the consolidated financial statements	<a href="#">AR (p. 28-30)</a>
	102-46	Defining report content and topic Boundaries	ROS – About our report ROS – Performance data
	102-47	List of material topics	ROS – About our report
	102-48	Restatements of information	Re-statements of information and associated justifications provided in earlier reports can be found in the footnotes of the 2020 Report on Sustainability, which support the performance data table.
	102-49	Changes in reporting	Significant changes from previous reporting periods in scope, boundary or measurement methods can be found in the 2020 Report on Sustainability notes supporting our performance data table.
	102-50	Reporting period	Jan. 1 – Dec. 31, 2019 (unless otherwise stated)
	102-51	Date of most recent report	July, 2020
	102-52	Reporting cycle	Annual
	102-53	Contact point for questions regarding the report	1-866-SUNCOR-1 (1-866-786-2671) or email us at <a href="mailto:sustainability@suncor.com">sustainability@suncor.com</a>
	102-54	Claims of reporting in accordance with the GRI Standards	ROS – About our report
	102-55	GRI content index	The GRI content index is included in the appendix to Suncor's 2020 Report on Sustainability or is available for download on <a href="https://sustainability.suncor.com">sustainability.suncor.com</a>
	102-56	External assurance	An independent third-party has provided assurance on selected key performance indicators for our Report on Sustainability. The assurance report and indicators that were reviewed can be found in the appendix to Suncor's 2020 Report on Sustainability or is available for download on <a href="https://sustainability.suncor.com">sustainability.suncor.com</a>

## GRI and SASB disclosure index

SASB code	GRI code	Description	Response, link or additional information
<b>Management approach</b>			
	103-1 103-2 103-3	Management approach for material topics	<p>Our management approach to material sustainability priorities is represented in the following sections of our 2020 Report on Sustainability:</p> <ul style="list-style-type: none"> <li>• CEO message</li> <li>• Corporate governance</li> <li>• Engagement</li> <li>• Economic impact</li> <li>• Personal and process safety</li> <li>• Supply chain sustainability</li> <li>• Inclusion and diversity</li> <li>• Climate change</li> <li>• Water stewardship</li> <li>• Tailings management</li> <li>• Air quality</li> <li>• Land and reclamation</li> <li>• Biodiversity</li> <li>• Indigenous relations</li> </ul>
<b>Economic</b>			
	201-1	Direct economic value generated and distributed	<p>ROS – Economic impact ROS – Performance data</p>
	201-2	Financial implications and other risks and opportunities due to climate change	<p>ROS – CEO message CRRR <a href="#">CDP Climate – C2</a></p>
	201-3	Defined benefit plan obligations and other retirement plans	<a href="#">AR (pp. 117-120)</a>
	201-4	Financial assistance received from government	<p>Federal (Canada) and Provincial Government funding is publicly reported and available through the Office of the Commissioner of Lobbying of Canada.</p> <p>Additional information: ROS – Engagement ROS – Performance data</p>
	203-1	Infrastructure investments and services supported	<p>ROS – Economic impact ROS – Community investment ROS – Supply chain ROS – Social goal</p>
	203-2	Significant indirect economic impacts	<p>ROS – Economic impact ROS – Community investment ROS – Supply chain ROS – Social goal</p>
	204-1	Proportion of spending on local suppliers	<p>ROS – Economic impact ROS – Supply chain ROS – Performance data</p>
<b>Anticorruption</b>			
	205-1	Operations assessed for risks related to corruption	<a href="#">Suncor's Standards of Business Conduct AIF (p. 68)</a>

## GRI and SASB disclosure index

SASB code	GRI code	Description	Response, link or additional information
EM-EP-510a.2 EM-MM-510a.1	205-2	Description of the management system for prevention of corruption and bribery throughout the value chain	ROS – Risk management <a href="#">Suncor's Standards of Business Conduct</a> <a href="#">Suncor's Supplier Code of Conduct</a> <a href="#">Suncor's Prevention of Improper Payments policy guidance &amp; standard</a>
<b>Anticompetitive behaviour</b>			
	206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	<a href="#">Suncor's Standards of Business Conduct</a> <a href="#">Suncor's Supplier Code of Conduct</a> <a href="#">Suncor's Prevention of Improper Payments policy guidance &amp; standard</a>  No regulatory enforcement actions were initiated for anti-competitive conduct against Suncor in 2019.  Suncor's business code of conduct provides that Suncor shall in the conduct of its business (a) avoid all practices and activities that are a violation of any provision of competition law, and (b) support and encourage the maintenance of a competitive economy.
<b>Greenhouse gas emissions</b>			
EM-EP-110a.1 EM-RM-110a.1 EM-MM-110a.1	305-1	(1) Gross global Scope 1 emissions (2) Percentage methane (3) Percentage covered under emission-limiting regulations	21,432,135 tonnes CO <sub>2</sub> e 1.2% 100%  Provincial and federal emission-limiting regulations were effective in 2019.  Additional information: ROS – Performance data <a href="#">CDP Climate – (C7)</a>
EM-EP-110a.2 EM-RM-110a.2 EM-MM-110a.2	305-1 OG6	Breakdown of gross global Scope 1 emissions: (1) Flared hydrocarbons (2) Other combustion (3) Process emissions (4) Other vented emissions (5) Fugitive emissions (6) Others	21,432,135 tonnes CO <sub>2</sub> e 594,681 tonnes CO <sub>2</sub> e 17,310,737 tonnes CO <sub>2</sub> e 1,594,379 tonnes CO <sub>2</sub> e 13,286 tonnes CO <sub>2</sub> e 293,631 tonnes CO <sub>2</sub> e 1,625,420 tonnes CO <sub>2</sub> e  Additional information: ROS – Performance data <a href="#">CDP Climate – (C7)</a>
	305-2	Scope 2 GHG emissions	1,344,557 tonnes CO <sub>2</sub> e  Additional information: ROS – Performance data <a href="#">CDP Climate – (C7)</a>
	305-3	Scope 3 GHG emissions	1,607,134 tonnes CO <sub>2</sub> e  Additional information: ROS – Performance data <a href="#">CDP Climate – (C7)</a>
	305-4	GHG emissions intensity	62 kg/bbl  Additional information: ROS – Performance data <a href="#">CDP Climate – (C7)</a>
EM-EP-110a.3 EM-RM-110a.2 EM-MM-110a.2	305-5	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	Additional information: ROS – Sustainability goals CRRR <a href="#">CDP Climate – (C7)</a>

