

REPORT ON SUSTAINABILITY 2018



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Steve Williams, President and Chief Executive Officer

CEO'S MESSAGE

In today's world of instant messages and rapid response, it's easy to get caught up in whatever is pressing at any given moment. But it's also easy to lose sight of the bigger picture.

Suncor recognizes and has embraced the importance of taking the long view. Our business model, strategies and growth plans are driven by a clear vision of the role we aspire to play in creating energy for a better world over the next 50 years or more.

That kind of long-term thinking is more critical than ever in a world facing significant long-term social, economic and environmental challenges – including the challenge to lower global emissions to address climate change. To

be an energy provider of choice going forward, companies like Suncor need to build pathways towards global competitiveness, on both cost and carbon.

We also need to ensure the benefits of resource development are shared more fully. It's not just about corporate profits – it's about something bigger. That is why we focus so much effort on ensuring communities we touch, including Aboriginal communities, participate with us to co-create our future.

While much work remains to be done, I believe Suncor is making progress in responding to these key challenges. That's a result of the sustainability journey we embarked on more than two decades ago, which commits us to continually improve our environmental, social and economic performance.

We've learned the key to making progress is to bring together and engage with people of diverse interests and perspectives – and listen intently to their concerns, expectations and ideas about how we can work together on solutions to shared challenges.

These conversations continue to shape, change and guide us. I know they help make us a more

sustainable and resilient energy company. And they're good reminders that when you take a long-term view, you're ensuring a better future for those that follow.

The energy future: challenges and opportunities

Energy is the lifeblood of our economies and quality of life. Whether it's providing for food, heat or transport, reliable and affordable oil and gas remains one of the primary energy sources for modern society. And while renewable energy continues to advance, oil and gas are expected to continue to be a significant part of the global energy mix for the foreseeable future.

That doesn't mean it's business as usual. Climate change is real – one of the most pressing challenges of our time – and we all have a shared responsibility to find solutions. Failing to act is not an option.

Canada has the energy the world needs. Our challenge is to continually improve our performance, inspire others to do so and move our products to new customers in new markets in the years ahead.

For a company like Suncor, that means our oil must be globally competitive on cost and carbon. I'm encouraged by the progress we're making in both of these areas.

Suncor has been on a multi-year journey to improve reliability, reduce costs across our business and prudently manage capital allocation. These strategies have served us well in volatile times.

Through it all, we stayed true to another key business strategy – being a leader in

sustainability. We understand that the economic, environmental and social dimensions of energy development are deeply integrated and success in one cannot be achieved without success in all.

By taking costs out of our business and pursuing operational excellence, Suncor can now generate sufficient funds from operations at a US\$40 to \$45 per barrel oil price to cover our sustaining capital and our dividend. There aren't many oil producers globally that can make that claim.

At the same time, we are driving improvements in environmental performance. Suncor recently achieved a significant milestone at our Fort Hills project – achieving design capacity much earlier than planned. This project is poised to provide energy for the next 50 years and the greenhouse gas (GHG) emissions intensity of production at Fort Hills is currently on par with the average refined barrel in the United States.

The next major challenge is at our in situ sites, where the bulk of Suncor's future growth is expected. Next-generation in situ technologies hold the potential to not only reduce costs, but to also dramatically lower GHG emissions – in some cases by 50 to 70%. We're currently allocating capital to advance some of these in situ technologies at commercial scale.

Throughout the recent oil-price downturn, Suncor continued to invest in technology development. In 2017, we invested almost \$350 million on the development and deployment of new technology.

The scale of Suncor's ambition is reflected in our sustainability goal to harness technology and innovation to contribute to a low-carbon economy. We are measuring our progress

to meet this goal by targeting a reduction in the total GHG emissions intensity of our oil and petroleum products by 30% by 2030. We believe this target, together with our ongoing commitment to technology and innovation, puts us on the path to ultimately bending the curve on our absolute GHG emissions as well.

In addition to our internal strategies, Suncor works closely with organizations like Canada's Oil Sands Innovation Alliance (COSIA) and Evok Innovations on clean technology solutions. We also continue to partner with groups like the Carbon Pricing Leadership Coalition, Canada's EcoFiscal Commission, Clean Resource Innovation Network (CRIN) and the Energy Futures Lab to support collaboration and innovation.

Suncor's commitment to engaging in open and honest conversations – listening to, and learning from, a broad range of viewpoints – has allowed us to play a positive role in advancing progressive public policy on climate change.

Canadian leadership in this area has been noticed and is making a difference.

If you ask people outside our borders where they would like their oil to come from, they prefer Canada to other places in the world. We must continue to work together to meet that demand in a way that helps to make progress on these significant challenges.

Social innovation: forging new partnerships

Taking a long view in business means understanding and adapting to changing expectations. For Suncor, that means recognizing that we can play a part in

addressing some of society's most complex social challenges.

For example, there are wide socio-economic gaps between Aboriginal Peoples and other Canadians and there are many calls to action within Canada's Truth and Reconciliation Report that seek to bridge those gaps. We want to be part of that change.

Suncor has committed to a long-term, socially focused sustainability goal aimed at increasing the participation of Aboriginal Peoples of Canada in resource development. It's also about thinking and acting differently and working together with Aboriginal Peoples to create opportunities for economic and social reconciliation.

The partnership we entered into with the Fort McKay and Mikisew Cree First Nations in 2017 is a good example. The First Nations acquired a combined 49% interest in Suncor's East Tank Farm Development – the largest investment to date by First Nations in Canada. Also in 2017, Suncor purchased a 41% equity interest in PetroNor, a Quebec-based petroleum products distributor owned and operated by the James Bay Cree. We also have other strong partnerships formed through our Petro-Canada business, where 26 First Nations own and operate retail stations.

Going forward, we will continue to explore other opportunities, work to improve Aboriginal Peoples' participation in our workforce, and continue efforts to increase Suncor employees' awareness of the history and experience of Aboriginal Peoples.

Like so many of Suncor's collaborations, our social goal grew directly from listening to Aboriginal Peoples. To achieve our goal, we

know we will need to continue to listen and learn.

Good governance and disclosure

In uncertain times, ensuring the resilience of an energy company is increasingly about good governance and transparent disclosure. Suncor's Board of Directors continues to focus their efforts on forward-looking oversight of strategic planning, risk management and business conduct. They ensure management's decisions align with the long-term interests of Suncor shareholders.

Supported by our Board, Suncor has committed to transparent disclosure. One example is our annual climate report, which provides a clear-headed assessment of why we believe our strategy is resilient through a range of forward-looking scenarios, and how we can continue to deliver value in a carbon-constrained world.

We work collaboratively with several other companies as members of the United Nations Global Compact (UNGC) Local Network in Canada to promote action in support of broader UN goals. Throughout this report, we share our efforts to support and uphold the UNGC's Ten Principles, which also guide our approach to human rights, labour, environment and anti-corruption for all our operations.

We are also supportive of the voluntary recommendations outlined by the Task Force on Climate-related Financial Disclosures (TCFD), an international initiative of the Financial Stability Board (FSB). The recommendations provide companies with a voluntary, consistent disclosure framework that improves the quality of climate-related and financial disclosures.

Many of the requirements of the TCFD are already met in our climate report, and we are taking steps to fully comply with the recommendations in coming years. We are confident in our resilience over the long term and support the transparent disclosure of how we deal with long-term climate risk.

Sustainability: embracing change

Sustainability is a concept that is constantly evolving. However, in all that we do, we will continue to place one value above the rest – safety first. As part of our Journey to Zero safety program, Suncor is committed to eliminating all workplace incidents. And while we continued to reduce lost time injuries, recordable injury frequencies and loss of containment incidents in 2017, we regrettably suffered the tragic loss of a contractor during the year. We won't rest in our pursuit of a safe and incident-free workplace.

We all have a role to play in shaping our shared energy future. The challenges we face are complex and require creative collaboration. We need to be bold, innovative and open-minded.

By taking the long view and continuing to listen and learn from others, we at Suncor hope to play a constructive role in the transition to a better energy future. Together, let's keep the conversation going.



Steve Williams
President and Chief Executive Officer



ABOUT OUR REPORT

Our sustainability reporting journey goes back two decades, and this 2018 Report on Sustainability continues our approach to transparency. It's one of the ways we measure progress, and continually monitor and assess the impacts and benefits of our business.

Framework

We've prepared this report in accordance to the Global Reporting Initiative Standards: Core option, with additional use of their Oil and Gas Sector Disclosures. We also disclose our [United Nations Global Compact \(UNGC\) Communication on Progress](#) throughout this report. This is part of our support for their 10 Principles which guide our approach to sustainability.

Report format

Available in English or French, this report was prepared to engage a wider audience interested in our sustainability priorities and performance through the use of multiple formats – a downloadable PDF, complemented by an online version available at sustainability.suncor.com.

Scope

Consolidated company-wide economic, environmental, safety and social performance from January 1st to December 31st 2017 is reported for assets we operate only (unless otherwise stated), including five-year data trends where possible.

Facility or business segment performance, where applicable, is available for [download](#). Joint ventures not operated by Suncor are excluded, unless otherwise stated. Information regarding events or performance in early 2018 may also be included, where possible.

In certain cases, economic and operational data is aligned in a consistent manner with our annual financial reports (which may include non-operated assets). Our financial performance and description of our business is also presented thoroughly in our 2017 Annual Report.

Assuring accuracy

We engaged Ernst & Young LLP to provide review-level assurance on selected performance indicators for the year ended December 31, 2017 using the GRI Standards and sector disclosures.

Materiality assessment for determining report content

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

We review priorities for our report annually and, in early 2018, we conducted a more in-depth materiality assessment to ensure we accurately considered a broad range of perspectives.

Materiality, in the sustainability context used for this report, refers to the relative significance of environmental, social, governance and economic priorities and their impacts (both positive and negative) to both our business, and to our stakeholders.

Materiality assessment process

In early 2018, 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. The following process was used:

Identify sustainability topics

An initial list of topics was compiled using several frameworks and methods to better understand areas of importance to our stakeholders and to our business, including:

- Global Reporting Initiative Standards (Materiality Principle and Principles for Defining Report Content)
- Sustainability Accounting Standards Board
- recent Suncor materiality assessments and results
- industry benchmarking and research
- topics identified through our internal strategic issues management process
- ongoing stakeholder engagement and dialogue

This resulted in more than 30 consolidated sustainability topics, which were then ranked and prioritized by groups of stakeholders and internal subject matter experts.

Rank and prioritize issues

Two in-person workshops were facilitated to capture diverse perspectives, including:

- external stakeholders (academia, community members, business partner, investor and NGO perspectives represented)
- internal subject matter experts and cross-functional employee leaders

Criteria for both workshops were used to prioritize topics and ultimately determine report content and direction.

Suncor materiality matrix



Stakeholder interest

- Direct questions from stakeholders (customers, investors, communities, etc.)
- Social trends
- Extent of media coverage
- Public policy discussions

Impact on business success

- Financial implications
- Legal and regulatory implications
- Reputation
- Effect on operational performance
- Opportunities to boost competitive advantage

Hands-on prioritization activities and discussion helped guide participants to consensus on which topics could have a significant impact on Suncor's business success or that would substantively influence the assessments and decisions of stakeholders over the next 1-3 years. Results of these two workshops were consolidated and shared with workshop participants.

Priorities

Our assessment process identified 4 material priority topics that consistently ranked high priority in both workshops and have informed the focus of our Report on Sustainability:

Aboriginal relations

Why is it important?

The trust and support of stakeholders and Aboriginal communities are very important to Suncor and foundational to successful energy development.

What's Suncor doing in this area?

- By the end of 2017, close to 5,000 employees had completed Aboriginal awareness web-based training
- \$521 million spent with Aboriginal suppliers across Canada in 2017

Operational safety and reliability

Why is it important?

Suncor is committed to incident prevention and learning and continues to raise the bar to improve process safety and reliability performance.

What's Suncor doing in this area?

- We continued to reduce lost time injuries and recordable injury frequencies company-wide in 2017
- We improved reliability in our Refining and Marketing business segment in 2017

Climate change

Why is it important?

In today's polarized world, constructive and solutions-focused conversations about climate change and our shared energy future are more essential than ever.

What's Suncor doing in this area?

- We develop a carbon price outlook annually, and since 2016, carbon risk has been considered one of our principle risks and undergoes an annual Board review
- We invested approximately \$350 million in 2017 in development and deployment of new technologies

Water stewardship

Why is it important?

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.

What's Suncor doing in this area?

- Continued investment in research and development of water technologies, including academic research and piloting projects on our sites
- We're working towards setting a new long-term water goal to extend our commitment to water conservation

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

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.

Other significant priorities

Our business

We aim to deliver competitive and sustainable returns to our shareholders by focusing on capital discipline, operational excellence and long-term profitable growth. We are also committed to our value of safety above all else. If managed poorly, these priorities could result in unplanned legal, financial, operational or reputational impacts as well as process and personal safety incidents. Managed well, they help to support business continuity, maximize shareholder value, improved productivity and a strong and thriving work culture. These priorities include:

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

Environment

Our environmental performance represents a key strategic risk and opportunity. The management of these issues is subject to strict scrutiny from both government regulators and stakeholders. Poor management of these issues could result in regulatory fines, stakeholder concern, capital

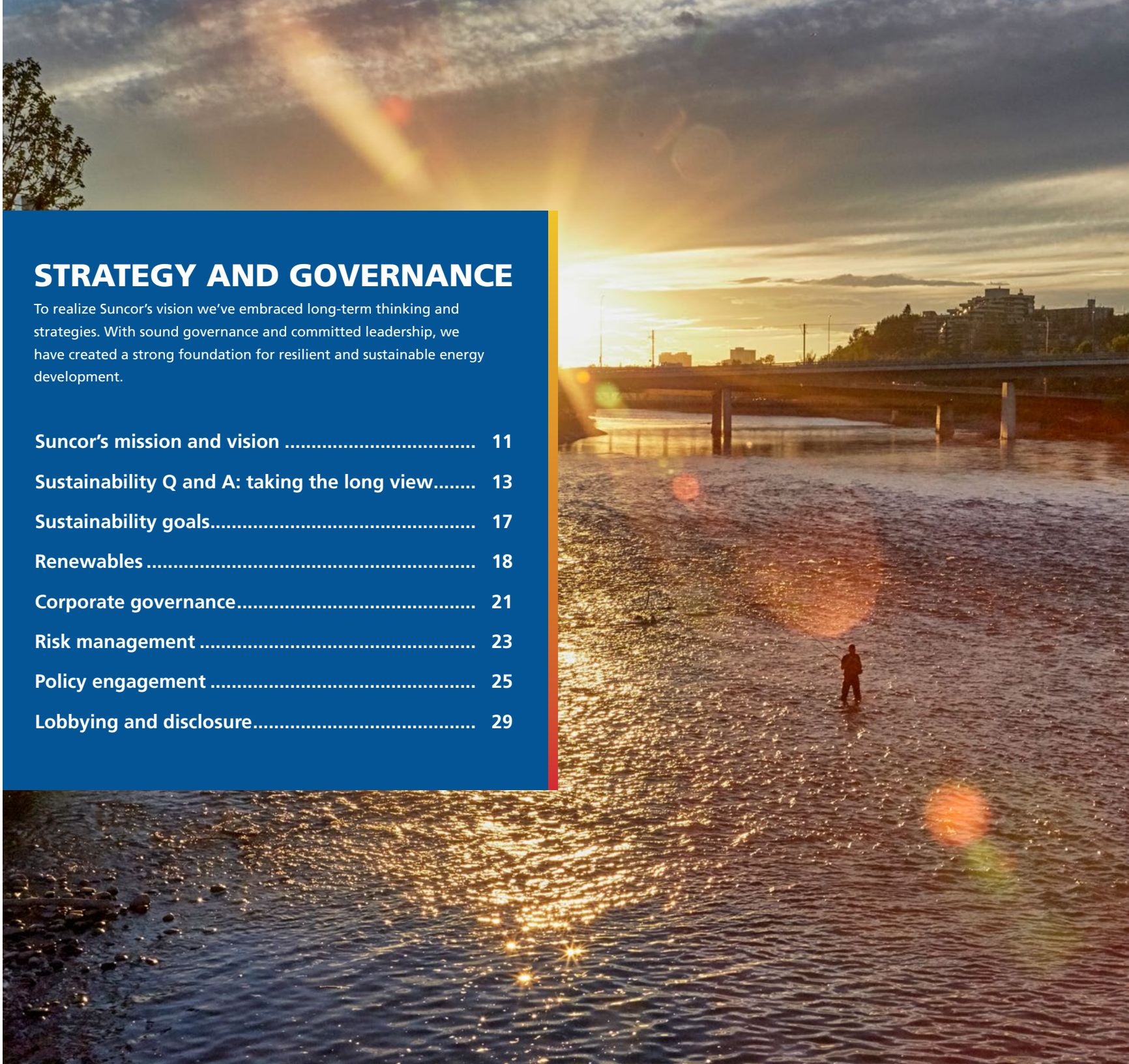
divestment and project costs and delays. Managed well, these issues contribute to a case for innovation, new technology and collaboration with our stakeholders and industry peers to create more value and improved environmental performance. These priorities include:

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

Social responsibility

Continuously earning and maintaining trust with our nearby communities is crucial to our business. If not managed well, these priorities could potentially result in increased project delays and costs, legal proceedings, stakeholder opposition and an erosion of community resilience. Managed well, they present a vital shared value opportunity to build relationships and provide economic and social benefit. These priorities include:

- community investment and social innovation
- stakeholder engagement



STRATEGY AND GOVERNANCE

To realize Suncor's vision 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.

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SUNCOR'S MISSION AND VISION

As Canada's leading, integrated energy company, we know that, together with our stakeholders, we need to look beyond the energy needs of today and understand what is required for the future. Sustainability is about seeing the big picture and working together towards better, more sustainable solutions.

At Suncor we have a mission that defines our core purpose and helps to direct our actions and activities. We have a vision that describes our view of the future and our place in it. Our values are a set of beliefs that guide our behaviour and help us to deliver our mission and realize our vision.

Our mission

We create energy for a better world.

This is our core purpose, and what we aspire to every day.

Our vision

Suncor's vision is to be trusted stewards of valuable natural resources. Guided by our values, we will lead the way to deliver economic prosperity, improved social well-being and a healthy environment for today and tomorrow.

This is where we see ourselves and our company in the future. In other words, it's our view of Suncor's place in the world.

Our values

Our values are our guiding principles – our constant set of beliefs. They define the way we do business each and every day.

Safety above all else

Do it safely or don't do it.

Respect

Being our best. Giving our best. Showing we care.

Do the right thing

The right way – with integrity.

Raise the bar

Pursue with passion. Always add value.

Commitments matter

We are all connected and part of something bigger.

What makes Suncor different from other energy companies?

Suncor's long-life, low-decline asset base, strong balance sheet, integrated model and cash flow diversification set us apart from our peers. We strive to be the low-cost and low-carbon competitor in our sector. Capitalizing on key differentiators, including our expertise and focus on sustainable development and technology, has contributed to our industry-leading position and provided the foundation for delivering long-term value for shareholders.

Long-life, low-decline reserve base

We are working to unlock maximum value from our extensive resources through a continued focus on responsible development and cost discipline. Our focus on operational excellence helps to unlock the full value of these resources.

Sustainable development

We are focused on being a low-cost, low-carbon producer and demonstrating triple bottom line sustainability leadership in:

- environmental performance
- social responsibility
- creating a strong economy

A proven integrated model

From the ground to the gas station, we optimize profits through each link in the value chain. Our highly efficient, integrated model limits Suncor's exposure to heavy crude differentials, with approximately 80% of bitumen production being upgraded to higher priced light oil or refined products. In addition, our offshore business provides geographic and cash flow diversification. Midstream assets provide operational flexibility through the expansion of pipeline storage capacity and access to markets.

Financial strength

We aim to deliver competitive and sustainable returns to our shareholders by focusing on capital discipline, operational excellence and long-term profitable growth. Our strong balance sheet provides the foundation to increase returns and value to shareholders through consistent dividend growth, with 2017 marking the 15th consecutive year Suncor's annual dividend has increased, and share repurchases recommencing.

Suncor's commitment to sustainable development

Continuous sustainability improvement is critical to our business strategy, and it's woven into the very fabric of the organization. Suncor's chief sustainability officer reports directly to our chief executive officer.

As always, actions speak louder than words. Our Report on Sustainability provides several examples of these actions.

SUSTAINABILITY Q AND A: TAKING THE LONG VIEW

With the appointment of a Chief Sustainability Officer, Suncor signals a focused commitment to its proven business strategy.

A conversation with Eric Axford, Chief Sustainability Officer, and Arlene Strom, Vice President, Sustainability and Communications

Suncor's sustainability journey gained increased emphasis in 2017 with the appointment of Eric Axford as the company's first-ever Chief Sustainability Officer. Eric, formerly executive vice president, Business Services, is charged with providing further focus to Suncor's multi-decade commitment to sustainable energy development. As reinforced in this conversation with Eric and Suncor's Arlene Strom, the new position is part of a constantly evolving vision of sustainability that is integral to Suncor's aspiration to be a trusted steward of valuable natural resources in a world transitioning to a low-carbon future.

What is significant about Suncor appointing a Chief Sustainability Officer (CSO)?

ERIC: While I had accountability for sustainability in my previous role, this brings executive focus and clarity to the task at hand. The time of senior management is a scarce resource and this clears the deck to really focus hard on these issues – on all our external-facing issues and opportunities.

The time is right. We've been using these four questions to assess the strength of our business strategy:

1. Should we be in the oil business?
2. Can we compete on cost and carbon?
3. Can we generate the returns we need?
4. Can we navigate today's complex external environment?

You can get to "yes" fairly easily on those first three questions. The uncertainty is in navigating this complex external environment. Can we get the market access and the right policies and conditions we need to be successful and contribute to solving complex challenges? This role relates directly to that challenge. Although some of those things are

accountabilities of other parts of the organization, this is a strategic, cross-cutting role. I'm very excited by it.

ARLENE: I think it's huge and I'm already hearing from stakeholders and industry peers about how significant it is to see someone at the most senior executive level representing this vital component of our business strategy. It's a reflection of Suncor's multi-decade journey and commitment when it comes to sustainability.

Does the appointment of a CSO mark an evolution in Suncor's view of what sustainability is all about?

ERIC: If you look at the literature on best practices, you'll see that companies usually begin by dealing with sustainability on an issues management basis. But as companies mature, sustainability becomes more of an integrated capability. The role of a CSO is then to ensure the organization is living up to its commitments, values and beliefs.

I can see and feel that at Suncor. Of course, it's time to have a CSO at the executive level – in part, because we've matured through a 20-year journey to actually build this capability deeply into our culture. My role is different now than it would have been 10 or 15 years ago. This isn't about issues management; it's about developing a strategy and capability right across the company. I'm a custodian of that strategy while the work is distributed among more than 13,000 people.

What's Suncor's vision for sustainability going forward? How is it changing?

ERIC: I think that's part of our evolution. We are framing sustainability to include things that are a natural fit, but perhaps haven't had the same focus and profile until now. For example, we've always understood the importance of diversity and inclusion, but now we are recognizing these issues as an integral part of our sustainability strategy. That will help elevate the urgency of addressing these challenges.

ARLENE: That's at the heart of this appointment. This CSO role demonstrates we are thinking more deeply about the path forward. For example, the fact that Eric is stressing the importance of diversity and inclusion highlights the evolution in our thinking as part of a broader vision of sustainability.

The United Nations (UN) has set out 17 Sustainable Development Goals (SDGs), many of which have some application to a company like Suncor. Does that provide a useful guideline for broadening the concept of sustainability?

ARLENE: The UN goals are a reflection of the global conversation on sustainability. To me, they are exactly that – guidelines and a framework that can help us map our own goals, objectives and strategies. They help us fit into the global conversation and, by doing that, we are addressing stakeholder concerns.

ERIC: It's an interesting way to help translate what we're doing when we are talking to global stakeholders, because so many of them are aware of the UN goals. I think there is a good overlap. Now, the goals are framed at a high level to end poverty, protect the planet and ensure peace and prosperity. But, frankly, we all have the opportunity to address issues of poverty, environmental protection and discrimination. The SDGs allow us to have a more integrated conversation.

Suncor CEO Steve Williams has talked a lot about “taking the long view of being in the energy business.” In that context, is sustainability even more important?

ERIC: At the crux of it, sustainability is all about the long game. If you plan to be in this business for the next 50 to 100 years, you think quite differently. To be successful, you must consider the needs of stakeholders, investors and society as a whole. The nature of the oil sands business – including the very large capital investments that are required – means you have to take a long-term view. So it's really quite conducive to a sustainability strategy.

ARLENE: If you are looking at the long term, your compass is clear. As you start to map out where you are going, there are signposts along the way. As an organization committed to sustainability, we want to make sure we have great headlights – that we can see what's coming at us and we're reading those signposts correctly.

How important is goal-setting and ambition to this vision of sustainability?

ARLENE: It's very important. We've been ahead of the curve on setting ambitious goals. And we are reframing our long-term goals to drive changes in behaviour. We are also measuring our progress against these

goals by setting targets and reporting our progress against these targets.

ERIC: I think aspiration is a wonderful thing. We've always set goals that some have described as audacious. It's often a little unclear, even to us, how we will achieve them. But it's helped bring focus and clarity to what we are trying to do. Now, the fact is we've met most of the goals we've set; our people continually find ways to innovate and meet even what appear to be very audacious targets.

As a concrete example, Suncor is targeting a 30% reduction by 2030 in the total greenhouse gas (GHG) emissions intensity of its oil and petroleum products. How does that change day-to-day decision-making?

ERIC: It has a very real impact. Once you've made a public commitment like that, there's really no going back. When we first set that target, we did not really see how we were going to close that gap. But, we had committed to a goal to harness technology and innovation to help us contribute to a low-carbon economy and we knew we needed a target to help us measure our progress. Since committing to the target, we've been focused on strategies and technology investments to do just that. As a result, we can now see a realistic path to achieving the GHG intensity reduction. One thing about this industry is that it's filled with a lot of very bright scientists and engineers who like problem solving and finding tangible solutions.

Suncor has said that, to succeed over the long haul, it needs to be globally cost and carbon-competitive. Where are you on that spectrum?

ARLENE: We are very excited about the lower emissions intensity of our most recent project. Fort Hills is actually equal in carbon intensity to the average refined barrel in North America. That's real progress. For future growth, we know we can and will get beyond today's technologies. That will be necessary to contribute to Canada's commitments to reduce its emissions, and ultimately, bend the curve on absolute emissions as well. Last year alone, we invested \$350 million developing and deploying new technologies.

ERIC: The oil sands is a surprisingly low-cost producer when you look at the full economics over the long term. Technology and innovation has been critical, both in terms of reducing costs and improving environmental performance. It will be even more critical going forward. Some of the new

in situ technologies we are developing hold the potential to reduce GHG emissions intensity by 50-70% over current methods. We are also working collaboratively with industry partners and others to improve our collective performance. We know we will need to drive not just continuous improvement, but transformative improvement to remain competitive in a low-carbon future. We believe we are on the path to doing that.

While our own emissions will continue to go up in the short term as we grow production, Suncor is taking steps – including replacing coke-fired boilers and expanding cogeneration – that will help “green” the Alberta electrical grid.

The bottom line is we support a de-carbonizing world and we have a place in that world. And technology and innovation are vital to that.

Suncor has also set a long-term social sustainability goal focused on increasing the participation of Canada’s Aboriginal Peoples in resource development. How is that progressing?

ARLENE: We are really proud of the agreement that was completed this past year, in which the Fort McKay and Mikisew Cree First Nations acquired a combined, 49% equity position in Suncor’s East Tank Farm Development – the largest investment to date by First Nation communities in Canada. By the First Nations’ own declaration, this is game-changer. It demonstrates that mutually beneficial partnerships are possible, and it inspires us in terms of future opportunities with other Aboriginal communities.

We believe we have a role to play in ensuring the communities directly affected by our operations share in the economic benefits of resource development. But this social goal is also about a new way of thinking and acting. This isn’t work we do “for” Aboriginal Peoples. It’s about listening and learning and working together. Part of what we’re trying to do is increase awareness of the history and experiences of Aboriginal Peoples, starting within our own company. Close to 5,000 Suncor employees have gone through our web-based Aboriginal awareness program, which was developed with guidance from partners like Reconciliation Canada as well as our own Aboriginal employees. Suncor’s Aboriginal Employee Network is growing rapidly and any Suncor employee can join the network. We all learn together through this network.

ERIC: Our social goal is a journey and we’ve still got a long way to go. But we’re determined to make progress in multiple areas. We are trying

to play a supportive role in the ongoing reconciliation process. We are looking for ways to collaboratively support Aboriginal youth, the fastest growing segment of the Canadian population. We are working with our supply chain, trying to increase revenues to Aboriginal businesses and communities. We feel we have the opportunity to make a difference and, while I’m proud of what we’ve done so far, I’m always thinking we need to do more.

How important is good governance to realizing Suncor’s sustainability vision?

ERIC: Governance is very important to us. Simply put, it’s about thinking through the way an organization is managed and governed, goals are set, accountabilities are established, and performance is stewarded and monitored. I think Suncor is widely recognized for having strong practices in this regard. We have certainly connected sustainability and governance right up to our Board of Directors, with common lines of sight throughout the organization.

ARLENE: Both Eric and I represent sustainability issues at every meeting of the Board’s Environment, Health & Safety and Sustainable Development Committee. Eric is also at the full Board meetings, representing these issues on a regular basis. And discussions around sustainability – including issues of climate and carbon risk – are a full and robust part of Suncor’s annual strategy process. All of that helps set the right tone for oversight from the Board.

Is good governance and transparency also about creating long-term resilience?

ERIC: Absolutely. It’s an uncertain, dynamic world out there and, if you are going to be a resilient energy company you have to transparently assess, manage and report on the principal risks facing your business. A great example of that is Suncor’s stand-alone annual climate report, which was the first of its kind in the Canadian oil and gas industry. The report discloses our best assessment of the business risk associated with climate change and the transition to a low-carbon economy. By evaluating our resilience through a range of potential scenarios – we also evaluate the strategies we are taking to mitigate that risk. The report provides a clear-headed explanation of how we can continue to provide energy on a cost and carbon-competitive basis through an energy transition.

That climate report is also helping inform Suncor’s response to the Task Force on Climate-related Financial Disclosures (TCFD), which is an

international initiative to provide companies with a voluntary, framework for climate-related disclosures. Many of the requirements of the TCFD are met in our climate report and we are looking at how we can best align with all of the TCFD recommendations. We have publicly signalled our support for these recommendations and will continue to work together with other affected stakeholders to work out the details of implementation of these recommendations.

Suncor has often talked about the importance of collaboration and stakeholder engagement. Why is that such a critical part of sustainability?

ARLENE: Suncor established a stakeholder relations policy 20 years ago and it has served us well. These principles are more important than ever. We believe that, by bringing people with diverse perspectives together to address complex problems, we can accomplish so much more than we could on our own. You can see this in our collaboration with groups like the Energy Futures Lab and the Ecofiscal Commission. Both are focused on finding practical solutions that bring people together who seek to contribute to addressing the challenge of lowering our emissions in a resource based economy. Our work with industry partners through Canada's Oil Sands Innovation Alliance to accelerate technology and innovation is another example of collaboration. Or the deliberations with other companies, governments and environmental groups to advance progressive climate change policies. Or, through the Suncor Energy Foundation, we have brought diverse leaders, organizations and Indigenous community members together on a regular basis – through these gatherings, our community partners have changed collaborative strategies and we have been inspired – our social goal was inspired through these gatherings.

What's common to all these collaborations is that we are changed by these discussions. We listen. We learn. It impacts our view of potential solutions and how we conduct our business.

ERIC: That's such an important point. The whole concept of sustainability starts with listening to stakeholders and working with them collaboratively. We won't always agree, but we need to be ready to engage, with respect and an open mind. Without that commitment to dialogue, you end up trapped in old ways of thinking. You need to be agile, understand that you can always learn something new. You need to find ways to embrace change, not resist it. This is part of our core philosophy and I think it's provided us with a significant competitive advantage.

SUSTAINABILITY GOALS

Suncor's sustainability goals reflect our focused efforts on strengthening relationships with Aboriginal Peoples in Canada and reducing our greenhouse gas (GHG) emissions intensity.



Continuous improvement of our long-term environmental, social and economic performance requires an evolution of our business that's beyond our current capabilities. This is necessary to align our vision, of creating energy for a better world, with the realities of an energy system in transition.

We established our social and GHG goals in 2016, with a baseline year of 2014, as guide posts to drive performance improvement. More detail about these goals is provided in our Aboriginal relations and climate change sections of this report.

Social goal: strengthening our relationships with Aboriginal Peoples in Canada

Our social goal reflects our commitment to change the way we think and act as an organization and build greater mutual trust and respect with the Aboriginal Peoples of Canada. The goal outlines four areas to focus on through 2025 and beyond where we can work together to advance

greater participation of Aboriginal Peoples and communities in energy development:

- strengthening relationships between Aboriginal Peoples and all Canadians
- partnering with Aboriginal youth to develop leadership potential
- partnering with Aboriginal businesses and communities
- significantly improving our Aboriginal workforce development

GHG goal: reducing our GHG emissions intensity

We share in the global challenge to address climate change by reducing emissions while providing the energy the world needs. 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:

- energy efficiency and continuous improvements of our base assets
- strategic technology implementation to reduce extraction and upgrading emissions
- greening the electricity grid through investments in low-carbon power such as cogeneration and renewables

Our commitment to water stewardship

We are also focused on extending our commitment to water stewardship by working to develop a new long-term water goal. Our plan is to take a watershed approach to this goal and to work with stakeholders and Aboriginal communities to determine where we can have the greatest impact.



RENEWABLES

Why renewable power?

Global demand for energy sources is dramatically increasing, and renewable power development will be a key part of the transition towards a low-carbon future. We share in the global challenge to tackle climate change head-on by reducing emissions, while continuing to develop and supply energy options that meet future energy needs.

Suncor has an ambitious greenhouse gas (GHG) emissions goal to reduce carbon intensity by 30% by 2030, and investment in renewable energy is part of the solution. As a large electricity generator and consumer in Alberta and an industry player keenly focused on reducing its carbon footprint, Suncor is eager to work with policymakers, industry partners and other stakeholders to increase investment in renewable power development. Wind and solar power are safe, reliable and emissions-free energy sources and we want to continue to be providers of energy from renewables.

The development of renewable power projects also contributes to Suncor's long-term social goal to advance relationships and build mutual trust and respect between Aboriginal Peoples and all Canadians.

Living the Suncor values

Developing wind and solar projects contributes to Suncor's GHG emission reduction goals. We recognized the value of renewable energy back in 2002 when we commissioned our first wind power project in Gull Lake, Saskatchewan. Since then, our investments have been primarily focused on wind power across many jurisdictions in Canada, and we continue to evaluate other renewable technologies, including solar.

Over the last 16 years, we have developed eight wind power projects with a gross-generating capacity totaling 395 megawatts (MW), of which we have retained 111 MW of gross generating capacity. The Alberta wind projects alone have produced more than 800,000 carbon credits, that are utilized to offset our carbon footprint in our oil sands business.

Suncor's continued investment in renewable energy contributes to our social goal and provides opportunities to increase participation of Aboriginal Peoples, communities and businesses within the renewable industry.

The 40 MW Adelaide wind power facility, located in southern Ontario, was Suncor's first significant equity partnership with a First Nations community.

Under the partnership agreement, the Aamjiwnaang First Nation has a 25% interest in the project, and continues to be involved through regular update meetings.

In 2017, the Suncor Adelaide Wind Limited Partnership also sponsored the Southern First Nations Secretariat's Strong Leadership through Strong Governance program. The sponsored week-long course brought faculty from the Banff Centre for Indigenous Leadership to First Nations leaders in southern Ontario, to build capacity in community governance. By supporting education and training for leaders in Aboriginal communities, Suncor and our partners contribute to strengthening community resilience.

Throughout the development of our renewable energy projects, Suncor engages with local community members in proposed project areas to talk about Suncor, renewable energy, and community needs and concerns. We endeavour to work in an open, respectful and transparent way, engaging with communities early to alleviate and resolve issues.

Our renewable power portfolio

Suncor's current renewable power portfolio consists of partnered operational projects as well as numerous development opportunities across Canada.

Development opportunities

Ontario

In September 2016, the Ontario government announced a suspension of the second round of the Independent Electricity System Operator's (IESO) Large Renewable Procurement (LRP) II process. Since this announcement, Suncor has refocused its efforts to pursue strategic investments in western Canada, where new renewable power generation targets have been set.

Alberta

The [Government of Alberta's Climate Leadership Plan](#), effective January 1, 2017, committed to phasing out 6,300 MWs of coal-fired generation in the province by 2030, replacing two-thirds of coal-fired production with renewable energy. Associated changes in legislation and market structure have spurred significant investment in renewable energy projects in Alberta.

As part of Alberta's Renewable Energy Program in December 2017, the first competitive auction process (known as REP I) successfully procured 600 MW of additional renewable capacity. The REP II and REP III programs, announced in February 2018, seek / intend to secure an additional 300 MW and 400 MW of renewable capacity, respectively. In addition, Alberta's merchant market structure provides the opportunity for renewable and non-renewable projects to be developed outside of the REP programs.

Suncor is excited about the renewable opportunities within the province and is well positioned to participate in the development of future projects. Our renewable development portfolio includes seven wind and four solar sites in southern Alberta, totalling more than 1,000 MW of potential development opportunities. These sites are in various stages of development.

Saskatchewan

Moving one step closer to meeting the province's target of 50% renewable power generation by 2030, SaskPower announced a competitive process in 2017 to add 200 MW of wind capacity. Currently, only 3% of the province's generation is attributed to wind power. For the province to meet its targets for generation from renewables, it needs to procure approximately 1,600 MWs before 2030. These targets present independent power producers with significant opportunities within the province of Saskatchewan.

Suncor is actively evaluating opportunities in Saskatchewan. Our development portfolio in the province of Saskatchewan consists of two wind sites that have the potential to provide an additional 400 MW or more of wind capacity to the grid.

Suncor renewables in your community

Delia Purple Martin Colony – Alberta

In the spring of 2017, Suncor had the opportunity to re-engage with local community members who had some questions and concerns about our proposed Hand Hills Wind Power Project. While attending a community function, a Suncor representative heard about concerns that the project might have a negative impact on a local colony of purple martins (a type of swallow). The colony is located outside the area where consultation is required for regulatory purposes but is still in the vicinity of the proposed wind project.

Suncor representatives met with the concerned stakeholders over the summer of 2017 and visited their purple martin colony to understand the community members' questions and concerns. Suncor hired a swallow migration expert to review the information about the project and the colony and share his views about potential impacts of the project with the community.

Through this process, we were able to listen to the community and provide expert evidence that there would be a minimal impact on the bird colony.

Gull Lake Winterfest – Saskatchewan

Through our sponsorship activities, Suncor looks for ways to get to know community members. We believe in engaging stakeholders where they naturally gather, in order to share information and gather feedback about our proposed projects, instead of always making stakeholders come to us.

One example of this is Suncor's annual sponsorship of the Gull Lake Winterfest, which draws community members from both Suncor's existing SunBridge Wind Power Project and our proposed Shaunavon Wind Power Project. At this annual day-long event in February, Suncor had a booth to share information and receive questions and concerns about our proposed project, volunteered to help serve dinner and sponsored the fireworks show.

Through this opportunity, Suncor representatives met people who were interested in our proposed projects but would not necessarily come out to an open house. It also provided us the opportunity to contribute to the community through volunteering and sponsorship activities.

Youth Opportunities Unlimited in Strathroy – Ontario

In 2017, the Suncor Adelaide Wind Limited Partnership began what we hope will be a long-term relationship with the Youth Opportunities Unlimited (YOU) Next Wave Youth Centre in Strathroy, Ontario. This youth centre, located in the heart of the Adelaide wind power facility's operating area, is a creative and fun place where youth can get assistance with obtaining work, finishing school, finding housing or getting other support for whatever issues may arise.

Suncor's contribution in 2017 enabled the centre to address urgent infrastructure needs to keep the building open and fully operational to continue serving youth aged 12 to 30 in our project area. We look forward

to our ongoing partnership in 2018 as YOU seeks to build up its social enterprise, Market Quality Preserves (MQP). This program instructs youth on the preparation, production, packaging and sales of various jams, jellies, salsas and spreads. The youth gain confidence in the kitchen while learning life skills and employment skills to help prepare them for their future in the workplace.

Biofuels

Since 2006, Suncor has been making a significant impact in Canada's emerging biofuels industry. We invest in biofuels, particularly ethanol produced from corn. Ethanol is a cleaner burning, renewable resource.

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.

The ethanol production industry is expanding in Canada and the United States. New government regulations require that a percentage of ethanol be blended into fuels to reduce the environmental impacts of vehicle emissions.

The Pembina Institute conducted a Life Cycle Value Assessment for our St. Clair Ethanol Plant, which estimated that overall CO₂ emissions could be reduced by up to 300,000 tonnes per year by blending 10% ethanol from the St. Clair plant into gasoline.

CORPORATE GOVERNANCE

[Suncor's Board of Directors](#) (Board) supervises the management of our business and affairs on behalf of our shareholders. Its responsibilities include governance, strategic planning and stewardship of Suncor. Our Board has processes in place to help ensure Suncor lives up to all regulatory requirements and the standards of excellence we set for ourselves.

The Board's responsibilities also include the following:

- identifying principal risks and ensuring systems are in place to effectively monitor, manage and mitigate those risks, ensuring Suncor has an effective strategic planning process
- overseeing the establishment and enforcement of Suncor's Standards of Business Conduct
- ensuring systems are in place for communication with investors and other stakeholders
- selecting, monitoring and evaluating executive leadership and aligning management's decision-making with long-term shareholder interest
- ensuring processes are in place to monitor and maintain the integrity of Suncor's internal controls and management information systems

A diverse and experienced Board

The Canadian Board Diversity Council (CBDC), notes that having a diverse, experienced and well-credentialed Board of Directors improves Board discussions, contributes to greater diligence when decisions are being made, and leads to improved financial performance and shareholder value.