## GRI and SASB disclosure index

SASB code	GRI code	Description	Response, link or additional information
<b>Air quality</b>			
EM-EP-120a.1 EM-RM-120a.1 EM-MM-120a.1	305-7	Air emissions profile: (1) SO <sub>2</sub> (2) NO <sub>x</sub> (3) VOC (4) PM10 (5) H <sub>2</sub> S	20,776 tonnes 36,977 tonnes 21,301 tonnes 4,255 tonnes 54 tonnes  Additional information: ROS – Air quality <a href="#">Canadian National Pollutant Release Inventory (NPRI)</a> <a href="#">US Toxic Release Inventory</a>
EM-RM-120a.2		Number of refineries in or near areas of dense populations	Suncor operates four refineries in Edmonton, Alta., Sarnia, Ont., Montreal, Que. and Commerce City, Colo. (USA).  Additional information: ROS – Operations summary
<b>Energy</b>			
EM-MM-130a.1	302-1 302-2	Energy consumption: (1) Total energy consumed (2) Percentage grid electricity (3) Percentage renewable	346.31 million GJ 1.5% 0.105%  Additional information: ROS – Performance data <a href="#">CDP Climate – (C8)</a>
	302-3	Energy intensity	0.99 GJ/bbl  Additional information: ROS – Performance data <a href="#">CDP Climate – (C8)</a>
	302-4	Reduction of energy consumption	485,927 GJ  Additional information: ROS – Performance data <a href="#">CDP Climate – (C8)</a>
<b>Water</b>			
EM-EP-140a.1 EM-RM-140a.1 EM-MM-140a.1	303-1 303-2 303-3	(1) Total fresh water withdrawn (2) Total fresh water consumed (3) Percentage recycled: We calculate site-specific average annual water recycling rate. (4) Percentage of each in regions with high or extremely high baseline water	86,183 megaliters/yr 50,440 megaliters/yr We calculate site specific average annual water recycling rate.  We do not currently operate in water stressed areas.  Additional information: ROS – Water stewardship ROS – Performance data CRRR <a href="#">CDP Water – (W1)</a>
EM-EP-140a.2	306-1	Water discharges: (1) Volume of produced water and flow back generated (2) Water discharged (%) (3) Water injected (%) (4) Water recycled (%)	39,349 megaliters/yr Not reported at this time Not reported at this time Not reported at this time  Additional information: ROS – Water stewardship ROS – Performance data <a href="#">CDP Water – (W1)</a>

## GRI and SASB disclosure index

SASB code	GRI code	Description	Response, link or additional information
EM-MM-140a.2 EM-RM-140a.2		Number of incidents of non-compliance associated with water quality permits, standards, and regulations	There were no incidents of non-compliance associated with water quality permits, standards and regulations in 2019.  Additional information: <a href="#">CDP Water – (W2)</a> ROS – Performance data
	306-5	Water bodies affected by water discharges and/or runoff	<a href="#">CDP Water – (W2)</a> ROS – Water stewardship ROS – Tailings management
<b>Waste</b>			
EM-MM-150a.1		Total weight of tailings waste, percentage recycled	ROS – Tailings management
EM-RM-150a.1	306-2	Waste by type: (1) Hazardous waste generated (2) Non-hazardous waste generated (3) Recycled, reused, or recovered	1,049 thousand tonnes 1,371 thousand tonnes 151.8 thousand tonnes  Additional information: ROS – Performance data
<b>Biodiversity</b>			
EM-EP-160a.1 EM-MM-160a.1		Description of environmental management policies and practices for active sites	ROS – Risk management ROS – Biodiversity <a href="#">Suncor's Environment, Health and Safety Policy</a>
EM-EP-160a.2 EM-MM-160a.4	306-3	Number and aggregate volume of hydrocarbon spills, volume in Arctic, volume impacting shorelines with ESI rankings 8–10, and volume recovered	There were 0 significant spills in 2019. Significant spills reflect unplanned or accidental release of material whose impact off property takes longer than 7 months to remediate, or on property one year or more to remediate or reclaim. These could be into the environment or into a location that does not usually contain the material, as specified by geographical regulation.  Additional information: ROS – Performance data
EM-EP-160a.3 EM-MM-160a.3	304-1	Percentage of (1) proved and (2) probable reserves in or near sites with protected conservation status or endangered species habitat	Approximately 50% of Suncor's oil sands lease areas are within or near caribou range boundaries as identified within the Recovery Strategy for the Woodland Caribou, Boreal population ( <i>Rangifer tarandus caribou</i> ), in Canada (2012). The determination considers that the oil sands comprise 96.2% of the total hydrocarbon reserves in FY 2018 and includes two assumptions. 1. Although boreal caribou range does not strictly meet the considerations described for areas of protected conservation status or endangered species habitat, they should be considered here based on the boreal population of woodland caribou being listed as threatened under Canada's Species at Risk Act (SARA). 2. Proven and probable reserves are distributed evenly across oil sands lease holdings determined to be within or near surface expression of caribou range boundaries.
	304-2	Significant impacts of activities, products, and services on biodiversity	ROS – Performance data ROS – Biodiversity ROS – Land and reclamation
	304-3	Habitats protected or restored, total land reclaimed	ROS – Land and reclamation ROS – Performance data
	OG4	Biodiversity assessment and monitoring	ROS – Biodiversity