Suncor's Board aims to be comprised of directors who have a range of perspectives, insights and views in relation to the issues affecting Suncor. It searches for members from diverse backgrounds, with regard to gender, ethnicity/Aboriginal status, age, business experience, professional expertise, personal skills, stakeholder perspectives and geographic background.

To encourage board diversity across Canada, our [president and chief executive officer, Steve Williams](#), is a supporting CEO of the CBDC, while Suncor is a founding sponsor.

Suncor is also a proud supporter of the 30% Club of Canada, a not-for-profit organization that is focused on the continued drive towards achieving greater gender balance at all levels, including an aspirational objective of 30% women on boards by 2020. Suncor's Board has 40% female representation.

Good corporate governance is a critical part of our business culture and how our directors make decisions in the best interest of our shareholders.

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, who 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 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
- our vice president of sustainability and communications, who reports directly to our chief sustainability officer (CSO)

Sustainability governance

Chief Sustainability Officer (CSO)



Eric Axford was appointed as Suncor's first-ever Chief Sustainability Officer in 2017. In this role, Eric plays a key role navigating the many external relationships and strategic collaborations required for Suncor's commitment to sustainability. This appointment reflects a commitment to move beyond issues management, to developing capability throughout the company to meet strategic objectives. Eric presents on sustainability matters at every meeting of the EHS&SD committee of the Board, and represents them at periodic Board reviews.

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 with respect to Suncor's strategies and policies pertaining to environmental, health, safety and sustainable development
- policies, including 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

Environment, social and governance (ESG) issues and Board practices

ESG factors also play a role in director recruitment, Board evaluation and committee representation. To ensure Suncor's Board has the right expertise:

- the Board revised its skills matrix in 2017 to ensure skills and experience in environment, health, safety and social responsibility were desired competencies
- the governance committee conducts the selection process for new Board nominees and seeks to have a representation of diverse backgrounds, experience and skills

Suncor's Board practices around performance evaluation and compensation consider ESG factors by:

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

RISK MANAGEMENT

We believe risk management is fundamental to achieving our business goals, and requires a culture of operational discipline.



Suncor has an established Enterprise Risk Management Program and Operational Excellence Management System which support effective and efficient risk management across the organization.

Risk management approach

We make risk-informed decisions that reflect our triple bottom line responsibilities. This requires ongoing identification, assessment, treatment and monitoring of risks inherent to our assets, activities and operations. Some of these risks are common to oil and gas industry operations broadly, 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 tools such as Risk Management Standards and a Risk Matrix to effectively identify and assess risk across the enterprise. This policy and supporting tools drives a risk 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 generally considered those that have the potential to materially impact our ability to meet or support our business strategy. 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.

Risk governance

All levels of our organization are engaged in our Enterprise Risk Management (ERM) program – from the [Board of Directors](#) (BOD) and Audit Committee, which are responsible for oversight of our principal risks and ensuring there are systems in place to manage their impact – to individual business units and functions, which regularly identify, mitigate and report on critical risks in their areas of business.

Risk responsibility, accountability and ownership are assigned to ensure appropriate management of identified risks. Dedicated risk co-ordinators are embedded within each business area, and are instrumental in building risk awareness and supporting the critical risk process across their area to ensure proper accountability and stewardship of risks.

All Principal risks must be reported annually to the Board of Directors and Audit Committee. Each Principal risk has direct oversight by an Executive Leadership Team (ELT) member and is regularly reported to the appropriate committee.

Our [2017 Annual Information Form \(dated March 1, 2018\)](#), 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 and reviews it on a more regular basis.

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:

1. Health and safety
2. Environmental
3. Regulatory
4. Reputation
5. Financial impact

Operational Excellence Management System (OEMS)

Operational excellence is a disciplined way of running our business using consistent practices to continually improve our performance and operating in a way that is safe, reliable, cost-efficient and environmentally responsible. The OEMS is our framework of controls with consistent standards, processes and procedures that enable Suncor to consistently and effectively:

- manage risk
- operate safely and reliably

- mitigate environmental and social impacts
- develop and share best practices
- support continuous improvement

Sustainability considerations in project development

To ensure holistic development and sustainment of physical assets, we incorporate environmental and social aspects such as water use, air emissions, energy use, human rights, stakeholder and Aboriginal relations into new projects.

The purpose of sustainability integration into our process for developing physical assets is to ensure:

- environmental and social risks are identified as part of the project definition
- development options are evaluated against environmental and social risks through the concept selection process
- environmental and social risks are incorporated into the project's risk register
- Suncor's project portfolio is in line with our strategic sustainability goals and vision over the long term

These screening assessments help translate relevant social or environmental impacts as potential project risks. For example, climate change implications are considered early in the asset development process, prior to the commitment of significant resources, which ensures climate change risks and opportunities are well understood. From a decision-making perspective, this process allows asset development options to be analyzed from both a technical and sustainability perspective.

POLICY ENGAGEMENT

We participate in public policy discussions on energy and the environment, and regularly communicate with governments in jurisdictions where we operate.

We ensure our participation is in compliance with all political contributions and lobbying regulations, and report government interactions consistent with the law and company policies.

Increasingly in Canada, public policy is developed through open and transparent processes, incorporating the expertise and perspective of a broad range of stakeholders. Suncor participates in these forums, bringing our industry perspective and a solutions-based mindset to advance responsible development.

We support governments taking a reasoned and outcomes-based approach to policy development. We believe policy should be built on evidence-based information and perspectives

Constructive dialogue and transparent sharing of information are critical in guiding our interaction with governments and stakeholders towards the development of practical policy solutions. These activities promote responsible development of existing and new energy sources. We aim to decrease the probability of reactive policy development by working to reduce polarized dialogue.

Our policy position with governments includes:

- applying a broad-based economy-wide carbon price
- encouraging a healthy debate about energy solutions
- understanding the role of and supporting advancements in research, technology and innovation
- considering energy development and distribution costs and benefits
- encouraging Aboriginal economic collaboration and capacity building
- developing vibrant, sustainable communities
- supporting Canada's long-term prosperity

Economic policy

Royalties and taxes

Royalties and taxes should deliver a fair return to government, while providing industry with a competitive, stable and predictable fiscal framework on which to base long-term investment decisions.

Policies should recognize market factors, such as challenges faced by corporations competing in a global economy.

Levies added over and above current royalties and taxes need to be holistically considered and understood in terms of costs, outcomes and competitiveness against other jurisdictions in which Canada's natural resources compete.

Transparency

We support policy and regulations that promote transparency and advocate for rules that are consistently applied and respect agreements with First Nations.

Cumulative impact of policy changes

We continually study expected cost increases resulting from existing and proposed policy changes. The study findings are used to inform our approach to the energy systems dialogue. They help us reflect on opportunities holistically and provide context for policy-makers and regulators so that we can fully consider all aspects of potential policy and focus on how to incent constructive outcomes.

Market access

Our oil sands industry makes a strong contribution to meeting global energy demands, while creating jobs, contributing to the economy and generating revenues for government to fund social programs across Canada. Suncor supports the development of infrastructure that opens access to new markets and ensures global competitiveness for Canadian resources.

Suncor has an interest in all the major pipelines that are currently proposed and/or approved (Keystone XL, Line 3 and Trans Mountain), but it's important to note that no single pipeline will affect our ability

to execute our growth plans. And, because pipeline projects take several years to approve, develop and make operational, it also makes sense for us to tap into existing rail and marine networks to transport our products to market.

Pipelines continue to be the safest, most efficient means of transportation for crude oil and other petroleum products, and we are working with stakeholders to address many of these concerns from a producer's perspective and are engaged with governments to the same extent.

In addition to the existing comprehensive and robust regulatory framework in place that governs development and operation of pipelines and other large infrastructure projects, Environment and Climate Change Canada (ECCC) has outlined a new Impact Assessment process through Bill C-69 that focuses its aim to achieve better rules for major project reviews to protect Canada's environment and grow the economy.

In addition, a new Canadian Energy Regulator (CER) has been identified as part of this new process. This new regulator will have the responsibility of ensuring access to safe, affordable and reliable energy and guiding Canada's transition to a low-carbon economy. The new CER seeks to achieve modern effective governance, more inclusive engagement, greater Indigenous participation, stronger safety and environmental protections and timely decisions.

We believe efficient, effective and transparent regulatory oversight is the responsible thing to do and will be valuable to accurately inform Canadians, decision-makers and other stakeholders.

Social policy

Local community capacity

In co-operation with industry partners and local business associations, we have been working with the Regional Municipality of Wood Buffalo in northeast Alberta to better forecast future population growth and infrastructure needs.

Building non-profit capacity and supporting key community initiatives continue to be important components of our work in the region.

We also participate in the Athabasca Oil Sands Area Transportation Co-ordinating Committee, where infrastructure needs, funding and financing options are discussed and prioritized.

Environment policy

Federal Environmental Act Reviews

In May of 2016 the Government of Canada initiated a review of Canada's environmental assessment processes. These reviews included the Canadian Environmental Assessment Act (CEAA), the modernization of the National Energy Board, the Fisheries Act, and the Navigable Waters Protection Act, and have resulted in proposed legislation in Bill C-68 and Bill C-69 which were released in February 2018. This proposed legislation is expected to put better rules in place to protect the environment, rebuild public trust through increased transparency and engagement, and grow the economy.

Environmental assessment informs government decision-making and supports sustainable development by identifying opportunities to avoid, eliminate or reduce a project's potential adverse impact on the environment and ensure mitigation measures are in place when a project is constructed, operated and decommissioned.

The proposed legislation has a focus on expanding the types of impacts studied to understand how a proposed project could affect not just the environment, but also health, social and economic impacts as well as impacts on Indigenous Peoples over the long term.

Suncor's response to the review processes to date has reinforced that impact assessment is critical to project development and must be transparent, and effectively and efficiently managed to ensure public and investor confidence.

The process needs to appropriately balance the economy, the environment and social impact while at the same time incent innovation and future investment.

Lower Athabasca Regional Plan (LARP)

In 2008, the Alberta government introduced the Land Use Framework. The purpose of the Land Use Framework was to manage growth in Alberta by balancing economic, social and environmental goals. The first regional plan, the [Lower Regional Athabasca Plan \(LARP\)](#), was completed in 2012.

The LARP includes management frameworks for:

- air (SO₂ and NO_x)
- surface water quality

- surface water quantity
- tailings management
- regional groundwater management

Each of these frameworks includes interim triggers to allow early indications of change. In 2017, a five-year review of LARP was initiated. A Biodiversity Management Framework and Landscape Management Plan continue to be under development.

On an ongoing basis, we also participate in technical discussions that lay a foundation for future policy and regulation on aspects of tailings management, water return, biodiversity and wetlands.

Greenhouse gas (GHG) emissions

Climate change regulation

We are engaged with all levels of government to establish a credible carbon policy regulatory framework for the oil and gas sector in Canada. Our position is that Canada's oil sands are a world-class responsibly developed resource that is needed to meet growing global energy demand.

We are a strong voice in the call for effective policy to address the Canadian oil and gas industry's GHG emissions. In our view, this includes a carbon price signal that incents the right behaviour and a practical regulatory architecture.

Since 2008, we have advocated publicly in support of a broad-based, economy-wide carbon price. In 2016, we joined the Carbon Pricing Leadership Coalition (CPLC) – and contributed to the CPLC's Canadian industry report in 2017 – to support Canada's Ecofiscal Commission – ultimately broadening the discussion of carbon pricing into the realm of practical policy application.

Our continued collaboration with [Canada's Ecofiscal Commission](#) has generated numerous reports focused on two themes:

- the importance of implementing carbon pricing
- considerations needed for policy design

We support regulatory design that:

- drives best achievable performance from existing facilities
- provides clear support for innovation and technology development that enables game-changing solutions
- positions Canada as a leader in energy innovation
- sets challenging but achievable reduction goals with a process that allows for an increase in ambition as technology develops
- is flexible and provides for multi-jurisdictional compliance pathways
- avoids duplication

Quebec/Ontario – cap-and-trade

Both Quebec and Ontario are members of the [Western Climate Initiative \(WCI\)](#) cap and trade economy-wide emissions trading system. The WCI partners (which also include Manitoba, British Columbia and California) have agreed to cut GHG emissions by at least 15% below 2005 levels by 2020.

Our Montreal and Sarnia refineries are required to purchase carbon allowances to cover their respective stationary emissions, as well as cover the tailpipe emissions associated with the fuel sold in those provinces.

The WCI cap and trade system imposes a limit on the emissions allowed in each sector of the economy. This provides certainty for industries and creates investment opportunities.

With the announcement of the termination of the cap and trade program in Ontario, Suncor will work with the provincial government to explore solutions that achieve the required outcomes while minimizing impacts to people and business.

Low-carbon fuel standards

We continue to monitor and consult on numerous policy initiatives such as the federal government's proposed Clean Fuel Standards (CFS) to reduce Canada's GHG emissions through the increased use of lower carbon fuels.

Suncor's position is that a well-designed carbon price is the most economically efficient and inclusive way to drive responsible emissions reductions right across the energy system, including fuel carbon intensity.

There are specific circumstances where carbon pricing is not enough and the transportation sector is generally regarded as an example. In these cases, additional policies can play a role supporting carbon pricing and achieving emissions reductions at lowest cost.

The challenge is to design a system without adding duplicative layers of cost and administrative burden, while truly complementing GHG policies that can support a carbon price and drive more emissions reductions at a lower economic cost.

Where complementary policies are added to carbon pricing, the objectives of the complementary policy should be clear and the interaction with other policies, and carbon pricing in particular, should be well understood.

Renewable energy

Renewable and low-carbon power policy

In Alberta, the Climate Leadership Plan (CLP) will accelerate the transition from coal to renewable electricity and natural gas generation by 2030.

The government is committed to replacing two-thirds of coal-generated electricity with renewables, primarily wind power, and with natural gas – such as power exported to the grid from Suncor's cogeneration facilities.

Renewable energy sources are proposed to comprise up to 5,000 MW of renewable capacity, which is estimated to be approximately 30% of Alberta's total electricity.

Suncor is an active proponent of increased cogeneration as a key part of the power mix in Alberta, particularly as the province transitions away from coal. Cogeneration provides reliable, base-load power to intermittent renewable power at the lowest GHG intensity of any hydrocarbon fuel.

Collaboration between government and industry is the only way to accelerate the step changes needed for Alberta to transition from an "energy only" market design to a "capacity" market design.

As the sixth largest electricity generator in Alberta and an industry player keenly focused on reducing its carbon footprint, Suncor works with policy makers, industry partners and other stakeholders to increase investment in low-carbon power generation.

Biofuel policy advocacy

Canada's renewable biofuels industry is quickly maturing, and Suncor is working to improve its long-term viability as current government support programs directed at first-generation biofuels decline.

As opportunities arise, we invest in advanced renewable energy technologies to complement the existing biofuel industry. This involves funding outside companies whose technology ideas align with the strategic needs of our operations or businesses.

Suncor supports a flexible performance standard for transportation fuel intensity over more narrowly constructed mandates.

In Canada, there exists a "patchwork quilt" of carbon pricing policies across the provinces, as well as differences in complementary policies across provinces. Over time, this will mean higher costs than necessary. We advocate for both levels of government to ensure that policies work together.

Canada's energy industry has a responsibility to navigate between the aspirational and the realistic, which for the oil sector specifically means continuing to keep the Canadian economy moving, through continued investment in existing energy supply and maintaining critical infrastructure. Policies should provide the certainty required to make necessary investment decisions and not lead to leakage of investment capital. There remains much work to be done to define a unified Canadian energy vision for 2050. The need exists for collaborative policy solutions that can advance our nation's economic ambitions while preserving environmental integrity.



LOBBYING AND DISCLOSURE

Suncor participates in public policy discussions on a wide range of issues relevant to the company's business and regularly communicates with governments in jurisdictions where it operates.

Suncor believes that open dialogue between government, stakeholders and industry leads to improved government decision-making, thereby benefiting shareholders as well as all other stakeholders. Through our engagement activities, we aim to decrease the probability of ad hoc or reactive policy development by working to achieve a balanced approach.

We also believe communication with government officials (otherwise known as lobbying) improves government decision-making through open dialogue among government, stakeholders and industry and better informs government officials about Suncor, the energy industry and the effects of government policies.

Governance

Suncor has a policy that applies to all employees. The policy sets out guiding principles for interacting with governments, including required training and reporting, as well as roles and responsibilities.

Membership disclosures

Suncor participates in industry groups representing the interests of both the energy industry and the broader business community and, in doing so, promotes the public policy objectives important to us, its shareholders and other stakeholders. However, our participation as a member of these organizations comes with the understanding that we may not always support every position taken by these organizations or their members.

Suncor also complies with all laws regarding lobbying and lobbying disclosure. As a matter of general practice, we do not engage third-party (consultant) lobbyists. We are committed to transparency, and share our approach on lobbying and political donations. We also provide a list of organizations and trade associations that may lobby government to which Suncor pays membership dues of greater than \$50,000.

We have a demonstrated track record of transparent reporting. We believe additional disclosure about the resilience of our business strategy in a transition to a low-carbon future benefits shareholders and stakeholders.

Suncor's enhanced disclosure is consistent with our strong focus on sustainability, reflects our openness to engage with shareholders and stakeholders, and reflects best practice within the energy industry in Canada.

The following is a list of organizations and trade associations of which we are a member and that may engage in lobbying of governments.

\$50K - \$100K

- [Business Council of Canada](#) (formerly known as the Canadian Council of Chief Executives)
- [Ceres](#)
- [Colorado Petroleum Association](#)
- [Industrial Gas Users Association](#)
- [The Sulphur Institute](#)
- [Resource Works](#)
- [Strathcona Industrial Association](#)

>\$100K

- [American Fuel and Petrochemical Manufacturers](#)
- [Canada's Oil Sands Innovation Alliance](#)
- [Canadian Association of Petroleum Producers](#)
- [Canadian Propane Association](#)
- [Colorado Asphalt Pavement Association](#)
- [Mining Association of Canada](#)
- [Sarnia & Lambton Environmental Association](#)
- [Oil Spill Response Limited](#)
- [World Economic Forum](#)
- [Canadian Fuels Association](#)
- [International Association of Oil and Gas Producers](#)

For a listing of the groups that receive funding from the Suncor Energy Foundation, please refer to the CRA website and search for Suncor.

Political contributions

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.

OUR BUSINESS

Suncor is focused on being a low-cost, low-carbon producer and demonstrating leadership in environmental performance and social responsibility, while contributing to a strong economy.

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OPERATIONS SUMMARY

Suncor is focused on being a low-cost, low-carbon producer and demonstrating leadership in environmental performance and social responsibility, while contributing to a strong economy.

Suncor Energy is Canada's leading integrated energy company. Suncor's operations include oil sands development and upgrading, onshore and offshore oil and gas production, petroleum refining and product marketing under the Petro-Canada brand.

A member of the Dow Jones Sustainability North America Index, and the FTSE4Good Index Series, Suncor is working to responsibly develop petroleum resources while also growing a renewable energy portfolio. Suncor is listed on the UN Global Compact 100 stock index and also responds to CDP's Climate Change and Water programs.

Suncor's common shares (symbol: SU) are listed on the Toronto and New York stock exchanges.

Suncor has classified its operations into the following segments:

Oil Sands

Suncor's Oil Sands segment, with assets located in the Athabasca oil sands of northeast Alberta, recovers bitumen from mining and in situ operations and either upgrades this production into synthetic crude oil for refinery feedstock and diesel fuel or blends the bitumen with diluent for direct sale to market.

Exploration and Production

Suncor's Exploration and Production (E&P) segment consists of offshore operations off the east coast of Canada and in the North, Sea and onshore assets in Libya and Syria. (Note: Operations in Syria have been suspended indefinitely due to political unrest in the country. Production in Libya has also been substantially shut in due to political unrest, with the timing of a return to normal operations remaining uncertain.)

Corporate, Energy Trading and Eliminations

The grouping Corporate, Energy Trading and Eliminations includes the company's investments in renewable energy projects, results related to energy marketing, supply and trading activities, and other activities not directly attributable to any other operating segment.

Refining and Marketing

Our Refining and Marketing operations further unlock the value of the upstream barrel through our strong refining and marketing network, which includes more than 1,500 Petro-Canada retail stations.