## GRI and SASB disclosure index

SASB code	GRI code	Description	Response, link or additional information
<b>Diversity and equal opportunity</b>			
	405-1	Diversity of governance bodies and employees	ROS – Inclusion and diversity ROS – Performance data ROS – Corporate governance <a href="#">MPC – Schedule B – Inclusion and Diversity (pp. B-3 to B-5)</a>
	405-2	Ratio of basic salary and remuneration of women to men	ROS – Performance data
<b>Rights of Indigenous Peoples</b>			
EM-EP-210a.3 EM-MM-210a.3	411-1	Discussion of engagement processes and due diligence practices with respect to human rights, Indigenous rights, and operation in areas of conflict	In 2019, Suncor did not have any formal grievances reported regarding incidents of violations involving Indigenous Peoples. Suncor works with Indigenous communities to address issues and concerns related to the environmental and social impacts associated with our operations.  Additional information: ROS – Indigenous relations <a href="#">Suncor's Canadian Aboriginal Rights Policy</a> <a href="#">Suncor's Human Rights Policy</a>
<b>Community relations</b>			
EM-EP-210b.1 EM-MM-210b.1	413-1	Discussion of process to manage risks and opportunities associated with community rights and interests	ROS – Indigenous relations
<b>Public policy</b>			
	415-1	Political contributions	As of June 1, 2016, Suncor no longer makes political contributions as a matter of policy.  ROS – Performance data
<b>Compliance</b>			
	307-1	Non-compliance with environmental laws and regulations	ROS – Performance data
	419-1	Non-compliance with laws and regulations in the social and economic area	No material fines or non-monetary sanctions were levied on Suncor in 2019 for non-compliance with laws and regulations.
<b>Occupational health &amp; safety</b>			
EM-EP-320a.1 EM-RM-320a.1 EM-MM-320a.1	403-2	(1) Total recordable incident rate(TRIR) (2) Fatality rate (3) Near miss frequency rate (4) Average hours of health, safety, and emergency response training for (a) full-time (b) contract, and (c) short-service employees	Not reported at this time 0.003 per 200,000 hours worked Not reported at this time Not reported at this time  Additional information: ROS – Personal and process safety ROS – Performance data
EM-EP-320a.2 EM-RM-320a.2		Discussion of management systems used to integrate a culture of safety throughout the exploration and production lifecycle	ROS – Personal and process safety <a href="#">Suncor's Journey to Zero</a>

## GRI and SASB disclosure index

SASB code	GRI code	Description	Response, link or additional information
	403-1	Workers representation in formal joint management-worker health and safety committees	Suncor's workforce at Oil Sands, In Situ, Exploration & Production and Refining and Logistics that include operations are represented in formal joint management worker health and safety committees. These committees address health and safety concerns and provide guidance on required next steps.  Additional information: ROS – Personal and process safety
	OG13	Process safety events	ROS – Personal and process safety ROS – Performance data
<b>Operational safety</b>			
EM-MD-540a.2		Percentage of (1) natural gas and (2) hazardous liquid pipelines inspected	66% Suncor's licensed pipelines in Alberta comply with strict integrity practices in accordance with Alberta Energy Regulator (AER) and the Canadian Standards Association national standard (CSA Z662 - Oil and Gas Pipeline Systems). As part of its Integrity Management Program, Suncor completes extensive inspections on its pipelines on a regular basis to ensure safe and reliable operation. These inspections include aerial patrols, watercrossing and slope monitoring, in-line inspections for corrosion and other anomalies and pipe excavations for examination and repair when necessary.
EM-MD-540a.4		Discussion of management systems used to integrate a culture of safety and emergency preparedness	ROS – Risk management
<b>Oil and gas specific metrics</b>			
EM-EP-420a.3	OG2	Amount invested in renewable energy, revenue generated by renewable energy sales	The total capital invested in renewable energy was \$84 million CAD, with a total offset value of \$1 million CAD generated. These figures reflect Suncor's investment in the newly sanctioned Forty Mile Wind Power Project and GHG-offset related revenue.  Additional information: ROS – Operations summary
EM-EP-420a.4		Discussion of how price and demand for hydrocarbons and/or climate regulation influences the capital expenditure strategy for exploration, acquisition, and development of assets	ROS – Economic impact CRRR
EM-EP-000.A	OG1	Production of: (1) oil (2) natural gas (3) synthetic oil (4) synthetic gas	Total upstream and downstream production in 2019 was 351.28 million BOE  Additional information: ROS – Performance data
EM-EP-000.B		Number of offshore sites	ROS – Operations summary <a href="#">AR (pp. 20-24)</a>
EM-EP-000.C		Number of terrestrial sites	ROS – Operations summary <a href="#">AR (pp. 20-24)</a>
EM-RM-000.A		Refining throughput of crude oil and other feedstocks	Downstream (Refining and Logistics) net production in 2019 was 173.42 million BOE  Additional information: ROS – Performance data

## GRI and SASB disclosure index

SASB code	GRI code	Description	Response, link or additional information
EM-RM-000.B		Refining operating capacity	Suncor operates four refineries. Operating capacities are in barrels-per-day: <ul style="list-style-type: none"> <li>• Edmonton, Alta.: 142,000</li> <li>• Montreal, Que.: 137,000</li> <li>• Commerce City, Colo.: 98,000</li> <li>• Sarnia, Ont.: 85,000</li> </ul> <a href="#">AR (pp. 20-24)</a>
	OG3	Renewable energy generation	ROS – Performance data
	OG5	Formation or produced water	ROS – Performance data
	OG7	Drilling waste	ROS – Performance data
	OG8	Fuel content	ROS – Performance data

# TCFD disclosure index

The information in the disclosure table below provides linkages to TCFD aligned information and recommendations, fully or in part, within this report.