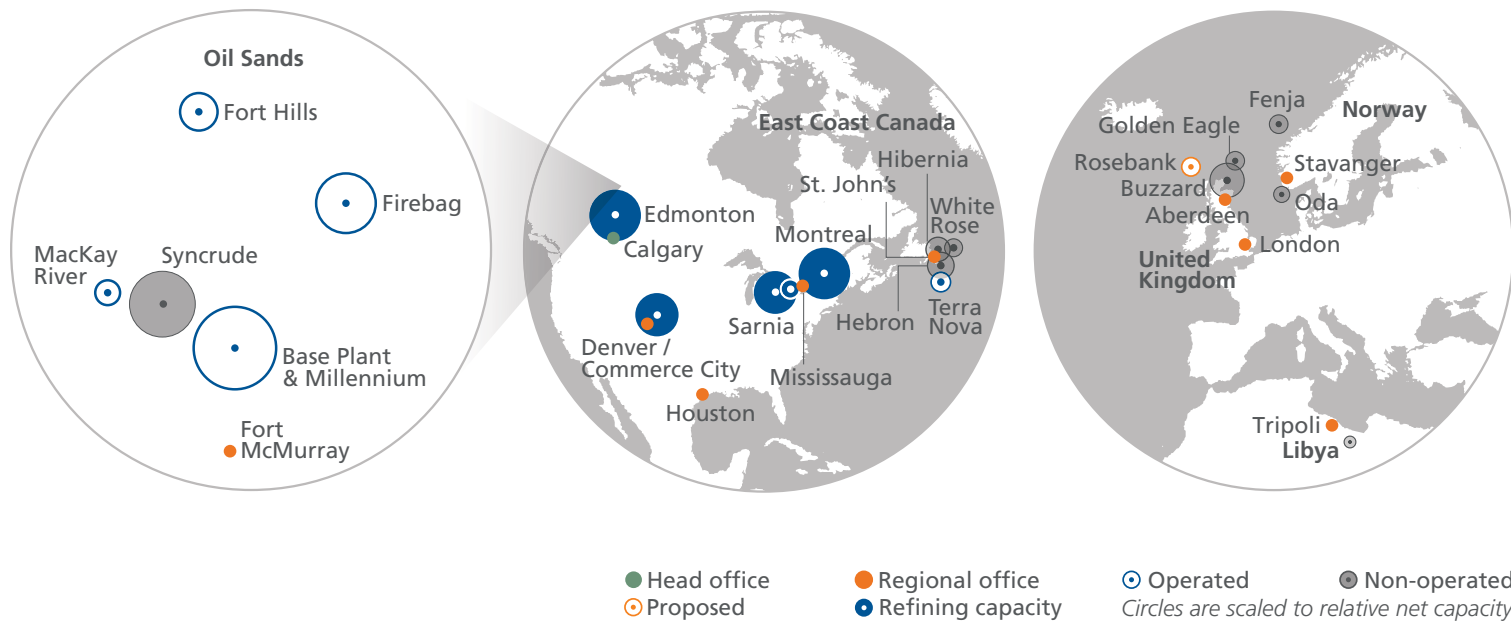
Wind power projects

Suncor is partnered in [four operational wind power facilities](#) in Canada. These wind power facilities have a gross generating capacity of 111 MW, enough to power about 52,000 Canadian homes and avoid approximately 179,000 tonnes of carbon dioxide each year. Our wind facilities are located in Alberta, Saskatchewan and Ontario.

Suncor's St. Clair ethanol plant

Suncor operates Canada's largest ethanol facility — the St. Clair Ethanol Plant in the Sarnia-Lambton region of Ontario. The plant opened in June 2006 and has a current production capacity of 400 million litres per year. Ethanol produced here is blended into Petro-Canada gasoline.

WHERE WE OPERATE





ECONOMIC IMPACT

The economic benefits of our success extend well beyond the returns we provide to shareholders. In 2017, we contributed over \$2.1 billion in royalties and taxes for governments – revenues that were then available to help fund public sector programs, including education, health care and vital infrastructure.

We are committed to a mission, vision and values that guide our business decisions.

Strong economic performance, along with social responsibility and environmental stewardship, is part of being a sustainable energy company. Our investment in energy production, upgrading, refining and marketing benefits the economy by:

- creating well-paying jobs
- promoting economic growth
- providing governments and suppliers with revenues

Development of our core assets also allows us to invest in our renewable energy business and in new technologies to improve company-wide operational efficiency and environmental performance. Our strong economic performance allows us to invest in profitable growth and continuous improvements in our existing operations, despite an uncertain oil price environment. The ripple effects of that investment are felt across the North American economy and well beyond.

In all of these ways, we continue to create value for our shareholders and society at large.

\$2.1
billion

contributed in royalties and taxes for governments in 2017

\$5.8
billion

total capital spending in 2017

\$4.0
billion

spent with Aboriginal businesses since 1999

Royalties and taxes

In 2017, royalties totalled \$931 million, including \$355 million directed to oil sands royalties. As well, income taxes totalled \$1.2 billion* to governments in Canada and internationally.

Capital spending

Capital and exploration expenditures totalled \$5.8 billion in 2017, not including capitalized interest, compared to \$6.0 billion in 2016.

Goods and services

A look at our supply chain spending shows we had close to 5,000 Canadian vendors spanning all 10 provinces as well as the Northwest Territories and the Yukon. The United States was our next biggest supplier (more than 1,300 vendors), and we also purchased from nearly 40 other countries.

We have seven major category groups that are further segmented into categories and subcategories. The taxonomy used to define and create these categories and subcategories is the United Nations Standard Products and Services Code that is used globally to classify products and services. The range of goods and services is extensive and includes:

- aviation services
- chemicals, gases and fluids
- civil works
- construction services
- drilling machinery and accessories
- drilling and completion services

- environment health and safety services or consulting
- electrical
- engineering and consulting services
- facility services or materials
- fleet and fleet parts
- freight and transportation
- ground transportation
- health and wellness
- instrumentation and controls
- information services (hardware, services, applications and infrastructure)
- lodging
- maintenance services
- marketing and sales
- materials (consumables and structural steel/PVF)
- mining equipment
- offshore equipment and services
- professional services
- software
- static equipment
- support services
- tailings on-pond assets
- telecom

The typical split of materials versus services depends on the type of worksite, such as the following:

- operating facilities, where the spend is typically 60% services and 40% materials
- major greenfield construction sites, where the spend is typically 70% services and 30% materials

We also have specific practices in place related to local supplier selection. Regional development clauses are in place with suppliers and in contracts across all businesses, and sourcing documents often have criteria that evaluate suppliers on Aboriginal or local representation.

In addition, our common practice is to post local contract and supplier opportunities on regional organizations' websites such as Regional Economic Development (REDlink) and Northeastern Alberta Aboriginal Business Association (NAABA). This is to ensure local businesses and suppliers are aware of opportunities in their region.

Aboriginal partners

In 2017, we spent \$521 million on direct purchases from Aboriginal businesses. Since 1999, Suncor has spent just over \$4.0 billion with Aboriginal businesses (as direct contractors and subcontractors), nearly half of which was spent since 2013.

* Does not include excise taxes collected and remitted by Suncor.

MARKET ACCESS

Our oil sands industry makes a strong contribution to meeting global energy demands, while creating jobs, contributing to the economy and generating revenues for governments to fund social programs across Canada. Suncor supports the development of infrastructure that opens access to new markets and ensures global competitiveness for Canadian resources.

Suncor has an interest in all the major pipelines that are currently proposed and/or approved (Keystone XL, Line 3 and Trans Mountain), but, it's important to note, no single pipeline will affect our ability to execute our growth plans. And, because pipeline projects take several years to approve, develop and make operational, it also makes sense for us to tap into existing rail and marine networks to transport our products to market.

Market access highlights:

- In late 2016, the Government of Canada provided approvals for the Trans Mountain Expansion and Line 3 replacement, while denying the Northern Gateway project application.
- In March 2017, President Trump issued a presidential permit for the Keystone XL project.
- In October 2017, TransCanada announces cancellation of its Energy East pipeline project.
- In January 2018, in response to continued delays in receiving municipal permits, the National Energy Board (NEB) ruled that Kinder Morgan could bypass such permits to start construction work on its Trans Mountain Expansion, at the Burnaby and Westridge Marine terminals. In March, Canada's Federal Court of Appeal upheld this ruling after it was challenged by the British Columbia government.
- In May 2018, the Government of Canada announced plans to purchase the Trans Mountain pipeline and related infrastructure from Kinder Morgan.
- Suncor will continue to work with governments, regulators, industry associations and stakeholders in support of market access objectives.

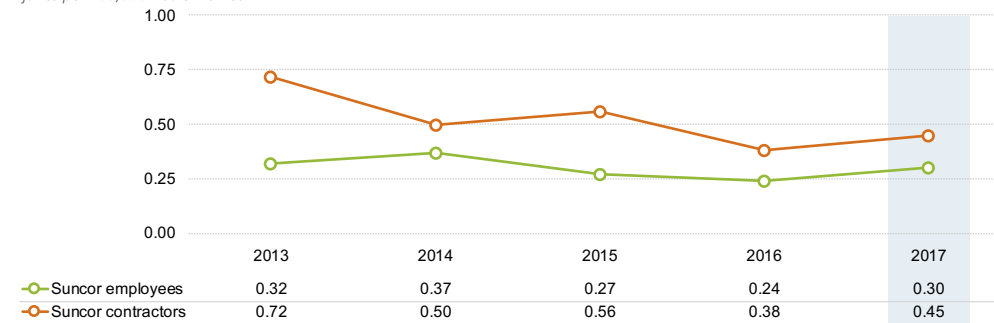
PERSONAL AND PROCESS SAFETY

In October 2017, during excavation activities in our Millennium Mine, we had a contractor fatality. This tragic loss of a colleague reminds us that we can never stop thinking about safety. Suncor must remain focused on incident prevention and learning, particularly in those areas of work where there is the potential for the greatest harm.

We're working to continuously learn, share and improve personal safety efforts by embedding safety leadership into our culture, fully engaging all employees in safety and providing a safe work environment for all employees and contractors.

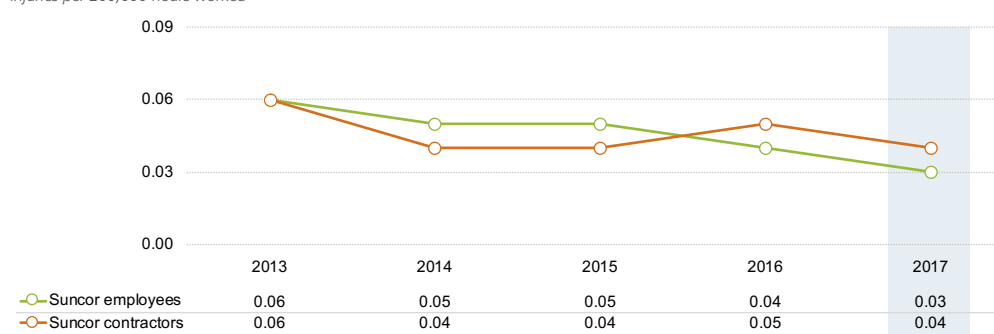
RECORDABLE INJURY FREQUENCY*

injuries per 200,000 hours worked



LOST TIME INJURY FREQUENCY*

injuries per 200,000 hours worked



* For additional information about this chart and its data, please refer to performance data notes (#12 - notes on health and safety) in [Appendix A](#)

2017 SAFETY PERFORMANCE

Suncor's 2017 combined employee and contractor Recordable Injury Frequency performance was 0.40, close to the annual target of 0.39. Our Lost Time Injury Frequency from 2017 was 0.03.

Safety initiatives

We promote workforce safety dialogues and participation through various activities and processes, including:

- procedures to secure site access and ensure we know who's working on our sites

- safety meetings to exchange information, concerns and increase safety awareness
- toolbox talks at worksites focused on specific hazards
- regular safety stand-down sessions to reflect on performance and reinforce our commitment to safety
- a dedicated management system outlining requirements for reporting, investigation and management of incidents, hazards and near misses

Another key initiative is Suncor's Serious Injury and Fatality (SIF) prevention strategy. SIF incidents are tracked and reported, helping identify our top hazardous situations, in which management controls are either ineffective or not complied with, and which could reasonably result in a serious injury or fatality if allowed to continue. Recognizing the situations, learning from these incidents and taking corrective actions are key to preventing SIF incidents.

Incident management and corrective actions (IM/CA) – next steps

We continue to encourage everyone to report all incidents and hazards, and enter accurate and quality information into our enterprise-wide incident and corrective-action management tool. In addition to monitoring the tool to identify and close data gaps, we will also focus on building competence in key IM/CA processes. This includes how we conduct

investigations, perform root-cause analyses and create strong corrective actions. Closing these gaps will enable us to track trends from a growing pool of data to better understand and address our operational risks.

Process safety

Suncor is focused on reducing loss of primary containment incidents by assessing incidents and prioritizing gap closure and continuous improvement opportunities. Effective management has ensured alignment across Suncor to identify opportunities and accelerate performance improvement. Recent improvements include a focus on the quality of process hazard analyses, and competency in consistent identification, and assessment of consequences and likelihood of process safety risks.

Reliability

Through a robust governance structure, senior leadership sets enterprise priorities and manages initiatives to ensure a focused effort on maintaining and improving reliability. Stewardship of key indicators and benchmarking is an important component to ensure progress and sustainment of reliability elements such as asset criticality assignments, strategies, root-cause analysis, work execution, bad-actor elimination and Safety Instrumented Systems (SIS) integrity.

SIS improvement

These systems are key controls to mitigate process safety and reliability risks. A team of Suncor Process Automation Systems experts continuously work towards improving SIS



management. Through this team, Suncor incorporates industry best practices into existing functional safety management programs, to ensure consistency and effectiveness.

Operational controls

Operating Procedures, Safe Work Practices and Operating Envelopes enable our front-line employees to manage operational risks. Suncor continues to raise the bar through the implementation of new standards across the company. Increasing the effectiveness of operational controls helps us manage personal and process safety risks and supports reliability improvement initiatives.

Suncor applies the OEMS to manage process safety and reliability.

We look at lessons from incident investigations to improve process safety and reliability performance. This ensures learnings are embedded in our work practices and mitigating actions are implemented to prevent the reoccurrence of similar incidents. Audits and management reviews are used to ensure Suncor's practices are effective and continuously improve.

ETHICAL BUSINESS CONDUCT

Suncor's 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. The code requires strict compliance with legal requirements and sets standards for the ethical conduct of our business, allowing us to maintain the confidence of our customers, colleagues, shareholders, vendors and the governments and communities where we do business globally.

Standards of Business Conduct Code

Our business conduct policy statement articulates our commitment to sound legal and ethical business practices. We meet this commitment through our Standards of Business Conduct Code, which is comprised of a number of detailed policy guidance and standards (PG&S) and a code compliance program.

Under the code, every Suncor director, officer, employee and independent contractor is required annually to take an online training course and review the code and certify that he or she:

- has reviewed a summary of the code
- understands the requirements of the code
- has complied with the code; alternatively, has disclosed and resolved any non-compliance with the code

Topics addressed in the code, and detailed further in various PG&S, include:

- competition
- conflict of interest and confidentiality
- trading in shares and securities
- improper payments
- fair dealing in trade relations
- harassment

- accounting, reporting and business control
- protection and proper use of corporate assets and opportunities

In 2017, we enhanced our code affirmation process and related resources for employees, independent contractors and suppliers. For example, we:

- Moved our annual business conduct code affirmation and training for employees and independent contractors to our Learning Management System, an online hub where courses are centrally managed. Employees now see it listed alongside all of their assigned learning for the year.
- Re-designed our The Way We Do Business guide, a summary of our code of conduct policies that employees and independent contractors review as part of the annual affirmation they've complied with our code. The guide is an interactive document that can be accessed year-round to support understanding of our expectations on ethical conduct.
- Introduced a supplier code of conduct for suppliers engaged through Suncor's supply chain. It highlights the values that are important to Suncor and is a guide to the standard of behaviour required of suppliers, contractors and consultants who do business with us. The supplier code addresses topics such as safety, harassment, bribery and corruption, human rights and confidential information, among others.
- Continued to build our Acting with Integrity intranet website, a central employee resource for ethical conduct information. In addition to brief presentations and case studies, the internal site hosts videos demonstrating unethical behaviour. The site is intended to bring our code of conduct policies to life, and to keep them top of mind for employees throughout the year.

“Through our training and resources, we help all representatives of Suncor to understand our policies and their responsibility to conduct business in a safe, fair and ethical manner.”

“We know that employees may be faced with situations where they are unsure and want to do the right thing,” says Craig Tomalty, director of compliance and ethics in Legal Affairs. “Through our training and resources, we help all representatives of Suncor to understand our policies and their responsibility to conduct business in a safe, fair and ethical manner.”

Stewarding to business conduct code

- our [Board of Directors](#) exercises stewardship over the code
- internal auditors audit the code affirmation process annually
- the vice president of enterprise risk and audit, who has a direct reporting relationship with the audit committee, reports on compliance to that committee

The code is reviewed at least once annually, and if appropriate, updated. Management reports to the governance committee annually on this review process.

Any waivers of code requirements for executive officers or members of the Board must be approved by the Board or appropriate Board committee and disclosed. No such waivers were granted in 2017.

Raising ethical concerns

We encourage employees to raise concerns about suspected violations of our business conduct code without fear of reprisal from these teams/ departments:

- management
- legal – compliance
- corporate security
- human resources
- internal audit

In addition, we have established an integrity hotline for our employees and contractors to report issues of concern anonymously to a third-party service provider.

The integrity hotline is available 24/7. 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 that all alleged code violations are thoroughly investigated.

Prevention of improper payments

Corruption constrains sustainable economic activity. It hinders the development of fair market structures and distorts competition. More importantly, corrupt business practices undermine citizens’ trust in political and business systems, institutions and leadership. We strive to act transparently and in the best interests of the communities where we operate.

Our position on bribery and corruption is clear and detailed in our PG&S on the prevention of improper payments, which includes:

- funds and facilities aren’t to be used for any illegal or improper purposes
- bribery, kickbacks or any payment to a person to commit an unlawful act, or to influence a person performing public duties, are prohibited, as is the diversion of assets for personal benefit
- personnel are required to comply with all applicable laws concerning improper payments to foreign officials or other third parties

Supervisors and managers are expected to promote a working environment consistent with this PG&S and assist all personnel within their supervision to understand and comply with it.

Suncor also provides additional specialized training for employees for matters governed by the code where it is determined such training would be beneficial. For example, certain employees directly involved with Suncor’s international and offshore operations are required to periodically attend focused workshops, which address, among other items, compliance with sanctions and anti-bribery and anti-corruption legislation and best practices for operating in international jurisdictions where Suncor operates.

Our Board of Directors reviews compliance with this PG&S as part of its annual review of the Standards of Business Conduct Compliance Program. Our chief compliance officer oversees this PG&S and provides periodic reports to the general counsel and the governance committee of our Board of Directors.

Privacy

We collect, use and store personal information about employees, contractors, customers, suppliers, associates and others in the course of business activities. The collection, use and disclosure of personal information is subject to provincial or state, and federal and international laws. We respect privacy rights of all individuals and have policies, procedures and practices to protect those rights.

Competitive practices

We compete for business vigorously, honestly and in material compliance with all applicable antitrust and competition laws. These laws encourage fair competition in the marketplace for products and services.

Those negotiating or administering agreements, involved in advertising and promotion, or participating in industry associations or similar groups, are required to be familiar with local laws regarding competition and trade practices. We identify, select and do business with suppliers who enhance our competitiveness and who have a consistent vision of sustainability and business ethics.

Open, honest and transparent relationships support sound corporate governance and high ethical standards. Within the bounds of commercial confidentiality, we commit to transparent relationships with employees, shareholders and stakeholders alike. We encourage transparent transactions and operating agreements with provisions, that respect the local laws of wherever we operate around the world.

Many of our investments and projects are long term in nature, and we expect to be a corporate citizen for many years in communities where we're located. We have a clear interest in social and economic development in regions and countries where we work.

As such, we support public accountability by governments and transparency of revenues as a means to promote political and economic stability in regions where we operate. And we acknowledge work that the Extractive Industries Transparency Initiative does in this regard.

Conflict of interest

Our governance committee annually reviews a declaration of interest from each Board member to determine if any conflicts of interest exist. In addition, directors are required to maintain with the corporate secretary a current list of all other entities in which they have a material interest or on which they serve as a director, trustee, or in a similar capacity.

DIVERSITY AND INCLUSION

We are committed to a culture of inclusion at Suncor, and we know this means we must change the way we think and act across the organization.

We believe diversity of thought, experience, skills and background across our workforce leads to better outcomes and is proven to improve innovation and performance. We also believe:

- a culture of inclusion allows us to attract and retain a broader range of talent
- intentionally bringing people together who think differently adds value to the conversation and helps make better, more innovative decisions
- in creating an environment where all employees are treated respectfully and feel valued

We proactively review our representation, retention, development and demographic data to understand our progress, guide our focus areas, help tell the story and ensure our workplace reflects the demographics of the communities in which we work. Suncor's success in diversity and inclusion (D&I) is not solely about metrics, it's about the power of inclusion and the impact this has on our business outcomes.

“This is about more than equal opportunity or demographics. We are moving forward on integrating diversity and inclusion into our people processes and reducing the unconscious bias of employees and leaders across our company,”

– Pat White, vice president Talent, D&I Council chair.

Managing and enabling D&I

How D&I is managed

- Suncor's Board diversity policy
- our CEO's goal to ensure Suncor has the competent, engaged and

diverse leadership, workforce and culture it needs to achieve its triple bottom line objectives

- Suncor's D&I Council, which was formed in 2017 with cross-functional leaders who represent Suncor business and functional areas
- our Standards of Business Conduct Code
- Suncor's social goal
- a harassment and violence-free working environment policy

How D&I is enabled

Suncor's D&I strategy and its five focus areas:

1. Leadership and ownership
2. People processes
3. Awareness and skill development
4. Employee networks
5. Community and industry

Leadership and ownership

- Our D&I Council members are senior leaders from across Suncor.
- Leadership development programs are built on developing core competencies and focused sessions on leveraging differences. Inclusion is a core competency for all people leaders at Suncor.

People processes

- With unconscious bias training, we reduce systemic bias by leaders and our Talent Acquisition recruitment team through our people processes (hiring, coaching, promotion, etc.).
- Hiring Leader Training: In 2017, we held six sessions to strengthen leaders' abilities to hire and select employees with skills, abilities and backgrounds that will support our success. This included helping leaders be aware of how unconscious bias can affect a leader's review of applicants and hiring decisions.

Awareness and skill development

- Aboriginal Awareness web-based training (WBT) and classroom-based learning sessions: These programs are intended to increase knowledge and understanding of cultural differences and to build a culture that's aligned with Suncor's Aboriginal Relations Policy. At the request of our employees and several organizations, Suncor's Aboriginal Awareness WBT is publicly available in English and French. The training has been helpful in raising awareness about the history and experiences of Aboriginal Peoples in Canada and changing perceptions.
- Aboriginal Culture Learning Experiences: There are a variety of experiences to choose from, each intended to support further understanding and awareness of Aboriginal Peoples and their unique history, rights and cultures. We partner with Elders and communities to make content that is relevant and meaningful for participants.

Employee networks provide learning and connection opportunities in the following areas:

- Aboriginal
- inclusion
- women
- multi-disciplinary teams
- community and industry

Summer Aboriginal Student Program

- As part of our Early Talent hiring program, Suncor provides Aboriginal post-secondary students an opportunity to gain valuable work experience in the oil and gas sector through summer terms. In 2017, our program grew significantly to 17 students up from eight students in 2016.

We are also members of the following external organizations:

- 30% Club of Canada – member, CEO Steve Williams
- Canadian Centre on Diversity and Inclusion – corporate member

- Catalyst – corporate member
- Indigenous Works – corporate member

Progress and strategy

Our progress and strategy will be determined by the D&I Council to support the CEO goal and appropriate measurements. We will also encourage and oversee D&I progress of senior leadership teams across the business who steward their own plans within their area.

In 2017, significant progress has been made to advance an inclusive culture at Suncor, including:

- The D&I Council stand-up was a significant milestone, as we understand that this culture must be enabled by leaders across the business who understand the outcomes we are trying to drive and who will enable the steps we take towards making progress.
- D&I enterprise and senior leadership team goals:
 - › Long-term goal – ensure Suncor has the competent, engaged and diverse leadership, workforce and culture it needs to achieve its triple-bottom-line objectives
 - › 2018 goal – ensure diversity is improved, valued and optimized
 - › 2018 metric – 2025 D&I metrics and plans
- We continue to see active participation across the D&I employee networks:
 - › Aboriginal Employee Network had a 40% increase from 2016 membership
 - › The Downstream Workplace Inclusion Network launched in 2017 and now has more than 400 members

Learning opportunities

Participation in our formal learning opportunities for employees and leaders is one of the ways we will build understanding and awareness of why D&I matters, how it will drive better business outcomes, and how we need to change the way we think and act to accomplish our objective of an inclusive culture.

- Unconscious Bias Foundations: the vast majority of Suncor's mid-level leaders have completed classroom or virtual Unconscious Bias Foundations training, with plans to begin delivering this learning opportunity to frontline leaders in 2018. By the end of 2017, 98% of all leaders above director level have completed Unconscious Bias Foundations, with training rolling out to frontline leaders in 2018.
- Aboriginal Awareness WBT: close to 5,000 employees and contractors have completed the WBT since 2015
- Unconscious Bias classroom-based training: participation has focused on leaders above director level completing the program first, and has rolled to manager level for participation in 2018.
- Introduction to Aboriginal Awareness classroom-based training is open to all Suncor employees and leaders. Participation increased over 25% from 2016 registrations for both Introduction to Aboriginal Awareness and Unconscious Bias across the organization. "I always thought I had an understanding of the history of Aboriginal Peoples in Canada. After today, I now know there is so much I do not know." – feedback from Introduction to Aboriginal Awareness participant

Women Building Futures (WBF)

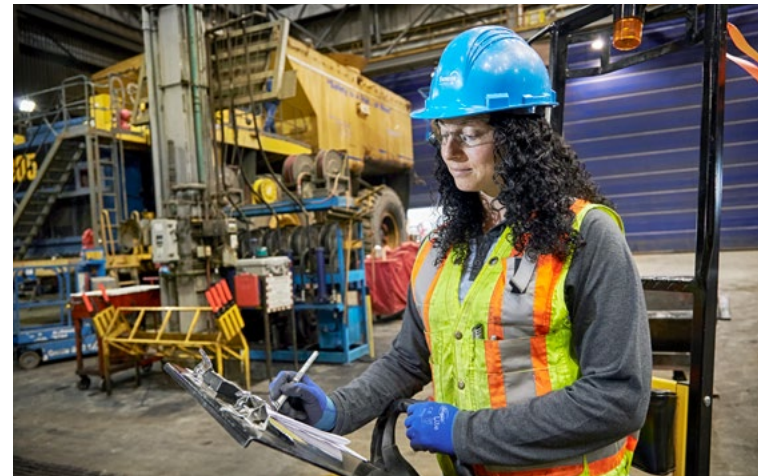
- Established in 1998, WBF is Canada's first trades training facility for women. WBF trains women in heavy industrial trades and places them into the Alberta workforce with an employment rate of 90%.
- A pillar in WBF's vision is meaningful and impactful engagement with Indigenous women, communities and organizations. They are focused on addressing the barriers to economic participation, increasing the number of Indigenous women who are trained and employed in construction and maintenance, and supporting capacity building in Indigenous communities.
- Suncor, through the Suncor Energy Foundation, has been engaged with WBF since 2004. To date, our total commitment to WBF has been more than \$2.5 million.

Early Talent hiring program

- In 2017, there was a substantial increase in female Early Talent hires. Suncor improved from 21% female candidates from 226 Early Talent hires in 2016 to 29% female candidates from 418 Early Talent hires in 2017.

Partnerships and collaborations to further integrate D&I

WBF partnership for female heavy equipment operators and technicians



Suncor is working hard to attract and recruit mid-career, motivated women with the physical and mental confidence to work at Suncor mine operations. Our partnership with WBF helps us find women with these qualities.

In 2013, Suncor approached WBF to create and deliver a program that would help engage women in the workplace and increase the number of female heavy equipment operator candidates.

The program was designed to provide participants with essential safety certification, productivity awareness and workplace culture training to prepare them to enter a three-month paid co-op to become heavy equipment operators at the Millennium Mine. During the three-month co-op, participants receive ongoing training and coaching from WBF and Suncor to support learning and cultural integration. Upon successful completion of the program, employment assistance and job retention support are provided to ensure long-term success for the graduate.

In 2014, Suncor and WBF launched their first customized program for Millennium Mine. As of February 2018, four classes have graduated, and the fifth program will conclude in May 2018. The program was also extended to Fort Hills, with one class completed and the second beginning

in November of 2017. So far, this partnership has resulted in 66 women hired at Suncor. Of those women who graduated, 15% were Indigenous. The average wage increase for graduates was 112%, which significantly impacted the lives of the women, their families (including 40 children) and their communities.

Through the WBF program in 2017, Suncor hired 30 female heavy equipment operators for our Oil Sands operations and eight for Fort Hills, as well as four heavy equipment technicians.

“By empowering women to be successful in their careers, not only do we strengthen communities, but we increase the size of the talent pool that Suncor draws upon.”

– Shelley Powell, senior vice president, Oil Sands operations.

Innovative approaches

Aboriginal Awareness web-based training on Suncor.com

At the request of our employees and several organizations, Suncor’s Aboriginal Awareness WBT is publicly available in English and French. The training was developed by Suncor in 2015 and designed for our employees by ICOM Productions, and has been helpful in raising awareness about the history and experiences of Aboriginal Peoples in Canada, and changing perceptions.

Employees told us they wanted to be able to share the training with family and friends, and community organizations asked us to share it to enrich their own training opportunities.

We are offering this training to anyone, free of charge, to learn more about the history and experiences of Aboriginal Peoples. Several groups have found it beneficial to view the training together and have a discussion afterwards. By sharing experiences, we can all continue to learn from, and with, each other.

Aboriginal Workforce Development Advisor

Meeting workforce development commitments to advance Aboriginal participation in energy development requires ongoing connection and communication with Aboriginal communities where Suncor has agreements and commitments in place.

Suncor’s Aboriginal workforce development advisor works primarily in the Regional Municipality of Wood Buffalo. The advisor works directly with communities and their community employment advisors and/or committees, to understand community needs and initiatives, share information on Suncor’s workforce needs, understand who has similar objectives, and collaboratively work with others to strengthen the employment readiness of potential Aboriginal candidates.

The advisor also provides insights and advice to internal stakeholders to drive Aboriginal inclusion in people processes and programs.

Summer Aboriginal Student Program

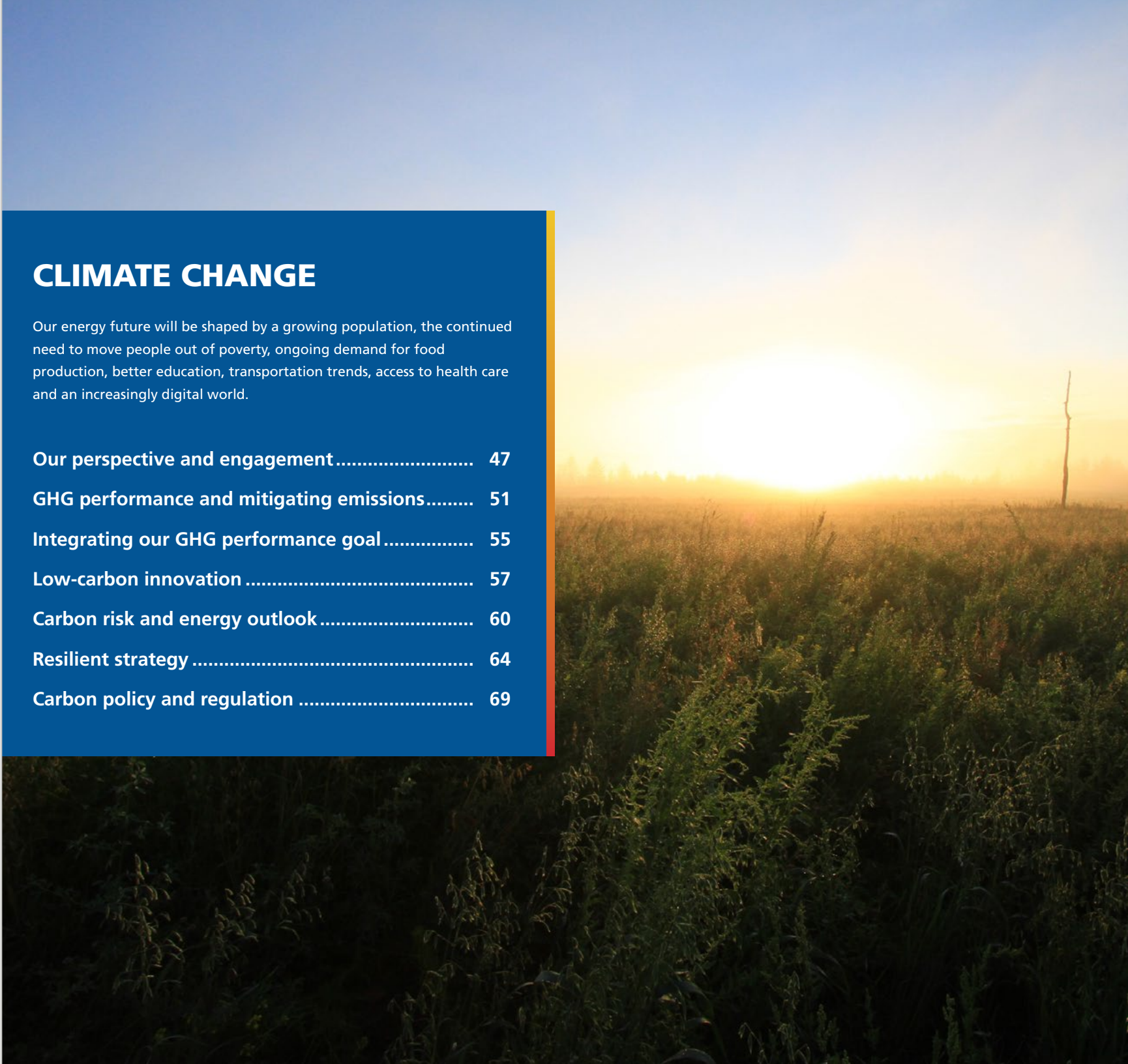
As part of our Early Talent hiring program, which includes summer students, co-op students and new graduates, Suncor provides Aboriginal post-secondary students an opportunity to gain valuable work experience and exposure to the oil and gas sector through summer terms.

Thanks to leaders who opened positions in their area, we successfully placed 17 Aboriginal students in Fort McMurray, Fort Hills and Calgary in 2017 – our highest number of Aboriginal student placements to date.

CLIMATE CHANGE

Our energy future will be shaped by a growing population, the continued need to move people out of poverty, ongoing demand for food production, better education, transportation trends, access to health care and an increasingly digital world.

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GLOBE Forum is the largest and longest-running leadership summit for sustainable business in the world. It brings together over 2,000 decision makers from government, business and non-governmental organizations to share insights and discuss solutions to current environmental and social challenges so we can pursue a cleaner, more prosperous world.

OUR PERSPECTIVE AND ENGAGEMENT

Our perspective on climate change

The World Business Council for Sustainable Development has framed the 2050 challenge as “nine billion people not just living on the planet, but living well and within the limits of the planet.” The goal of the energy system, in this context, is to deliver to 9 billion people safe, affordable energy that minimizes carbon emissions.

Energy is the backbone of the economy and delivers much of our well-being and high quality of life, in addition to heating our homes and powering manufacturing.

The ability to move goods across the continent to markets and for people to be able to work and travel relies on robust, affordable transportation systems. Given what energy delivers each day, it is critical to maintain the integrity of the physical system and, understanding that energy is also part of a bigger financial and social system, maintain user utility and investor confidence.

There is general consensus that limiting the impact of climate change requires the global average increase in temperature remain below 2°C, relative to pre-industrial levels. Suncor supports the approach outlined

in the Paris Agreement to help address the challenge of climate change. It is intended to motivate countries to demonstrate climate leadership through their national commitments and we will continue to support that leadership in the countries where we operate. To achieve this objective, there must be significant advances in technology, a shift in consumer choice and the development of new energy systems, all of which take time.

As the energy system transitions away from carbon intensive sources of energy, hydrocarbon fuels will continue to be needed to help meet global energy demand, particularly in developing economies. All types of energy will be needed and no single solution or pathway will meet the challenge. The pathways to a diversified and robust energy system require embracing, and getting the best out of, both traditional and new sources of energy.

Leadership in climate policy

Suncor operates in multiple jurisdictions across Canada and around the world which requires we work with all governments and political parties, environmental advocacy groups and Aboriginal communities to support the development of policies that ensure cost and carbon competitiveness. We seek to contribute to the development of smart government policy in support of moving towards a low-carbon economy.

Suncor believes a broad-based price on carbon, equitably applied to both energy producers and consumers, is a key mechanism to lower emissions. As Canada's leading integrated energy company with a significant downstream business through our Petro-Canada brand, we also participate in discussions to inform the development of policy related to the low-carbon clean fuels standard in Canada.

We demonstrate our commitment to support effective, practical and cost-efficient policy design through the following actions:

- Contributing to the development of low-carbon policies such as:
 - › Pan-Canadian Framework on Clean Growth and Climate Change
 - › Cap-and-trade programs in Ontario and Quebec (With the announcement of the termination of the cap and trade program in Ontario, Suncor will work with the provincial government to explore solutions that achieve the required outcomes while minimizing impacts to people and business.)
 - › Clean Fuel Standard in Canada
 - › Alberta's Climate Leadership Plan
- Supporting Canada's Ecofiscal Commission in broadening the discussion of carbon pricing into the realm of practical policy application. The Commission brings together economists to inform the critical discussion about the ecofiscal reform that Canada's future requires.
- Suncor is a member of the Carbon Pricing Leadership Coalition (CPLC), a voluntary initiative that aspires to catalyze action towards the successful implementation of global carbon pricing. We contributed to the Canadian industry report in 2017.

We believe that good policy will instill confidence in the industry, enable continued prosperity and provide the certainty to help producers responsibly develop resources while also contributing to solutions to address global concerns about climate change.

Advancing the energy dialogue

Transitioning an energy system is as much a social and cultural shift in how people think about and use energy as it is a technological and infrastructure shift. Through the [Suncor Energy Foundation](#), Suncor supports organizations to engage Canadians in meaningful discussions

on the energy system and the linkages between the environment and the economy. We're also working with our Foundation partners to promote an understanding of the changing energy realities of the 21st century and raise awareness among Canadians of the role their choices and lifestyles play in emissions reduction.

Stakeholder engagement

Suncor has long held that developing responsible solutions requires engaging with shareholders, environmental organizations, local communities, Aboriginal communities, governments, and industry partners.

For years, we have created spaces for collective dialogue where multiple perspectives, experiences and the best minds may inform Suncor's approach to sustainable energy development. We do it because we recognize the value of relationships and diverse perspectives and think it's important to listen and understand other points of view.

We find value in thinking about things differently, and this often leads to new ideas, joint problem solving or new ways of working with our stakeholders.

And while we might not always agree on everything, we do have a common goal – produce energy to improve quality of life and do so in a sustainable way.

Over the past year, we have engaged with stakeholders directly, through consultations, meetings, workshops, and conferences. We will continue these activities as we develop improved climate disclosure and risk management approaches. Expected activities include a Ceres-facilitated workshop with a set of key stakeholders to solicit feedback on climate action and other sustainability topics, engagement with investors on climate-related financial disclosure, and engagement with the Climate Action 100+ initiative.

The latter is an initiative led by investors to engage with the world's largest GHG emitters to improve governance, climate-related financial disclosure, and GHG performance.

We look forward to these opportunities to build mutual understanding on the best approach for Suncor to meet its business objectives and address stakeholder expectations.

Task Force on Climate-related Financial Disclosures (TCFD)

Since mid-2017, the [TCFD](#) has shifted the discussion on the level of understanding and drive for carbon disclosure. Suncor values disclosure as a foundational activity for investor engagement and believes that the full context is required to provide a complete picture of operational performance, strategic planning and risk management.

Reporting standardization and implementing the TCFD recommendations will be challenging. There are many factors to consider and we believe transparent and decision-useful information will support long-term decision-making.

We support the desire for consistency and transparency embodied in the TCFD recommendations and see them as a way to build on our two decades of sustainability reporting and environment, social and governance (ESG) investor engagement. The recommendations provide a useful framework to describe how businesses are managing climate risk and ensuring corporate strategies remain resilient in a low-carbon future.

There are still many details to work out, particularly around the appropriate disclosure vehicles to ensure we can provide a transparent and fulsome discussion on our climate strategy over the long term while recognizing the challenges of providing forward-looking information within regulatory financial disclosure requirements.

We look forward to working with the task force on this journey to shape and evolve climate risk disclosure so it meets the needs of both companies and investors and leads to better understanding of what's required to transition to a low carbon future.

In our industry, not all crude oils are equal in their level of carbon risk, and production intensities will not remain static over the coming years. Technology and innovation will lower carbon intensity and carbon competitiveness will be as important as cost competitiveness in the future.

We have provided a table below showing the sections of this report that are aligned, fully or in part, with the TCFD recommendations. Over the coming year, Suncor will continue to build our internal capacity to understand potential gaps and identify the best approach to effectively improve our disclosure of climate-related financial information. We are on this journey with the TCFD and other corporate disclosers. Areas of focus for us include:

- Enhancing the analysis and disclosure of the financial impact of risks and opportunities
- Effectively disclosing our processes for climate risk identification and management
- Building on our experience with scenario planning to consider business resilience against a credible 2°C scenario

Governance

Disclose the organization's governance around climate-related risks and opportunities.

TCFD recommendation

Describe the board's oversight of climate-related risks and opportunities.

Describe management's role in assessing and managing climate-related risks and opportunities.

Report section

- [Integration of carbon risk into decision-making process](#)
- [The energy system of tomorrow](#)
- [Integration of carbon risk into decision-making process](#)
- [Business strategy for a changing energy future](#)

Strategy

Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning where such information is material.

TCFD recommendation

Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.

Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.

Describe management's role in assessing and managing climate-related Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.

Report section

- [Business strategy for a changing energy future](#)
- [Carbon policy and impacts on Suncor](#)
- [Facility resilience to extreme weather events](#)
- [Business strategy for a changing energy future](#)
- [Carbon policy and impacts on Suncor](#)
- [The energy system of tomorrow](#)
- [Scenario summaries](#)
- [Business strategy for a changing energy future](#)
- [Carbon policy and impacts on Suncor](#)
- [Facility resilience to extreme weather events](#)

Risk management

Disclose how the organization identifies, assesses, and manages climate-related risks.

TCFD recommendation

Describe the organization's processes for identifying and assessing climate-related risks.

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.

Report section

- [Leadership in climate policy](#)
- [Stakeholder engagement](#)
- [Integration of carbon risk into our decision-making processes](#)
- [GHG performance and mitigating emissions](#)
- [Low-carbon innovation](#)
- [Integration of carbon risk into our decision-making processes](#)

Metrics and targets

Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.

TCFD recommendation

Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.

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.