TCFD Recommendation		Report Section
<b>Governance</b>		
Disclose the organization's governance around climate-related risks and opportunities.	Describe the board's oversight of climate-related risks and opportunities.	<ul style="list-style-type: none"> <li>• <a href="#">Board oversight of climate-related risks and opportunities</a></li> <li>• <a href="#">Role of senior leadership</a></li> <li>• <a href="#">Business strategy for a changing energy future</a></li> <li>• <a href="#">Scenario planning</a></li> </ul>
	Describe management's role in assessing and managing climate-related risks and opportunities.	
<b>Strategy</b>		
Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's business, strategy, and financial planning where such information is material.	Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long-term.	<ul style="list-style-type: none"> <li>• <a href="#">Business strategy for a changing energy future</a></li> <li>• <a href="#">Carbon policy and impacts on Suncor</a></li> <li>• <a href="#">Facility resilience to extreme weather events</a></li> <li>• <a href="#">Scenario planning</a></li> <li>• <a href="#">A new 2°C scenario</a></li> </ul>
	Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning	
	Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	
<b>Risk management</b>		
Disclose how the organization identifies, assesses, and manages climate-related risks.	Describe the organization's processes for identifying and assessing climate-related risks.	<ul style="list-style-type: none"> <li>• <a href="#">Climate-related risk management</a></li> <li>• <a href="#">Leadership in climate policy</a></li> <li>• <a href="#">GHG emissions and energy use</a></li> <li>• <a href="#">Low-carbon innovation</a></li> </ul>
	Describe the organization's processes for managing climate-related risks.	
	Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.	
<b>Metrics and targets</b>		
Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.	Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.	<ul style="list-style-type: none"> <li>• <a href="#">GHG performance and energy use</a></li> <li>• <a href="#">Integrating our GHG performance goal</a></li> </ul>
	Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 GHG emissions, and the related risks.	
	Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.	

# UNGC communication on progress

Suncor joined the UNGC in 2001; we have integrated our commitment and implementation of the United Nations Global Compact (UNGC) principles throughout the report, and provided corresponding linkages to principles addressed in the table below.

Principles	Progress
<p><b>1 Businesses should support and respect the protection of internationally proclaimed human rights</b></p> <p><b>2 Business should make sure that they are not complicit in human right abuses</b></p>	<p>Suncor has a corporate responsibility to respect human rights and to ensure we are not complicit in human rights abuses. We seek to avoid infringing on the rights of others and strive to remedy harms that occur as a result of our activities. Suncor's commitment to respecting human rights is based on the Universal Declaration of Human Rights and is informed by the international law and standards.</p> <p>We are guided by the following published policies and standards; <a href="#">Standards of Business Conduct</a>, <a href="#">Human Rights Policy</a>, <a href="#">Stakeholder Relations Policy</a>, <a href="#">Canadian Aboriginal Relations Policy</a> and our <a href="#">Report on Sustainability</a>. These documents explicitly cover the basic rules, standards and behaviours that all employees, contractors, suppliers and business partners must follow. We are committed to training and communicating our approach to human rights as part of the implementation of these policies.</p> <p>The president and chief executive officer of Suncor is accountable to the Board of Directors for ensuring policies are effectively implemented. All Suncor employees engaged in activities under Suncor's operational control are responsible for the application of this policy.</p> <p>We encourage employees to raise concerns about suspected violations of our business conduct code without fear of reprisal with these teams/departments:</p> <ul style="list-style-type: none"> <li>• Management</li> <li>• Legal – compliance</li> <li>• Corporate Security</li> <li>• Human Resources</li> <li>• Internal Audit</li> </ul> <p>In addition, we have established an integrity hotline that is available 24/7 to employees, contractors and the public. Any issues of a serious nature are investigated by Corporate Security or Human Resources. The audit committee receives regular updates on Integrity Hotline activities. As per the code, the vice-president responsible for internal audit is charged with maintaining the Integrity Hotline and ensuring all alleged code violations are thoroughly investigated.</p>
<p><b>3 Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining</b></p> <p><b>4 The elimination of all forms of forced and compulsory labour</b></p> <p><b>5 The effective abolition of child labour</b></p> <p><b>6 The elimination of discrimination in respect of employment and occupation</b></p>	<p>Federal labour standards are established under Part III of the Canada Labour Code, which sets out minimum standards that federally regulated employers and employees must follow. Suncor's commitment to providing an environment free from harassment, violence, intimidation and other disruptive behaviours is outlined in Suncor's <a href="#">Harassment and Violence Free Working Environment Policy</a>.</p> <p>As stated in Suncor's <a href="#">Human Rights Policy</a>, Suncor's employment policies adhere to all applicable domestic laws and honour internationally accepted labour standards, including those concerning freedom of association and collective bargaining, non-discrimination, forced labour, and underage workers in the workplace. A process for human rights impact assessment, undertaken regularly, is essential to identify, prevent, mitigate and remedy our potential impacts on human rights.</p> <p>Based on the published document <a href="#">The Way We Do Business</a>, no matter where we operate in the world, Suncor is committed to ensuring our business dealings are fair, honest and ethical. That means holding everyone who works with us accountable for always conducting business free of corruption. All the countries where Suncor operates have anti-corruption laws that make it illegal to offer a payment, gift or other benefit to a public official or private party to improperly obtain favourable treatment.</p> <p><a href="#">Suncor's Supplier Code of Conduct</a> addresses topics such as safety, human rights, harassment, bribery and corruption and confidential information, among others. It also reinforces our commitment to sustainable development and encourages our business associates to work with us to seek ways to reduce environmental impacts, support the communities in which we work and collectively achieve economic growth. Compliance with the supplier code of conduct is a standard term of all Suncor supply chain contracts.</p> <p>Suncor is a large organization with operations across different geographies and a workforce comprised of diverse demographics and ethnicities. By listening to our employees we are challenging assumptions, understanding barriers and being honest with one another as continue to create a great place to work for everyone. Our <a href="#">Equal Opportunity &amp; Inclusion Policy</a> and supporting Respectful Workplace Standard demonstrates our commitment to inclusion, equity and diversity.</p> <p>Suncor is a member of the <a href="#">Mining Association of Canada</a> and annually reports performance on the Towards Sustainable Mining (TSM) protocols, including Preventing Child and Forced Labour.</p>

## UNGC communication on progress

Principles	Progress
<p><b>7 Businesses should support a precautionary approach to environmental challenges</b></p> <p><b>8 Businesses should undertake initiatives to promote greater environmental responsibility</b></p> <p><b>9 Businesses should encourage the development and diffusion of environmentally friendly technologies</b></p>	<p>Our purpose is to provide trusted energy that enhances people's lives, while caring for each other and the earth.</p> <p>Suncor uses a risk-management and sustainability-driven approach to anticipate, prevent and mitigate harm to health, safety or the environment as stated in our <a href="#">Environment, Health &amp; Safety Policy</a>. Suncor proactively identifies and implements opportunities to:</p> <ul style="list-style-type: none"> <li>• develop energy in a way that enhances economic prosperity, promotes social well-being and preserves a healthy environment</li> <li>• conserve energy</li> <li>• reduce water use</li> <li>• reduce air emissions</li> <li>• minimize land disturbance and accelerate reclamation</li> <li>• reduce waste</li> <li>• leverage a life-cycle approach</li> <li>• pursue technology improvements</li> </ul> <p>We are working to reduce the impact of our operations through scientific research and best management practices, while also partnering with peers to reduce the cumulative effects of development.</p> <p>We share in the global challenge to address climate change by harnessing technology and innovation to set us on a pathway to a low-carbon energy system. We aim to reduce total emissions intensity of the production of our oil and petroleum products by 30% by 2030. Our focus on GHG emissions intensity reductions is in these key areas:</p> <ul style="list-style-type: none"> <li>• implementing and improving energy efficiency</li> <li>• developing and deploying new technologies</li> <li>• investing in low-carbon power</li> <li>• moving to low-carbon fuels</li> </ul> <p>Suncor leads or participates in many technology studies and projects through <a href="#">Canada's Oil Sands Innovation Alliance (COSIA)</a> an alliance of companies representing 90% of oil sands production. By focusing on five environmental priority areas – greenhouse gases, land, tailings, water, and monitoring – COSIA brings people together to face specific environmental challenges to shorten innovation timelines across the oil sands industry.</p> <p>Through our <a href="#">Supplier Code of Conduct</a>, we are clear that we expect our business associates to be aligned with our sustainable development approach and that we will work together to seek ways to reduce environmental impacts, support the communities in which we work and collectively contribute to economic growth.</p>
<p><b>10 Businesses should work against corruption in all its forms, including extortion</b></p>	<p>Our <a href="#">Standards of Business Conduct Statement</a> outlines that employees and contractors are to never offer or accept any type of improper payment, including bribes, kickbacks or facilitating payments. Also, to never make political or charitable donations on Suncor's behalf outside of our corporate donation processes. Suncor's <a href="#">Prevention of Improper Payments Policy</a> states explicitly that Suncor personnel are prohibited from committing or using corporate funds, facilities or assets directly or indirectly for any illegal or improper purposes, including but not limited to bribery, kickbacks, or diversion to separate funds or companies for personal use or for the purpose of disguising such payments. Through the published document <a href="#">The Way We Do Business</a>, Suncor's Business Conduct Code is outlined and no matter where we operate in the world, we are committed to ensuring our business dealings are fair, honest and ethical.</p>

# Advisories

## Forward-looking statements

Suncor's 2020 Report on Sustainability contains certain forward-looking statements and forward-looking information (collectively, "forward-looking statements") within the meaning of applicable Canadian and U.S. securities laws. Forward-looking statements in Suncor's 2020 Report on Sustainability include references to: expectations that responding and recovering from the effects of the pandemic and fostering resiliency will require cooperation and collaboration among all stakeholders and that our collective actions can have an enormous impact when we work together to find solutions; that we continue to take steps to reduce emissions across our facilities, and continue to work towards our 2030 commitment to reduce our total emissions intensity by 30% as well as developing more ambitious approaches to sustainability beyond our 2030 commitments; the expectation that the \$1.4 billion investment in a new cogeneration facility at our Oil Sands Base will reduce GHG emissions from our Base Plant by approximately 25%, and the expected timeline of the project; the belief that the Forty Mile Wind Power Project, once in commercial service, will generate double-digit economic returns through zero carbon generation and the expected timeline of the project; the expectation that we can support reducing emissions by providing Canadians with lower carbon choices for their energy needs; the expectation that when we look back years from now, our collective action of working together to build a better future will stand out; the expectation of a 50-70% potential GHG reduction and lower water use through solvent-based processes; that expectation that Suncor will continually monitor and assess the impacts and benefits of our business, and effectively share these efforts; Suncor's belief that a 'zero incident' workplace is achievable; the belief that the world needs action to reduce carbon emissions and avoid the worst effects of climate change; that Suncor is focused on finding reductions through improving our existing processes and developing new energy technologies; the belief that Suncor will continue to strengthen our relationships and build greater trust with Indigenous communities, to listen and learn from communities and find mutually beneficial ways they can become more involved in energy development; statements about encouraging our industry peers and suppliers to consider all elements of sustainability and joining Suncor to continuously improve; the expectation that our new cogeneration facility will help green Alberta's electrical grid and avoid the equivalent emissions of 550,000 passenger vehicles per year; the expectation that the Forty Mile Wind Power Project will help green Alberta's electrical grid and avoid the equivalent emissions of 85,000 passenger vehicles per year; the belief that energy transformation means being part of a global movement to low-carbon and no-carbon forms and that Suncor's roles are for as long as there is global demand for oil, so supply that oil as cleanly and socially responsible as possible and to continue as a leading energy supplier while meeting the demand for lower carbon energy sources; the belief that as an integrated energy company, we're well poised to be part of the transformation to future energy sources because we know all aspects of the business, and can apply our knowledge, collaborating with others, in many areas of research and development; the expectation that we are committed to change the way we think and act as an organization and build greater mutual trust and respect with the Indigenous Peoples of Canada through a goal that outlines four areas to focus on through 2025 and beyond where we can work together to advance greater participation of Indigenous Peoples and communities in energy development; the expectation that committed to water stewardship and we are currently developing a framework that will enable an approach to more meaningfully focus our future efforts on water; that Suncor shares the belief that businesses have a key role to play in the implementation of the United Nations Sustainable Development Goals (UNSDGs) and that through our initiatives and activities our work contributes to all 17 goals and statements about how our activities contribute to the goals; the expectation that we move toward the UNSDGs about gender equality, water sanitation, modern and sustainable energy, sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all, resilient infrastructure, promote inclusive and sustainable industrialization, sustainable consumption and production patterns and urgent action to combat climate change and its impacts; that Suncor's board aims to have directors with a range of perspectives, insights and views on the issues affecting Suncor with a goal to maintain at least 30% gender diversity; that as part of its social innovation strategy, Suncor aims to build capacity for social innovation, including within Suncor; the belief that Suncor is well positioned to succeed due to the company's advantages: financial strength, capital discipline, a highly efficient, tightly integrated suite of assets, an industry-leading long-life, low-decline oil sands reserves base, a sophisticated infrastructure and logistics network, strategic refineries and retail network, and our investment in sustainability, technology and innovation; the expectation that Suncor will host its second Academic Technology Forum virtually in October; the belief that engaging with others will help us find solutions to our shared challenges; that we plan to create economic opportunities for Indigenous groups through both service provision and equity partnership opportunities; the expectation that achieving high-level sustainability performance will demand effective collaboration and humility to learn with and from our partners in a way that spurs disruptive innovation and embeds sustainability throughout our extended ecosystem; the expectation that Suncor continues to evaluate the needs of our people to support them in focusing on their overall well-being and mental health; the belief that Suncor will further strengthen our process safety performance and culture, and is committed to investigating safety events so that we can take corrective actions to mitigate barriers and apply learnings across the enterprise; the belief that Suncor shows its commitment to building inclusion and belonging through raising awareness, listening, creating conversations, striving for fair treatment and building skills because we believe this will positively contribute to strong employee engagement and ultimately our business performance; that Suncor endeavours to become a leading sustainable energy supplier while maintaining