Report section

- [GHG performance and mitigating emissions](#)
- [GHG performance and mitigating emissions](#)
- [Integrating our GHG performance goal](#)

GHG PERFORMANCE AND MITIGATING EMISSIONS

Energy use is one of Suncor's largest production inputs and, therefore, there is a natural business incentive to reduce overall energy use and emissions. Suncor's focus on operational excellence and reliability, as well as the introduction of new technology, has reduced the greenhouse gas (GHG) intensity of our Oil Sands Base plant by approximately 60% since 1990.

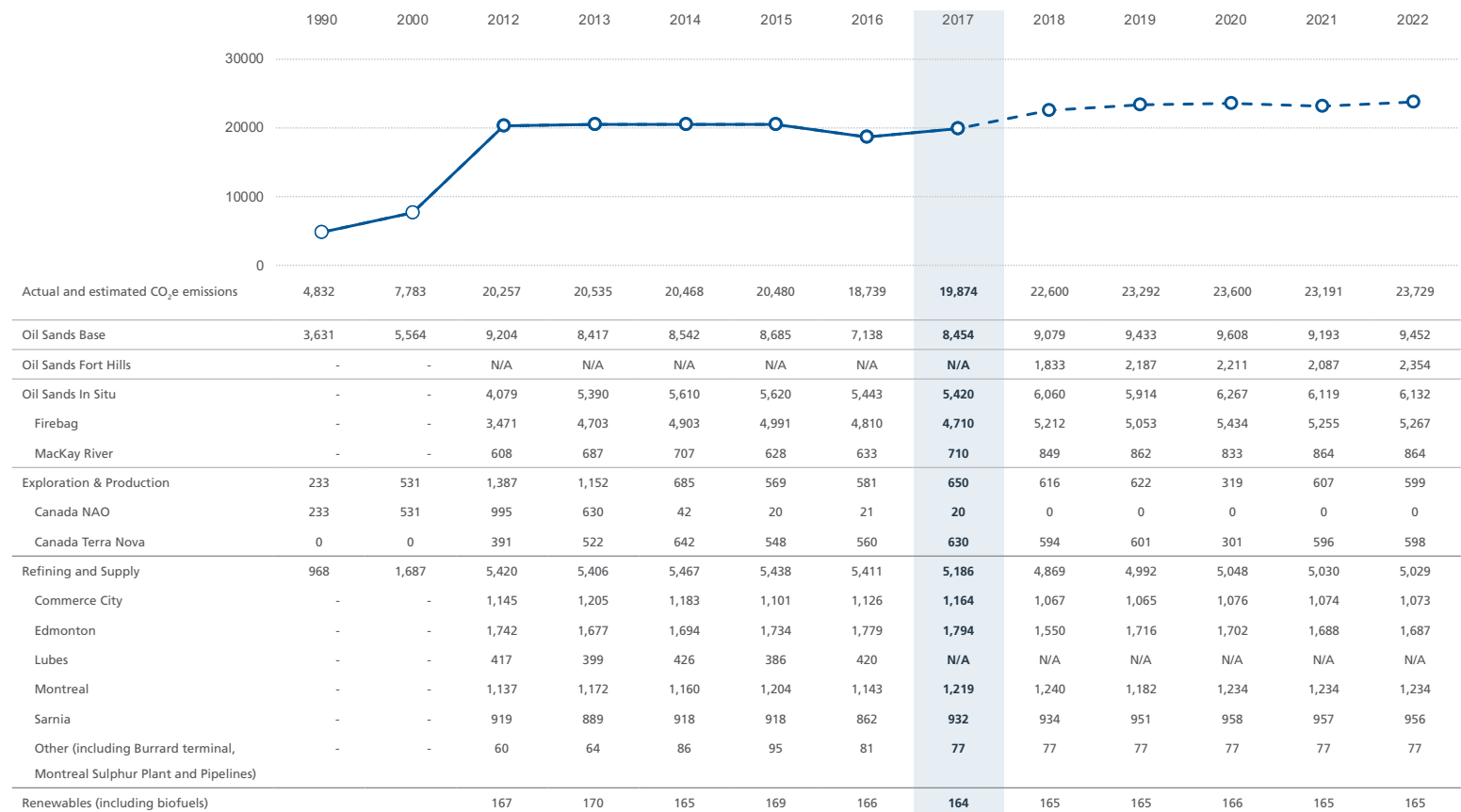
2017 GHG performance*

Absolute full-year GHG emissions in 2017 totalled 19.9 million tonnes which is in line with the three-year average from 2014 to 2016. In 2017, upstream oil sands facilities recovered from the 2016 Fort McMurray wildfire and production volumes returned to 2015 levels. Oil sands performance contributed to a year-over-year improvement in our 2017 corporate GHG emission intensity of 0.410 tonnes of CO₂e per m³ of oil equivalent production. This is approximately 2% lower than 2016 and 5% lower than the 2014-2016 average.

SUNCOR-WIDE ABSOLUTE GHG EMISSIONS†

actual (1990 - 2017) and estimates (2018 - 2022)

thousand tonnes CO₂e equivalents (CO₂e)



* 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

† For additional information about this chart and its data please refer to the performance data notes 3,4 and 5 in [Appendix A](#).

SUNCOR-WIDE GHG EMISSIONS INTENSITY*

actual (1990 - 2017) and estimates (2018 - 2022)
tonnes CO₂e / cubic meters of oil equivalent (m³OE)



* For additional information about this chart and its data please refer to the performance data notes 3,4 and 5 in [Appendix A](#).

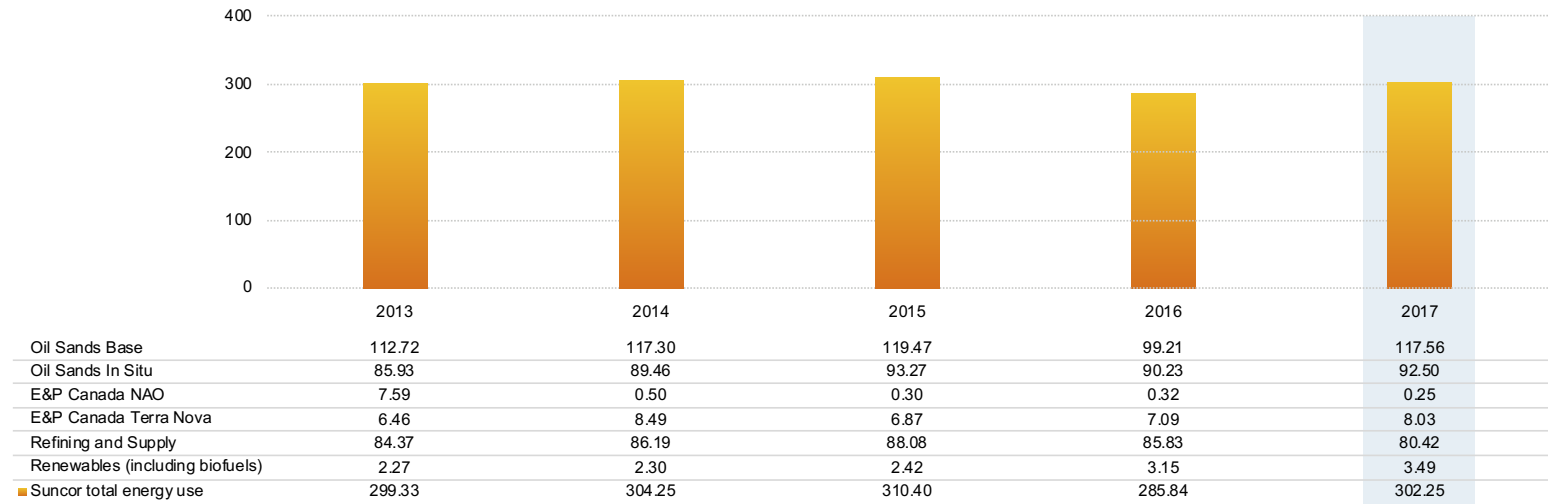
Suncor energy use and energy intensity

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

Suncor is committed to energy management and continuously improving GHG emissions reductions as part of everyday operational excellence. Our energy use and energy intensity graphs show year-over-year trends similar to the GHG emissions graphs.

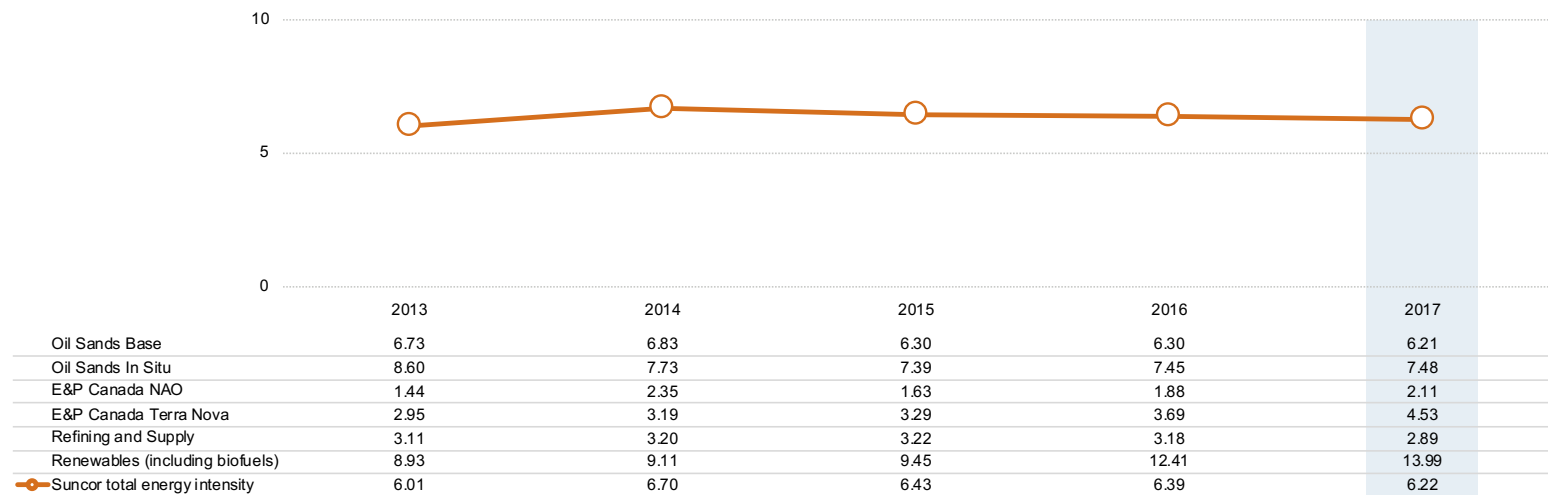
ENERGY USE*

millions of gigajoules



ENERGY INTENSITY*

GJ / m³ of production



* For additional information about this chart and its data, please refer to the performance data notes (#6 - notes on energy consumption) in [Appendix A](#).

Performance highlights

Oil sands mining

Absolute emissions from our mining, extraction and upgrading operations returned to typical levels seen prior to the 2016 Fort McMurray wildfire. Despite increased total emissions, the emissions intensity in 2017 improved by approximately 5.5% from the 2014-2016 average intensity. This reflects reliable operations and continued energy and GHG emissions reduction efforts.

Projects to optimize fuel gas distribution, heat integration, and heat exchanger maintenance were implemented in 2017. Collectively, these improved reliability, increased production and reduced emissions intensity.

Fort Hills mining

The Fort Hills mining project achieved first oil in early 2018 and is expected to reach 90% of nameplate capacity of 194,000 bbls/d of bitumen in Q4 2018. The less carbon intensive Paraffinic Froth Treatment process (PFT) used at Fort Hills removes heavy hydrocarbon molecules in the extraction process. This produces bitumen that doesn't require upgrading prior to further refining and marketing. As a result, the GHG intensity of production is projected to be roughly half that of the existing Base plant and on par with the average crude refined in the U.S.* The added production volumes are expected to add over 2.4 million tonnes of CO₂e to our operated GHG emissions profile once it reaches full nameplate capacity.

In situ

The absolute emissions at our steam assisted gravity drainage (SAGD) operations were relatively unchanged year-over-year at 5.4 million tonnes CO₂e. Emissions intensity in 2017 improved to 0.436 tonnes of CO₂e per m³ of oil equivalent production which is approximately 5% lower than the 2014-2016 three-year average of 0.46 tonnes of CO₂e per m³ of oil equivalent. This improvement is due to improved facility reliability and sustained low steam-to-oil ratios (SORs), resulting from optimized reservoir management strategies and strong infill well performance.

Exploration and production

On the East Coast of Canada, Terra Nova emissions increased from 0.56 million tonnes CO₂e in 2016 to 0.63 million tonnes CO₂e in 2017. The intensity increased over the 2014-2016 average from 0.256 to 0.344 tonnes of CO₂e per m³ of oil equivalent. These increases were due to reduced production and extended maintenance on the facility's vapour recovery unit. Terra Nova is the only East Coast Canada asset Suncor operates. Other international and offshore production interests are joint ventures and not within our direct operational control.

Refining and marketing

In early 2017, Suncor closed the sale of its lubricants business, which reduced total GHG emissions at our downstream facilities to 5.186 million tonnes CO₂e. Accounting for the sale, emissions were incrementally higher at our other facilities due to higher plant utilization rates which resulted in an emissions intensity improvement of 0.187 tonnes of CO₂e per m³ of oil equivalent. This represents an approximate 7% improvement from the 2014-2016 average intensity.

Renewables and biofuels

Suncor closed the sale of our share of the Ripley wind farm in Ontario in mid-2017. Suncor is currently involved in four operational wind power facilities with a generating capacity of 111 megawatts (MW), enough to power about 52,000 Canadian homes. Performance data is reported for operated wind farms only and is not adjusted to reflect ownership share. In 2017, our Adelaide wind farm in Ontario produced more than 76,000 MW.

We've been blending ethanol in our retail fuels since 1992. We opened the St. Clair ethanol plant in Mooretown, Ontario in 2006. In 2011, we doubled the plant's production capacity to 400 million litres of corn-based ethanol annually. It is the single largest ethanol production plant in Canada. Absolute emissions were 0.164 million tonnes CO₂ and emissions intensity was 0.657 tonnes CO₂e per m³ oil equivalent.

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

INTEGRATING OUR GHG PERFORMANCE GOAL

In 2016, we announced a greenhouse gas (GHG) goal that we will work to harness technology and innovation to set us on a transformational pathway to a low-carbon energy system. We will measure our progress by reducing the total emissions intensity of the production of our oil and petroleum products by 30% by 2030.

This ambitious goal, based on a 2014 baseline year, stretches us beyond our current technology and know-how, and ultimately aims to alter the trajectory of our absolute emissions, with the intent to make us a producer of low-carbon intensity crude.

We know this will not be achieved without integrating carbon risk into all aspects of our business; from the extraction and production of oil to refining and distributing fuels.

The goal is expected to drive operational, energy and fuel efficiency improvements, accelerate the development and implementation of new technology, apply these improvements to all potential business prospects as well as encourage the evaluation of potential low-carbon business opportunities.

Operational metrics critical to meeting the goal are part of the corporate scorecard, and the initiatives required to meet the goal cascade into annual performance goals.

We continue to examine data and processes from every part of our business and identify high-opportunity areas. This work is complex and requires long-term change to how we run our business to reduce GHG emissions through operational improvements, technology innovation and new investments. We are focusing our GHG intensity reductions in the following key areas.

Energy efficiency and continuous improvement of our base assets

We continue to drive energy efficiency at all our facilities. We are also focused on reducing GHG intensity by switching to lower carbon fuels. Our ongoing work includes:

- Sustainment of the Energy Management System (EMS) at our refineries and oil sands facilities to continue to identify and implement cost-effective energy efficiency enhancements and potential energy savings in the range of 3% to 5%.
- Building on our management structure to advance operational excellence by sharing knowledge and best practices across our organization, including embedding incentives for long-term GHG emissions reductions within our performance management system.

Strategic technology implementation to reduce extraction and upgrading emissions

Our goal will require us to go beyond today's capabilities, so we are aggressively working on new technology development aimed at improving the cost and carbon competitiveness of our processes and products. Details about some of the technologies and innovations we are advancing can be found in the low-carbon innovation section.

Greening the electricity grid through investments in low-carbon power such as cogeneration and renewables

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

All of our oil sands facilities use cogeneration, and we are a net exporter of power to Alberta's electricity grid. Suncor currently has cogeneration units installed at Oil Sands Base plant, Firebag, MacKay River and Fort Hills, and exports low-carbon electricity to the Alberta provincial grid.

By producing both industrial steam and electricity through a natural gas-fueled process, cogeneration is the most carbon-efficient form of base load power generation. The excess power from our cogeneration facility combined with our wind energy, have reduced the overall GHG intensity of Alberta's grid.

In 2017, we took the first steps in the regulatory process for a proposed project to replace coke-fired boilers with cogeneration units at Oil Sands Base plant. In addition to providing the facility with steam needed for our

operations, the cogeneration units could export up to approximately 800 megawatts (MW) of electricity to the provincial grid in Alberta.

Cogeneration provides an emissions- and cost-reduction opportunity for Suncor's operations and contributes low-carbon power for Alberta. Should the project proceed as planned, construction is targeted to begin in 2019, with commissioning of the cogeneration units expected to commence by 2022. The 800 MW of power from these cogeneration units are anticipated to come online at a time when the phase-out of coal-fired electricity is expected to decrease overall supply.

Industrial cogeneration's ability to supply significant volumes of reliable baseload electricity at a lower carbon intensity than combined cycle natural gas technology supports Alberta's transition towards low-carbon energy sources.

Suncor continues to evaluate investment opportunities for renewables in the areas where we operate including Canada and the US. Our evaluation of potential investments assesses the economic, environmental and social benefits, enabling us to consider future development of renewable energy projects.

Other focused efforts in support of our GHG goal over the last year included:

- Hosting a GHG goal workshop with external stakeholders to solicit feedback on Suncor's goal and methodology
- Participating in the Government of Alberta's research and analysis of a potential partial upgrading bitumen program that would improve the GHG profile of oil sands crudes
- Amplifying our climate actions through:
 - › technology collaboration efforts through [Canada's Oil Sands Innovation Alliance \(COSIA\)](#)
 - › focused technology investments in clean technology funds such as [Evok Innovations](#)
 - › leading and participating in the [Clean Resource Innovation Network \(CRIN\)](#), an industry-led group created to leverage the oil and gas industry's strengths in large-scale heavy industrial collaboration

LOW-CARBON INNOVATION

Suncor pioneered oil sands development and our early investment in technology helped unlock the potential of the oil sands. Today, new technology and innovative thinking remain fundamental to how we do business.

In 2017, we invested approximately \$350 million in technology development and deployment as part of a robust strategy to optimize current assets and develop next-generation facilities. In some cases, we led research and development of new technologies. Additional investments were made as part of collaborative efforts with consortiums and third-parties. We believe that next-generation innovation for energy technologies will continue to accelerate.

GHG: TECHNOLOGY DEVELOPMENT & DEPLOYMENT

	DISCOVER	DESIGN	DEVELOP	DEPLOY
IN SITU	<ul style="list-style-type: none"> Well-bore technologies Novel subsurface technologies Alternative gas co-injection 	<ul style="list-style-type: none"> DCSG (Direct Contact Steam Generation) Thermal-solvent technologies <ul style="list-style-type: none"> EASE & ESEIEH™ Nsolv™ Steam-solvent technologies <ul style="list-style-type: none"> ES-SAGD (Expanding Solvent - Steam Assisted Gravity Drainage) Optimized steam-solvent 	<ul style="list-style-type: none"> High Temperature Reverse Osmosis Produced Water Treatment 	<ul style="list-style-type: none"> SAGD LITE (Steam Assisted Gravity Drainage Less Intensive Technically Enhanced) Non-condensable gas co-injection pilots (Firebag and MacKay River) Well-bore enhancements <ul style="list-style-type: none"> Multilateral well pilot (Firebag) Electric Submersible Pump pilots Flow control devices M-Tool pilot (Firebag)
MINING		<ul style="list-style-type: none"> Non Aqueous Extraction 		<ul style="list-style-type: none"> Paraffinic Froth Treatment (PFT)
UPGRADING & REFINING		<ul style="list-style-type: none"> Mild thermal cracker technology 		

Low-carbon in situ production

Our current technology for in situ production, Steam Assisted Gravity Drainage (SAGD), employs vertical parallel pairs of 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 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. We believe the solution will be 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. Some of these technologies could be applied to existing facilities or new growth facilities and, if successful, would reduce our greenhouse gas (GHG) emissions intensity.

Suncor is progressing a number of technologies into the piloting phase that offer the potential for significant reductions in environmental impacts while simultaneously improving the economics of in situ bitumen production.

Our primary focus is on the use of solvents to reduce extraction temperatures and energy usage, increase productivity and improve product quality. If successful, these technologies could have a significant impact in the following areas:

- energy use and GHG emissions
- water use and treatment
- land impacts
- production rates and resource recovery
- capital and operating costs
- product quality and value

Currently, we are advancing in situ technologies in these key areas:

Thermal-solvent based processes

Light solvents like propane or butane can be used in place of steam and in conjunction with wellbore heating technologies.