## Advisories

and improving air quality near all our operations, and that Suncor participates in programs to improve our air monitoring capability and understanding with the goal of reducing our air emission intensities over time; that selective catalytic reduction technology will be implemented as part of Suncor's Oil Sands Base Plant Coke Boiler Replacement Project to achieve lower NO<sub>x</sub> emissions; the belief that water is a shared and precious resource that must be managed wisely using a balanced, integrated and sustained approach, and that it is important to find ways to continuously improve our water use efficiency (including limited water withdrawals and maximizing recycling and safe return) across our business units; the belief that Suncor is committed to water stewardship and are developing a robust framework that will more meaningfully focus our future efforts on water; the belief that the partnerships under the Water Technology Development Centre will allow operators to speed the development and implementation of new water treatment technologies, ultimately shortening the current eight-year timeframe required to field technologies and move them to commercial application; the belief that finding ways to treat fluid tailings quickly and cost-effectively is critical to improving our overall reclamation performance; the belief that another tailings pond will be removed from Base Plant operations in the next few years because of PASS technology; the plan to monitor and adaptively manage the Lake Miwasin PASS project for the next 15 years; the plan spread overburden or sand over the coke at tailings ponds to allow for the placement of topsoil and vegetation; the plan to incorporate stakeholder feedback into engagement plans for tailings treatment and enhancing how information about tailings is shared; the expectation that Suncor will continue to maintain the highest standards and play an active role in collaboration with industry partners, communities, stakeholders and investors; that Suncor is working to reduce the number of active tailings ponds and that three are advancing to closure; the belief that Suncor is working towards our strategic priority of continuing to manage our tailings across their life cycle in a strategic and environmentally responsible way; the expectation that opportunistic wetlands will be incorporated into Suncor's reclamation tracking and monitoring programs and the belief that these reclaimed wetlands will result in landscapes similar to what existed before disturbance; the belief that Suncor has the opportunity and responsibility to help build a better future; the expectation and beliefs about community investment and the Suncor Energy Foundation (SEF) and the benefits Suncor expects community investment and SEF to deliver; about Suncor's partnership with Community Foundations of Canada and its expansion of their pilot project work; the belief that technology and energy innovation has the potential to move emissions reduction from incremental to step change improvement; the expectation that Suncor continues to work toward the requirements to achieve the aims and objectives of the Paris Agreement; the expectation that Suncor continues to invest in performance improvements and be part of energy system transformation as these are critical to business resiliency and long-term shareholder and stakeholder value creation; statements and expectations about Suncor's goal to reduce total GHG emissions intensity from the production of our oil and petroleum products by 30% by 2030; expectations about the impacts to Suncor's GHG intensity due to government mandated production curtailment and COVID-19 impact on demand; the belief that all energy sources, including Canada's oil sands industry, will have a role to play in contributing to a low-carbon future; the belief that there will be further opportunities for advancing energy efficiency involving Syncrude; the expectation that Suncor's facilities are resilient to extreme weather events, including temperature extremes, hurricanes and icebergs and precipitation, droughts and wildfires; the estimated impact of our carbon price outlook; that opportunities are created due to the requirement for steam at crude oil extraction and processing facilities; expectations relating to technology and the expected timing of, impacts and benefits therefrom, including, amongst others, technology being designed, developed or tested by Suncor and its partners such as SAGD, Solvent+, EASE, ESEIEH® ES-SAGD, non-aqueous extraction, froth treatment, permanent aquatic storage structure, paraffinic froth treatment, and autonomous haulage systems; the impact of scale on renewable power and the belief that equipping wind and solar sites with battery storage could further improve effectiveness; the belief that Suncor will continue to meet the demand for liquid fuels while reducing carbon intensity and the reason for such belief; the belief that a price on carbon can be a key market mechanism to lower emissions while promoting low-carbon innovation; expectations relating to hybrid, plug-in hybrid and electric vehicles; the expectation that Suncor will continue to significantly invest in technology development and deployment, and digital technologies to optimize current assets and develop next-generation facilities; the expectation that, over the next year, Suncor expects to continue engagement with investors, including the Climate Action 100+ initiative; the expectation that Suncor will embed sustainable practices in our supply chain, create opportunities for cross-value chain strategic supplier engagement, and enable supply chain contributions to innovation; the belief that Suncor's transition strategy is to steadily reduce the cost and carbon footprint of our base business while investing in new lower-carbon forms of energy, consumer products and services; the belief that, as a new decade begins with focused attention on pandemic-recovery efforts, business plans of leading companies must consider evolving trends and consumer preferences in order to be capable of thriving in a range of possible scenarios; the expectation that Suncor will continue to invest in strategic initiatives and technologies that support continuous improvement across our operations at both our Base Plant operations and Fort Hills such as value chain optimization and automation of mining and upgrading through autonomous haul systems; the belief that, for our in situ operations, Suncor is advancing opportunities and investments to reduce the energy intensity of the extraction process for our existing and future assets; the plan to replace coke-fired boilers with cogeneration units at our Oil Sands Base Plant which is expected to reduce GHG emissions intensity at our Oil Sands Base Plant by approximately 25% by replacing coke, a high-carbon fuel source with lower-carbon natural gas; the belief that Suncor has a strong portfolio of renewable power

## Advisories

development sites across Canada that will further reduce reliance on higher-carbon-intensive grids in regions like Alberta and Saskatchewan; the expectation that Suncor will continue to explore the opportunity to develop our first utility-scale solar photovoltaic facility in Alberta to complement our experience in developing, constructing and operating wind power projects; the belief that, as climate regulations are implemented across jurisdictions, renewable power will benefit from greater scale which can improve the technology, efficiency and economic viability; the expectation that demand in our downstream and marketing business will recover from the COVID-19 pandemic as governments lift stay-at-home restrictions and induce economic recovery through stimulus spending; the belief that equipping wind and solar sites with battery storage to optimize the facility's integration could further improve effectiveness; the belief that long-term gasoline demand is expected to be moderated by efficiency improvements in internal combustion engines and increased uptake of biofuels, as well as hybrid and electric vehicles; the belief that our connection to a reliable source of crude oil combined with our investments in biofuels technology will allow us to continue to meet the demand for liquid fuels while at the same time reducing carbon intensity; the expectation that governments at all levels in Canada are seeking to diversify transportation fleets to use lower-carbon intensity fuels and, as a result, the transportation fuelling landscape is expected to change over time; the belief that, in the longer term, diesel will remain the predominant fuel in North America for heavy haulage, aviation, marine and rail, and we see demand growth with increasing economic activity as the world recovers from the COVID-19 pandemic; the belief that heavy-duty vehicle fuel efficiency standards and biodiesel blending will offset some of the economically driven demand growth; the belief that hybrid, plug-in hybrid and electric vehicles will remain cost-effective additions to the passenger vehicle fleet and will, along with fuel efficiency standards, contribute to moderating growth in global gasoline demand; the belief that cost, carbon competitiveness and consumer convenience mean liquid fuels will remain the primary fuel source in vehicle mobility for many years to come; the expectation that heavy haul trucks, aviation and marine fuels of the future will require advanced biofuel blending; the belief that a substantial amount of oil will be required for decades as the world gets on track to meet its climate ambitions; the belief that as the energy system transitions away from carbon intensive sources of energy, some level of hydrocarbons will continue to be needed for consumer product, transportation, agriculture and industrial uses; statements about Suncor's three energy futures scenarios to 2050 and the expected impact of these scenarios on the energy market and Suncor; the expectation that sanctioned cogeneration and renewable power projects will add another 1,000 MW of capacity to the power grid; the expectation that new 2°C scenario will continue informing Suncor's long-term business planning and corporate strategy and allows us to understand what a pathway could entail to keep global temperatures from rising 2°C, or less, by 2100 compared with pre-industrial levels; statements, key insights and expectations about our new 2°C scenario; the expectation that Suncor will continue to advocate for environmental policies and regulations that help us address climate change, including supporting a broad-based price on carbon; the belief that we are committed to continuously improving energy management and reducing GHG emissions as part of everyday operational excellence; the expectation that, over the next decade our goal will be driving operational, energy and fuel efficiency improvements, accelerating the development and implementation of new technologies and encouraging the evaluation of potential low-carbon business opportunities; the expectation that Suncor will continue to work to close the gap in our goal progress over the next decade, realizing the need to continue seeking opportunities to collaborate with solutions-oriented partners in reducing emissions in the energy system; the belief that, in today's complex and rapidly changing world, it will take new technologies and innovative thinking to further reduce our environmental footprint; statements and expectations about Suncor's targeted emissions in four key areas; the belief that our biofuels have the potential to significantly reduce GHG emissions; and the expectation that LanzaJet will produce sustainable aviation fuel from ethanol from recycled pollution and waste products.

Some of the forward-looking statements and information may be identified by words like "expected", "anticipated", "will", "estimates", "plan", "scheduled", "intended", "believes", "projected", "indicates", "could", "focus", "vision", "mission", "strategy", "goal", "outlook", "proposed", "target", "objective", "continue", "should", "may", "aim", "strives", "would", "potential", "committed", "opportunity" and similar expressions.

Forward-looking statements are based on Suncor's current expectations, estimates, projections and assumptions that were made by the company in light of information available at the time the statement was made and consider Suncor's experience and its perception of historical trends, including expectations and assumptions concerning: the accuracy of reserves and resources estimates; the current and potential adverse impacts of the novel coronavirus pandemic; commodity prices and interest and foreign exchange rates; the performance of assets and equipment; capital efficiencies and cost-savings; applicable laws and government policies, future production rates; the sufficiency of budgeted capital expenditures in carrying out planned activities; the availability and cost of labour, services and infrastructure; the satisfaction by third parties of their obligations to Suncor; the development and execution of projects; the receipt, in a timely manner, of regulatory and third-party approvals; assumptions relating to demand for oil, natural gas, distillates, gasoline, diesel and other energy sources; the development and performance of technology; population growth and dynamics; assumptions relating to long-term energy future scenarios; and Suncor's carbon price outlook. 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 Suncor. Suncor's actual results may differ materially from those expressed or implied by its forward-looking statements, so readers are cautioned not to place undue reliance on them.