- We have done specific work over the last five years to advance electromagnetic assisted solvent extraction (EASE) technologies to heat and mobilize the bitumen as part of the Enhanced Solvent Extraction Incorporating Electromagnetic Heating (ESEIEH™) consortium field pilot at our Dover site. The ESEIEH™ field pilot is a project supported by a consortium of Suncor, Devon Canada, Nexen Energy ULC, Harris Corporation and Emissions Reduction Alberta.
- From 2013-2017, Suncor supported a pilot at our Dover lease to field test the solvent extraction technology called Nsolv™ and we continue to evaluate the results.
- We continue to build on our experience of solvent-dominated processes, which date back to participation in experiments over 20 years, to develop an optimized steam-solvent hybrid technology to be considered for a demonstration. It potentially will be predominantly solvent-based with a relatively small fraction of steam co-injection (less than 15%) to deliver heat to the reservoir.

Steam-solvent technologies

The combination of steam and solvent offers potential for achieving significant GHG emissions reductions, and Suncor continues to advance these technologies through simulation, piloting and demonstration. There is a wide variety of solvents, concentrations and other variables to consider, and the optimal technology will depend on a combination of factors.

- One of the technologies we're currently progressing is ES-SAGD. Expanding Solvent SAGD (ES-SAGD) co-injects up to 15% solvent with steam to reduce the steam requirements of SAGD production. The process is anticipated to reduce process water requirements and lower greenhouse gas emissions by 15% or greater.

In 2018, we are advancing plans for an In Situ Demonstration Facility. The demonstration facility will be flexible in its design, enabling us to pilot and test multiple technologies at commercial scale.

Collaborating for innovation

Innovation is a process that is best served by inviting the smartest minds and brightest talent to collaborate.

Venture capital funding supports entrepreneurs to advance their ideas to commercialization and build businesses to market their technology worldwide. An example of this is [Evok Innovations](#), a \$100 million technology fund co-founded by the BC Cleantech CEO Alliance, Cenovus Energy Inc. and Suncor. Suncor and Cenovus have committed up to \$50 million over the next 10 years to develop technologies to help address some of the most pressing environmental and economic challenges of our industry.

Canada's Oil Sands Innovation Alliance (COSIA) has brought 10 companies together to pool expertise and intellectual property to accelerate technologies to improve the industry's environmental performance. [COSIA's](#) environmental focus areas attract the brightest minds from around the world. The NRG COSIA Carbon XPRIZE is one example in which 10 teams, including four teams from Canada, have advanced to the next stage of the competition to prove their technologies can be economically scaled up to transform CO₂ into valuable, useful products.

We are advancing the work of the recently formed Clean Resource Innovation Network, or [CRIN](#), an industry-led network to leverage the oil and gas industry's strengths in large-scale heavy industrial collaboration. CRIN's vision is to position Canada as the global leader in producing clean hydrocarbon energy from source to end use.

Low-carbon extraction

While our Oil Sands Base plant uses a first generation extraction process called Naphthenic Froth Treatment, our new Fort Hills mine uses a process called Paraffinic Froth Treatment (PFT). The bitumen product we obtain using this partial upgrading process has been upgraded to a better quality as it removes up to 10% of the asphaltenes – which is essentially composed of low-value heavy hydrocarbon molecules and undesirable particulates.

Rejecting the portions of heavy hydrocarbon closer to source reduces both the diluent required for transportation and the energy and hydrogen needed to refine the bitumen into fuels. This higher quality oil sands product can be processed at a wider range of refineries. As a result of this technology, our GHG emissions for the average barrel extracted at Fort Hills are on par with the average crude refined in the U.S.

CARBON RISK AND ENERGY OUTLOOK

Integration of carbon risk into our decision-making processes

Breakthrough technology and shifting societal attitudes have led to governments in Canada and around the world adopting ambitious emissions reductions targets and supporting legislation. This transition risk includes measures relating to carbon pricing, clean energy and fuels standards, and alternative energy incentives and mandates which could impact profitability and/or Suncor's reputation.

Since 2016, carbon risk has been considered one of Suncor's principal risks. A principal risk is generally considered to be an exposure that has the potential to materially impact Suncor's ability to meet or support its strategic objectives.

As a principal risk, carbon receives full Board and executive management attention and systems are in place to mitigate potential impacts. As such, it undergoes an annual Board of Directors review as a principal risk. Carbon risk is also brought forward to the Environment, Health, Safety and Sustainable Development Committee of the Board for oversight.

Each year, as part of our normal business planning process, a base case carbon price outlook is developed, taking into account existing regulations and the expected trajectory of those regulations as they apply to our assets.

The company business plan, investments and all capital decisions are tested against a range of variables, including our base and alternative carbon price outlook, to ensure an expectation of a competitive rate of return over the asset life. In 2018, we also developed an alternative case that takes a much higher view of future carbon prices. This alternative case serves as a "stress test" and adds confidence to capital decisions.

While the carbon price plays a role, the underlying crude oil price is the major driver of the investment return. A low crude oil price could be the result of a context where oil demand has been eroded through carbon policy or alternative transportation fuels and is believed to be an appropriate proxy for overall carbon risk to a project's economics.

Our annual 10-year business planning process requires our businesses to run a planning case assuming a continuing low-price environment.

Each business is required to demonstrate that it is expected to be able to continue to meet an acceptable rate of return, including funding its sustaining capital and enabling Suncor to maintain and grow its dividend. If the business cannot meet these objectives, it is required to outline the steps needed to achieve this target.

Our internal management model for project and asset development incorporates a review of climate change implications at the first two gate reviews, prior to a commitment of significant resources, and ensures that all climate change risks and opportunities are well understood. The process allows for analysis of technical options, but also the regulatory and external stakeholder context to be recognized in decision-making.

The energy system of tomorrow

We are starting to see credible global efforts to lower emissions through broader technology and policy pathways necessary to deliver energy to a growing global population, while at the same time mitigating climate change.

Limiting emissions will be achieved at an energy system-wide level in the most appropriate way for each region or jurisdiction. There are no single or simple solutions to this challenge. The phase out of coal will be a major part of this, as will gains in energy efficiency and the technologies that reduce carbon intensity across the energy system, including in oil production and consumption.

In our base case energy outlook, we take the following broad trends into consideration:

- Forecasted population growth, the increasing need for energy in developing economies and the aspiration for a better quality of life. As such, we see the global demand for energy increasing steadily. Much of this increase is expected to come from developing countries in Asia, the Middle East, Latin America and Africa.
- We expect a continuation of the trend towards decoupling economic growth and carbon emissions as new technologies and renewable energy starts to fundamentally change the energy mix.

- National emissions reduction commitments made as part of the Paris Agreement will drive carbon pricing and complementary policy frameworks that are expected to accelerate energy efficiency and emissions reduction technology and incent broader scale adoption of alternative low-carbon energy.
- We expect oil demand will continue to grow until approximately 2040 due to population growth, urbanization and increased living standards, but oil is expected to decline as a percentage of the global energy consumption mix.
- Given natural declines, staying at current production levels, much less meeting increased demand, will require investment in new production from global shale, deep-water and oil sands reserves – a major challenge, given the reduction in capital investment due to depressed commodity prices in recent years.
- We expect that supply cost will continue to be moderated by industry efforts to optimize production and invest in technological advances.

We recognize that the global effort to mitigate climate change introduces uncertainty into the range of outcomes for energy. In addition to our crude oil and refined products outlooks, we utilize three long-term energy futures scenarios*, all of which are plausible and could affect our operating environment and business strategy in markedly different ways.

Signposts and milestones are monitored to identify critical shifts in the external context. Signposts include changes in global energy demand and supply mix, political and economic indicators, climate data and policy trends and also include technology advances and consumer trends.

Each scenario has an implied crude oil price range and climate change regulatory impact. Two of the three reflect the current global aspiration towards 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 that we consider best represents the technology and policy context that would be essential to meet the aspiration of limiting cumulative emissions to “450 ppm.” Suncor continues to build on our experience to consider business resilience against a range of scenarios, including a credible 2°C scenario.

All three scenarios point to long-term resilience being a function of aggressively lowering both costs and the carbon intensity of the entire value chain.

The scenarios are reviewed annually by the Executive Leadership Committee and the Board of Directors to assess the robustness of the business and growth strategy and identify strategic directions. This process continues to be a useful tool for stress testing our business on a number of key dimensions, including climate risk.

* We used three scenarios defined by IHS Markit as the basis for the development of the Suncor scenarios. The IHS Markit Autonomy, Rivalry and Vertigo scenarios have been modified to fit our unique circumstances/needs.

Scenario summaries*

Autonomy

- Rapid technological and societal change will transform the energy landscape.
- 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 continues to provide a stable dividend base while growth options in other resource basins are considered.
- Only the top tier refineries will remain profitable – Suncor's Downstream maintains a focus on reliable, efficient and low-cost operations.

Rivalry

- Improving standard of living and greater personal wealth, particularly in China.
- Expanding use of advanced technologies increases demand for energy.
- Population growth, urbanization and growing middle class drive energy demand – diverse supply required to satisfy demand, with intense competition for market share between energy sources.
- 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.

* We used three scenarios defined by IHS Markit as the basis for the development of the Suncor scenarios. The IHS Markit Autonomy, Rivalry and Vertigo scenarios have been modified to fit our unique circumstances/needs.

Vertigo

- Continued conflict and geo-political instability.
- International trend towards isolation and self-preservation with energy security a key concern.
- Economic volatility, unbalanced wealth distribution, overall weaker GDP growth.
- 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 takes 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.
-

RESILIENT STRATEGY

Business strategy for a changing energy future

Our industry is in the midst of a major structural adjustment due in large part to technology that opened up new oil supply, such as shale oil, and reduced the supply cost curve. As the industry adjusts in an effort to emerge stronger and leaner, a focus on where the industry is headed and the key influencers in both the short and longer term is essential.

Stranding the resource – threat or opportunity?

At Suncor, we talk about stranding oil resources as an opportunity, referring to leaving low value hydrocarbons in the ground due to the high environmental impact or cost of producing them. This does not suggest that Canadian operators should walk away from leases or projects. It means our project planning process reviews information about the ore quality, the geology and the hydrogeology of the reservoir, the regulatory environment and our reclamation and closure plans to assess whether there are areas of the reservoir we may choose not to produce.

Also, extraction technologies under development today could literally allow us to leave the heavy hydrocarbon chains in the ground, producing a lighter product that requires less processing further down the value chain.

Oil sands

Suncor's Oil Sands operations are a concentrated unconventional oil play. Our perspective of the future tells us that now, more than ever, is the time to know where our competitive advantage lies and to play to that advantage.

We have been an operator in the Athabasca oil sands for more than 50 years and the majority of our production comes from the oil sands. There is strategic advantage in having a top-tier resource base of some of the highest quality reservoirs in the Athabasca oil sands region and substantial scale of physically integrated operations in the region. Furthermore, our largely integrated value chain allows us to extract full value for our resource.

By operating multiple, large oil sands facilities in this region, we are able to leverage location and logistics synergies between the facilities, allowing us to drive efficiencies, reduce energy costs and optimize the handling of water, waste, and tailings.

Over the past few years, we have become a top tier operator through increased facility reliability. Oil Sands operations cash operating costs have fallen from \$39.05 CAD/bbl in 2011 to \$23.80 CAD/bbl in 2017.

Recent market conditions have provided opportunities to assemble a larger base of top tier reserves. Our acquisition in 2018 of an additional 5% equity position in the Syncrude joint operation has increased our ownership to almost 59%. This counter-cyclical investment increases our production at a very attractive cost per flowing barrel relative to a greenfield project of a similar scope and nature.

This acquisition indirectly increases our exposure to carbon pricing. Over the last few years, Suncor has achieved a significant improvement in energy intensity at our own Oil Sands Base plant mine and upgrader through debottlenecking and improving reliability. By increasing our position in Syncrude, we have the opportunity to leverage our relationship with an experienced operator with a strong technology program to further advance energy efficiencies at both our Base plant and the Syncrude facility.

We test our oil sands business and growth strategy against the three long-term energy scenarios. Under each of these scenarios, including the most aggressive decline in oil demand, we believe a substantial amount of oil will be required for decades. Meeting that demand at either low, or highly volatile, oil prices will be a challenge.

While often characterized as being the oil basin most vulnerable to a low oil demand scenario, the very long operating life and low decline rate of our assets are, paradoxically, a major advantage under a scenario of either declining demand for crude oil and a correspondingly lower oil price, or an extended period of uncertainty and volatility in investment and commodity markets.

Our long-term reserves base presents minimal finding and exploration costs or risk. The nature of the resource requires high upfront capital investment to develop a project, but once the initial infrastructure is in place, the reservoir can be incrementally developed over a long period of time, without exploration risk, or the high capital requirements of a new project.

Oil sands facilities are more comparable to manufacturing operations. Once operating, they are built to last 40+ years with a steady output. Production does not rapidly peak and decline, so each new incremental expansion results in production growth. Once high upfront capital costs are depreciated, a facility can continue to operate with low operating costs and sustaining capital requirements only.

Market access for our bitumen

Market access to global refineries allows Canada to receive full value for its product.

Suncor has an interest in all of the major pipelines that are currently proposed and/or approved (Keystone XL, Line 3 and Trans Mountain), but it's important to note no single pipeline will affect our ability to execute our growth plans for the future. While we firmly believe that pipelines represent the safest and most environmentally sound way to transport product, even if further delays in pipeline projects occur, we have adequate logistical flexibility to move our production to market including Fort Hills.

In May 2018, the Government of Canada announced an agreement to buy the Trans Mountain pipeline and related infrastructure to ensure the pipeline is built. With the announcement, the government reinforced the importance of this infrastructure to all Canadians.

Market access is critical and in the national interest to ensure we receive full value for our production because this in turn means further investment in jobs, education and healthcare. What's key is that this pipeline be built and operated safely and responsibly. We will do our part to support this happening.

Transportation fuels in a carbon constrained future

While we expect our upstream crude oil production will continue to supply global oil markets, our downstream and marketing business is more exposed to North American refined product supply and demand dynamics.

Governments at all levels in Canada are seeking to diversify transportation fleets to use lower carbon intensity fuels and, as a result, the transportation fueling landscape is expected to change over time. Reducing greenhouse gas (GHG) emissions from the transportation sector is arguably one of the toughest challenges, in that transportation is fundamental to economic productivity and because liquid petroleum fuels are available at a relatively low cost and high energy density.

We see demand for gasoline moderating over the next 10 years, as light vehicle fuel efficiency standards take effect and alternative fuels adoption widens. We see no near-term demand destruction for distillates in North America. In the longer term, we believe diesel will remain the predominant fuel for heavy haulage, aviation, marine and rail, and we see demand growth with increasing economic activity. Heavy-duty vehicle fuel efficiency standards and biodiesel blending are expected to offset some of the economically-driven demand growth.

Enormous strides in fuel efficiency have been made to date through ambitious regulation and by consumer uptake of more efficient light-duty vehicles. Between 2000 and 2010, fleet emissions in Canada decreased from 193 grams per kilometre to 166 g/km, a drop of 14%. As the vehicle fleet continues to turn over in the next decade, fleet average emissions are projected to reach 97 g/km by 2025*.

While it is unclear what course the United States will take on vehicle efficiency standards going forward, there is technical potential to meet even more ambitious fuel efficiency standards. The advances in technology to capture waste heat, computerized engine optimization, as well as the development and use of lighter weight materials mean that, on the basis of fuel use per km travelled, the internal combustion engine of the future will, we believe, not only be cost competitive, but also be very carbon competitive with alternative fuels.

In our view, hybrid, plug-in hybrid and electric vehicles will become cost-effective additions to the passenger vehicle fleet and will, along with fuel

* Pollution Probe: [The Pathways Initiative](#)

efficiency standards, contribute to moderating growth in long-term global gasoline demand.

Fuel technology

Suncor has invested in [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 low-carbon fuels and chemicals.

Suncor also is invested in [Benefuel](#), a technology commercialization company focused on building biodiesel production capacity using cost advantaged low-carbon intensity feedstock.

We believe that cost, carbon competitiveness and consumer convenience mean that liquid fuels will remain the primary fuel source of vehicle mobility for many years. The most effective action we can take is to continue to reduce the emissions intensity of our liquid fuels.

One way to do this 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.

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 given our strategic objectives and operations.

Strategically, advancing biodiesel technology for wider use in cold climates allows us to leverage our view that diesel demand will remain strong. We have the flexibility to optimize our integrated model to switch or supplement existing refining capacity to process biofuels and introduce biological crude components if it makes sense from a value creation perspective.

Over the longer term, if gasoline demand declines while distillate demand grows or remains flat, refineries will need to shift the ratio of their gasoline to distillate output. Reconfiguring a refinery to produce more distillate requires capital, and the economics of distillate production require large, complex refineries that run on heavy crude feedstock. Those refineries unable to make the investment, due to size, scale, age or crude diet, will need to reduce capacity, and we expect that would lead to continued rationalization of refining capacity on the continent.

As older and less efficient refineries close, the supply balance will support refining margins. We believe the refineries that will survive will be those that have the flexibility to process cheaper crude feedstocks, are well-located for domestic and export markets, have sound cost management, and a strong focus on energy efficient and reliable operations. Suncor's refineries are well-positioned to meet this potential trend.

Our approach to our marketing and distribution business entails a cautious evaluation of options for the future. Suncor, through its Petro-Canada brand, currently operates electric vehicle charging at select retail stations which is helping us learn more about this emerging market. We continue to evaluate options and the viability of expanding our current position and respond to the evolving needs of our customers.

In the quest to diversify fuelling options, several lower carbon options such as LNG, CNG, hydrogen and electric vehicles are being promoted. We believe the market does not have the capacity for multiple choices, and it is not clear yet which technology will see the greatest consumer adoption.

Natural gas

In the early part of this decade, Suncor sold less strategic natural gas assets that were not directly supplying our oil sands operations. This was largely motivated by a strategy of cash generation and a view that natural gas prices would stay in a down cycle for an extended period.

In 2018, Suncor sold its mineral land holdings in north-eastern British Columbia, Canada to Canbriam Energy Inc. in exchange for a 37% equity stake. The sale is consistent with Suncor's strategy to focus on a core portfolio of high return, oil-producing assets while funding a strong and competitive natural gas company. Natural gas is expected to play a critical role in bridging to a low-carbon future, particularly in transitioning power generation away from coal.

Offshore oil production

Suncor has an interest in every major development [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 have also recently acquired a participating interest in the Fenja development 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

Our energy scenarios tell us that a key pathway towards decarbonization of the energy system is to substantially increase low-carbon and renewable power generation capacity and then electrify a greater percentage of the energy system.

Suncor entered the renewable power generation business in 2002 to begin participating in this growing energy sector – building today's oil sands resources while also bringing along new sources of energy for tomorrow. Since 2002, we have developed eight wind projects totalling 395 megawatts (MW). Today, we are partners in four operational wind power facilities with a generating capacity of 111 MW of wind generation.

By developing new renewable projects and subsequently selling down our working interest, Suncor is able to generate profitable returns on investment and create cash flow to support further new renewables developments. Suncor has a strong portfolio of renewable power development sites across Canada that will further reduce grid intensity in regions like Alberta and Saskatchewan that have a carbon-intensive grid.

We are also exploring 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.

As part of our investment evaluation, we assess economic, environmental and social benefits including Indigenous partnerships in renewables. This activity also considers emission credits that can be used to offset the emissions in our oil sands operations.

The requirement for steam at crude oil extraction and processing facilities creates the opportunity for high efficiency cogeneration that provides steam and power to our facilities and delivers surplus power to the grid at a carbon intensity that is lower than any other hydrocarbon based generation.

For an energy system in transition, the value of cogeneration is high; in addition to providing an effective baseload to manage the intermittency

of wind and solar power, cogeneration can economically replace coal generation with much lower carbon intensity power. Suncor currently has cogeneration units installed at its Oil Sands Base plant, Firebag, MacKay River and Fort Hills facilities, and exports low-carbon excess electricity generated from these units to the provincial grid.

With both renewable and cogeneration capacity, Suncor provides approximately 700 MW to its own sites and exports approximately 500 MW to the Alberta grid.

As climate regulation is implemented across jurisdictions, renewable power benefits from greater scale which can improve technology, efficiency and improve economics. Equipping wind and solar sites with battery storage to optimize the facility's integration to the power grid could further improve effectiveness. An enabling factor will be market design that allows for dynamic interaction between a renewable, but intermittent, power source and baseload sources like cogeneration.

In 2017, we took the first steps in the regulatory process to replace 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 are expected to export up to approximately 800 MW of electricity to the provincial grid, equivalent to roughly 7% of Alberta's current electricity demand. Should the project proceed as planned, construction is targeted to begin in 2019, with commissioning of the cogeneration units expected to commence by 2022.

Facility resilience to extreme weather events

Suncor assesses specific risks to its physical assets in light of various potential operational hazards to which those assets may be subject, including the risk of extreme weather events, which are possible in the course of operations in the areas where we operate. Suncor manages these risks through facility design and operational procedures. We also 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 degrees Celsius and facilities are built to withstand extreme weather events. Prolonged periods of extreme cold could force these facilities to shut down for periods of time to ensure worker safety and prevent undue stress on equipment. Prolonged periods of extreme

heat may lead to production cuts if adequate supply of cooling water is not available. Suncor's refineries in Montreal and Sarnia have access to extremely large bodies of cooling water, so are far less exposed to this risk.