## Advisories

Risks, uncertainties and other factors that could influence the financial and operating performance of all of Suncor's operating segments and activities include, but are not limited to, changes in general economic, market and business conditions, such as commodity prices, interest rates and currency exchange rates (including as a result of demand and supply effects resulting from the COVID-19 virus pandemic and the actions of OPEC and non-OPEC countries); fluctuations in supply and demand for Suncor's products; the successful and timely implementation of capital projects, including growth projects and regulatory projects; risks associated with the development and execution of Suncor's major projects and the commissioning and integration of new facilities; the possibility that completed maintenance activities may not improve operational performance or the output of related facilities; the risk that projects and initiatives intended to achieve cash flow growth and/or reductions in operating costs may not achieve the expected results in the time anticipated or at all; competitive actions of other companies, including increased competition from other oil and gas companies or from companies that provide alternative sources of energy; labour and material shortages; actions by government authorities, including the imposition or reassessment of, or changes to, taxes, fees, royalties, duties, and other government-imposed compliance costs; changes to laws and government policies that could impact the company's business, including environmental (including climate change), royalty and tax laws and policies; the ability and willingness of parties with whom Suncor has material relationships to perform their obligations to the company; the unavailability of, or outages to, third-party infrastructure that could cause disruptions to production or prevent the company from being able to transport its products; the occurrence of a protracted operational outage, a major safety or environmental incident, or unexpected events such as fires (including forest fires), equipment failures and other similar events affecting Suncor or other parties whose operations or assets directly or indirectly affect Suncor; the potential for security breaches of Suncor's information technology and infrastructure by malicious persons or entities, and the unavailability or failure of such systems to perform as anticipated as a result of such breaches; security threats and terrorist or activist activities; the risk that competing business objectives may exceed Suncor's capacity to adopt and implement change; risks and uncertainties associated with obtaining regulatory, third-party and stakeholder approvals outside of Suncor's control for the company's operations, projects, initiatives and exploration and development activities and the satisfaction of any conditions to approvals; the potential for disruptions to operations and construction projects as a result of Suncor's relationships with labour unions that represent employees at the company's facilities; our ability to find new oil and gas reserves that can be developed economically; the accuracy of Suncor's reserves, resources and future production estimates; market instability affecting Suncor's ability to borrow in the capital debt markets at acceptable rates or to issue other securities at acceptable prices; maintaining an optimal debt-to-cash-flow ratio; the success of the company's marketing and logistics activities using derivatives and other financial instruments; the cost of compliance with current and future environmental laws, including climate change laws; risks relating to increased activism and public opposition to fossil fuels and oil sands; risks and uncertainties associated with closing a transaction for the purchase or sale of a business, asset or oil and gas property, including estimates of the final consideration to be paid or received, the ability of counterparties to comply with their obligations in a timely manner; risks associated with joint arrangements in which the company has an interest; risks associated with land claims and Aboriginal consultation requirements; the risk the company may be subject to litigation; the impact of technology and risks associated with developing and implementing new technologies; and the accuracy of cost estimates, some of which are provided at the conceptual or other preliminary stage of projects and prior to commencement or conception of the detailed engineering that is needed to reduce the margin of error and increase the level of accuracy. The foregoing important factors are not exhaustive.

Suncor's Management's Discussion and Analysis for the first quarter of 2020 dated May 5, 2020 and its Annual Information Form, Form 40-F and Annual Report to Shareholders, each dated February 26, 2020, and other documents it files from time to time with securities regulatory authorities describe the risks, uncertainties, material assumptions and other factors that could influence actual results, and such factors are incorporated herein by reference. Copies of these documents are available without charge from Suncor at 150 6th Avenue S.W., Calgary, Alberta T2P 3E3, by calling 1-800-558-9071, or by email request to [info@suncor.com](mailto:info@suncor.com) or by referring to the company's profile on SEDAR at [sedar.com](http://sedar.com) or EDGAR at [sec.gov](http://sec.gov). Except as required by applicable securities laws, Suncor disclaims any intention or obligation to publicly update or revise any forward-looking statements, whether as a result of new information, future events or otherwise.

## Reclamation

Land is considered permanently reclaimed when landform construction and contouring, clean material placement (as required), reclamation material placement and revegetation has taken place. Land cannot be listed under permanent reclamation until revegetation has occurred which is reflective of the approved Reclamation and Revegetation Plans. Suncor has reclaimed a cumulative total of 48.2 hectares of wetlands and lakes.

## Advisories

### BOEs and conversions

Certain natural gas volumes have been converted to barrels of oil equivalent (boe) on the basis of one barrel to six thousand cubic feet. Any figure presented in boe may be misleading, particularly if used in isolation. A conversion ratio of one barrel of crude oil or natural gas liquids to six thousand cubic feet of natural gas is based on an energy equivalency conversion method primarily applicable at the burner tip and does not necessarily 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 from the energy equivalency of 6:1, utilizing a conversion on a 6:1 basis may be misleading as an indication of value.

Cubic metres of oil equivalent are calculated on the basis of one boe to 0.159 standard cubic metres. As cubic metres of oil equivalent are based on a conversion involving boe, all values are subject to the same limitations as boe, noted above.

### Suncor

Suncor Energy Inc. has numerous direct and indirect subsidiaries, partnerships and joint arrangements (“affiliates”), which own and operate assets and conduct activities in different jurisdictions. The terms “we”, “our”, “Suncor”, or “the company” are used herein for simplicity of communication and only mean that there is an affiliation with Suncor Energy Inc., without necessarily identifying the specific nature of the affiliation. The use of such terms in any statement herein does not mean that they apply to Suncor Energy Inc. or any particular affiliate, and does not waive the corporate separateness of any affiliate.

### Partnerships

The use of “partnership” throughout Suncor’s 2020 Report on Sustainability does not necessarily mean a partnership in the legal context.

Suncor Energy Inc.  
150 – 6 Avenue S.W.  
Calgary, Alberta, Canada T2P 3E3  
T: 403-296-8000  
suncor.com