Hurricanes and icebergs

Suncor's Terra Nova installation, off the coast of Newfoundland, operates on the edge of the Named Atlantic Windstorm Zone, an area that is subject to hurricanes and icebergs. The risk of hurricane season is managed through a continuous weather tracking service that monitors storm systems in the North Atlantic.

There is also a risk in the region of floating icebergs causing damage to our installations. This risk is managed through the design of facilities and a continuous monitoring system tracking iceberg locations. Where the course of an iceberg cannot be altered, an emergency response system allows for the floating platform to be disengaged and moved to safer water, protecting the asset but resulting in production disruption.



Precipitation and droughts

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. Limits to oil sands water withdrawal during winter low flow periods are managed through on-site water storage where facility design permits.

Our Commerce City refinery is located in a water-stressed region and a potential 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 in which Suncor operates, which is managed through contingency plans to protect facilities that include backup generators and pumps to drain critical operating units and equipment.

CARBON POLICY AND REGULATION

Carbon policy and impacts on Suncor

Following 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 at the same time as meeting rising global demand for energy. Suncor is preparing for that transition in multiple ways.

Our business planning process includes carbon prices that incorporate existing regulations and their expected trajectory, as they apply to our business. All investments are also sensitivity tested under a range of carbon assumptions specific to that investment.

In 2018, Suncor took a further step to embed a low-carbon scenario into our business and capital investment planning process to ensure all future business plans and investments are resilient under an accelerated energy systems transition.

Canadian Federal Government

A proposed federal government Pan-Canadian carbon price framework would require each province to implement a carbon price regulation with an overall stringency equivalent to a minimum price of \$10/tonne, rising to \$50/tonne over the next five years. Provinces may use the revenue as necessary for the unique circumstances of the region, including protecting carbon-intense, trade-exposed industries.

Impact of Canadian climate change regulations

Our carbon price outlook assumes the current carbon price will rise to \$65/tonne, on an increasing percentage of our emissions, by 2035. As most of our facilities are currently regulated under various carbon pricing regimes, the impact of our outlook is built into our planning assumptions.

Based on confirmation of new emissions regulations, we have updated our estimates. The production weighted average after-tax cash cost per barrel of global upstream production over the period 2018 to 2027 is estimated at up to \$0.60 per barrel.

Alberta

In Alberta, the current economy-wide price of \$30/tonne on carbon is intended to influence demand for carbon based energy. To protect the competitiveness of Alberta trade-exposed industries, output-based credits are allocated to each facility based on a performance benchmark, outlined in Alberta's Carbon Competitiveness Incentive Regulation.

The performance benchmarks penalize higher carbon intensity assets, whether a function of reservoir geology, fuel choice or efficiency, and will incent technology to reduce the carbon intensity across all facilities and particularly more challenging reservoirs.

The Oil Sands Emissions Limit Act includes a precedent-setting 100 Megatonnes (Mt) emissions limit by 2030 on oil sands development. Emissions from the production of power through cogeneration are excluded from this limit, as is an incremental 10 Mt of upgrading capacity.

As a limit on emissions, rather than production, it allows production to grow as long as the total emissions of the basin remain under the limit. The emissions limit is expected to accelerate the innovation required to reduce both carbon and cost in the oil sands industry.

Quebec and Ontario

Suncor's refineries in Quebec and Ontario are regulated under a cap-and-trade program linked to the Western Climate Initiative (WCI). Regulated refining facilities receive an allowance allocation that aligns with a benchmark performance and takes into account competitiveness in a trade-exposed context. Fuel suppliers are required to purchase allowances to cover the tailpipe emissions of all fuel sold, the cost of which is expected to be largely passed to the consumer, thus acting as a carbon price on fuel consumption.

With the announcement of the termination of the cap and trade program in Ontario, Suncor will work with the provincial government to explore solutions that achieve the required outcomes while minimizing impacts to people and business.



Transportation fuels policies in Canada

Transportation emissions are approximately 25% of total emissions in Canada. 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 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 biodiesel into diesel.

In addition, the federal government has recently proposed implementing a national Clean Fuels Standard, which remains under development.

ENVIRONMENT

Our core mission is to be trusted stewards of valuable natural resources. 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.

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WATER PERFORMANCE AND STEWARDSHIP

Suncor fresh water use and intensity

At Suncor, water is essential to our operations – and we know that it’s a valuable resource we share with the communities where we operate. Our use of water is guided by water stewardship principles that focus on:

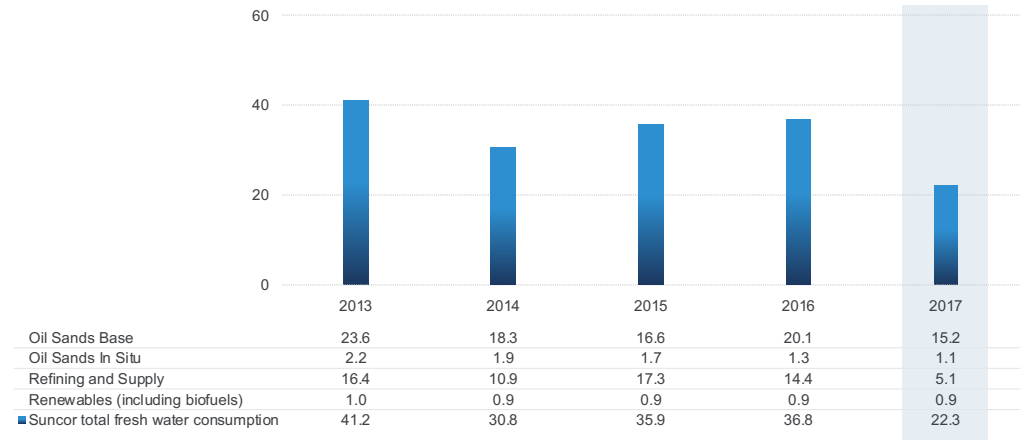
- water conservation
- reuse and recycle
- return of clean water to the watershed

And we remain focused on our commitment to water stewardship. In 2017, our fresh water consumption was 22.3 million m³ – our lowest water use in almost 20 years. The reduction in water consumption was driven primarily by the sale of our Lubricants business, a significant consumer of fresh water, in early 2017 and optimization of wastewater recycle rates at our oil sands base plant.

Suncor’s fresh water use intensity for our oil sands base plant is also the lowest on record at 0.8 m³ / m³.

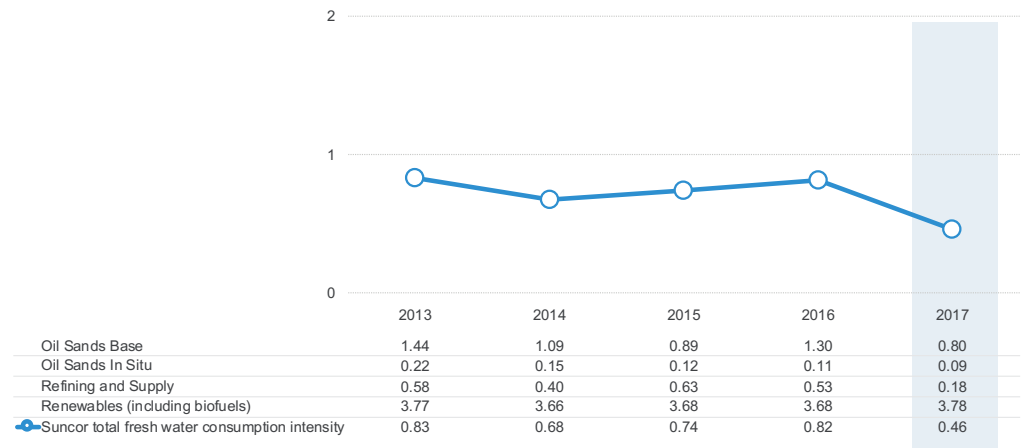
FRESH WATER CONSUMPTION**

million m³



FRESH WATER CONSUMPTION INTENSITY**§

m³ / m³ production



* Fresh water consumption at Oil Sands Base Plant reduction in 2017 is due to a focus on optimizing our wastewater recycle. This included modifications and improvements to our industrial wastewater system that were implemented in 2017. The fresh water consumption in 2016 increased due to the forest fires impacting the industrial recycle rates and the unplanned Upgrader 2 turnaround 2016 was also extended by more than one month due to the forest fires.

† Refining and supply fresh water consumption decreased in 2017 due to the sale of our Lubricants business. Suncor previously operated a lubricants business in Mississauga, Ontario, which was sold on February 1, 2017. 2017 performance data reflects this sale.

The sum of the business segment fresh water consumption volumes does not equal the Suncor total due to transfer of treated wastewater from Oil Sands Base to the Firebag In Situ facility. This volume is netted out of the Suncor total to avoid double accounting.

§ For additional notes regarding this chart and its data, please refer to performance data notes (#8 - notes on water use and return) in [Appendix A](#).

We continue to invest in research and development on water treatment, including participating in:

- industry collaboration
- academic research
- piloting projects on our sites

Suncor is committed to the responsible development of the oil sands. How we manage water is critical to us as a company, to neighbouring Aboriginal communities and to our stakeholders – it’s also crucial to achieve our vision and commitments for faster reclamation and mine closure.

We plan on extending our commitment to water stewardship by setting a new long-term water goal. This builds on learnings from our previous water goal, the success of our water-management strategy and input from Aboriginal communities. Our expectation is that the new goal will reflect our water requirements and the need to maintain healthy, clean watersheds.

Water performance highlights

Mining and extraction

In oil sands mining, heated water is used to separate the bitumen from sand and clay. The cleaned sand and water are then sent to tailings storage ponds, where the sand settles out and the water is recycled back to the extraction process.

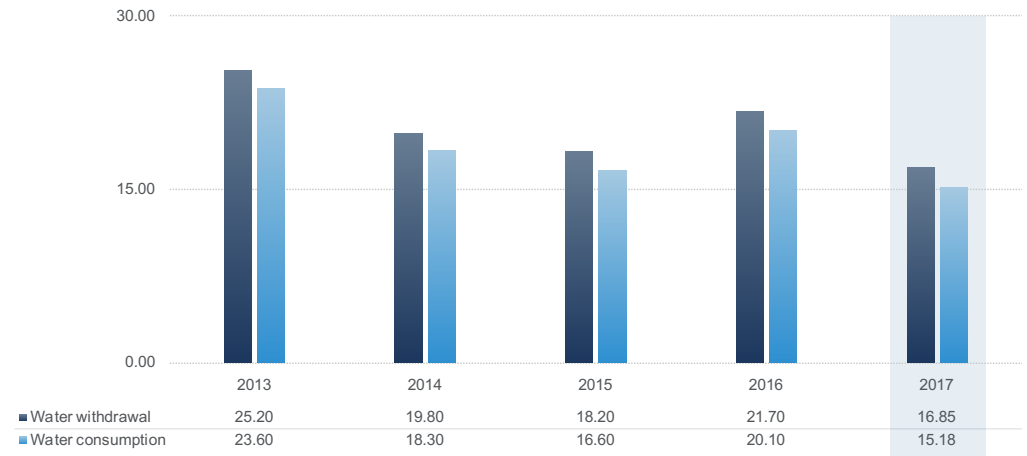
The reduction in fresh water use at our oil sands base plant over the last few years is due to a focus on optimizing our wastewater recycle, and return to the environment. Approximately 92% of the water used by our mining and extraction operations in 2017 was recycled tailings water.

The primary source for make-up water is the Athabasca River. In 2017, we withdrew about 15.9* million m³ of water from the Athabasca River, while returning 1.7 million m³ of treated water back into the river.

Our oil sands base plant is licensed to withdraw up to 59.8 million m³ of water annually from the Athabasca River – about 0.3% of the river’s annual average flow. We continue to operate well below our water license, withdrawing less water than we’re licensed to do so, even as our production levels increase.

OIL SANDS FRESH WATER WITHDRAWAL AND CONSUMPTION**§

million m³



Recognizing our role as a steward of a valuable natural resource, we developed a water management strategy which focuses on balancing three components:

1. Reducing fresh water intake by optimizing our water withdrawal practices
2. Recycling and re-using water in our operations
3. Safely and responsibly returning treated water to the environment

Direct reuse of tailings water

The first major phase of our oil sands water strategy involves sending treated tailings water from our oil sands Base plant to our in situ water network. There, the tailings water is used as a make-up water supply. The result is a

* Water withdrawal from the Athabasca River was reported incorrectly as 16.9 million m³ when this report was published on July 19, 2018. This typographic error has been corrected to 15.9 million m³.

† Fresh water consumption at Oil Sands Base Plant reduction in 2017 is due to a focus on optimizing our wastewater recycle. This included modifications and improvements to our industrial wastewater system that were implemented in 2017. The fresh water consumption in 2016 increased due to the forest fires impacting the industrial recycle rates and the unplanned Upgrader 2 turnaround 2016 was also extended by more than one month due to the forest fires.

‡ The methodology for calculating the water withdrawal metric for Oil Sands does not include industrial runoff volumes, which are subject to annual variances, based on precipitation. Withdrawal and consumption, including the industrial runoff volumes are available in the performance data of our Report on Sustainability.

§ For additional information about this chart and its data, please refer to performance data notes (#8 - notes on water use and return) in [Appendix A](#).

system designed to allow up to 10,000 m³ (or four Olympic-sized swimming pools) of tailings water per day, to be used as in situ make-up water, instead of being stored in our tailings ponds. Since 2010, we have reused 10.7 million m³ of tailings water in our in situ facility.

Recycling/returning industrial wastewater

In 2014, we commissioned a new wastewater plant designed to take wastewater from our upgrading ponds, and remove solids and oils, so we can reuse that water in our operations, or return it to the environment.

This plant can recycle all of its wastewater – 15.8 million m³/year (or 17 Olympic-sized swimming pools per day) and ultimately, could reduce the need for river water by an equivalent amount.



As part of our mine closure plan, we are currently investigating ways to safely return clean, treated tailings water to the environment. We are piloting this through our Demonstration Pit Lake (DPL) using a closed loop system where we maintain control of the water over a number of years and once it meets regulatory criteria, and upon government approval, expect to allow water from the DPL to be naturally released to the environment.

The DPL is part of our aquatic closure technology development program, designed to ensure we can successfully reclaim mine sites. The DPL project incorporated the Permanent Aquatic Storage Structure (PASS) fluid tailings treatment process as the first step to accelerating the process, to establish a lake capable of supporting a full ecosystem of aquatic life. An aquatic cover will now be established on the treated tailings and operated in the same way that is planned for the full scale closure drainage system.

Pit lakes are a necessary part of successful closure and reclamation plans, and are considered a best practice in mining industries around the world. There are a number of pit lakes in Alberta that were created from former coal mine pits, which are now used for recreational fishing, swimming and continue to demonstrate naturally colonized fish and staging areas for migratory birds. The additional research and understanding derived from this work is expected to help ensure the oil sands pit lakes are viable features in the closure landscape.

Fort Hills

We have a separate water license allocation of up to 39.3 million m³ of river water annually for the Fort Hills project. Taken together, the base plant and Fort Hills allocations represent about 0.5% of the Athabasca River's annual average flow.

As we better understand our operational water use and efficiency at Fort Hills, we will continue to explore opportunities to further reduce water use.

In situ

Our in situ operations use water to create the high-pressure steam that is injected through a well to heat the bitumen underground. This process makes the bitumen less viscous, allowing it to flow to the surface. Most of the steam condenses in the reservoir and returns to the surface with the oil. This water is then separated, treated and recycled.

Approximately 96.5% of the water used at our Firebag in situ site is recycled. The make-up is drawn from recycled wastewater from our oil sands upgrading and utilities operations, surface run-off water collected within the

facility boundary and from groundwater wells.

At our MacKay River in situ facility (where close to 100% of the water is recycled), the majority of make-up water comes from groundwater. And it's important to note most of this water is too high in salt and mineral content to be used for potable water or agriculture.

Over the last five years, our in situ fresh water use intensity has decreased by over 69%, primarily due to our continuous improvement efforts – such as wastewater recycling – to maintain the fresh water use while tripling our production. Suncor's in situ water consumption intensity is 0.09 m³/m³.

As Suncor continues to lead and innovate, we will share the lessons learned and technologies with our industry peers, through [Canada's Oil Sands Innovation Alliance \(COSIA\)](#). By doing so, we are confident we can reduce the regional, operational footprint and better protect natural water resources.

An example of this is the Water Technology Development Centre (WTDC). Scheduled to open later this year, the \$165 million WTDC will be attached to our Firebag in situ operations, which uses Steam-Assisted Gravity Drainage (SAGD). When complete, Suncor and our COSIA partners will test drive more technologies than we could on our own, while sharing the risks and costs. This is another example of COSIA collaboration, which will allow operators to speed the development and implementation of new water treatment technologies, ultimately shortening the current eight-year time frame required to field test technologies and move them to commercial application.

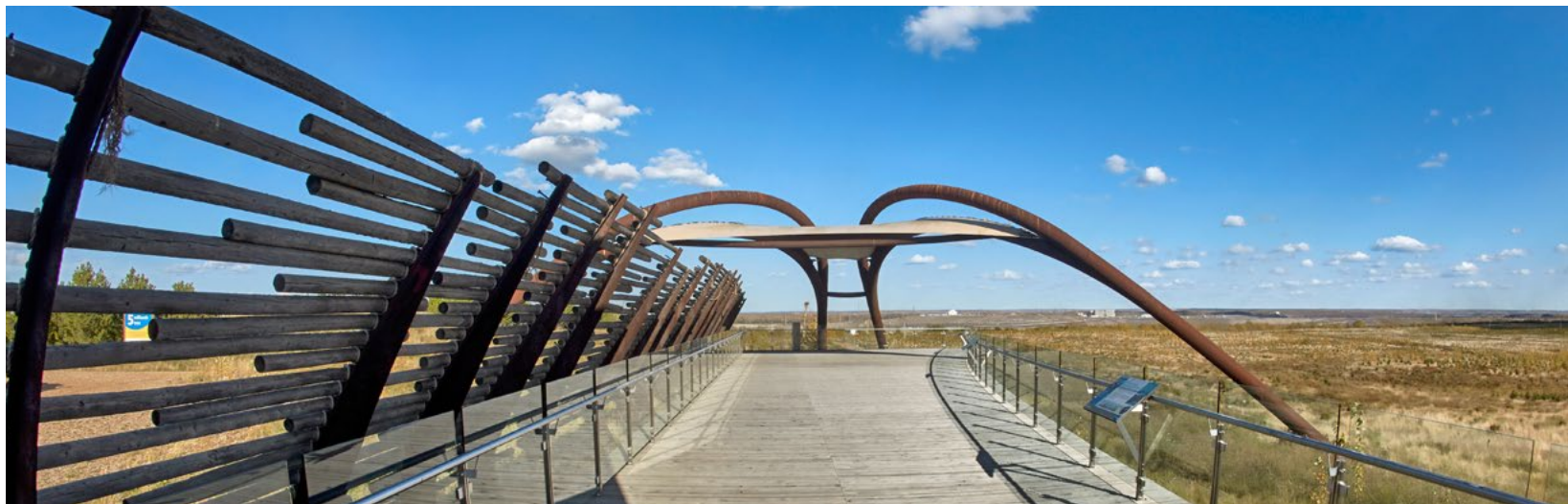
Downstream

Our refineries use fresh water for heating and cooling. While water use has remained relatively flat, there have been local initiatives that have resulted in more efficient water use. For example, at our Edmonton refinery, approximately one-third of the total water withdrawn in 2017 was recycled wastewater supplied from the municipal Gold Bar Wastewater Treatment Plant – significantly reducing the amount of fresh water withdrawn from the North Saskatchewan River.

The Refining and Supply facilities' water consumption and intensity was lower, primarily due to sale of our Lubricants facility in February 2017.

East Coast Canada

The only fresh water consumed in our offshore operations is for cooking, drinking, showers and other domestic purposes. In our East Coast Canada operations, water is either produced offshore through desalination, or is transferred via vessel from St. John's, Newfoundland.



TAILINGS MANAGEMENT

Tailings are a mixture of water, sand, clay and residual bitumen, and are the byproduct of the hot water treatment process used to separate the oil from the sand and clay. Tailings are stored in large engineered dam and dyke systems called tailings ponds, designed to settle out the solid particles from the water.

Water is continuously recycled from the tailings ponds back into the extraction process, reducing new withdrawals of fresh water from the Athabasca River and other sources. 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 up to 30 years to separate.

New technologies are accelerating the separation process. Over the past several years, Suncor's holistic Tailings Reduction Operations (TRO™) approach has allowed us to:

- reclaim a tailings pond, [Wapisiw Lookout](#)
- make another one trafficable through the use of coke capping technology
- convert a third tailings pond to a fluid tailings treatment area
- start increasing our fluid tailings treatment capacity in 2018, to begin draining another tailings pond to remove it from the landscape

As our mining operations have expanded, the volume of fluid tailings have increased. However, with the implementation of TRO™ in 2010, fluid tailings volumes at site have remained steady and we're now working to decrease the inventory of fluid tailings on site. Suncor currently has about 300 million cubic metres of fluid tailings.

Fort Hills, operated by Suncor, ramped up earlier than anticipated and is targeting 90% average production by the fourth quarter of 2018. Suncor is treating fluid tailings from the start of operations with extraction thickeners and tailings sand-placement activities to reduce the amount of fluid tailings and minimize further treatment requirements.

Tailings operations feature an out-of-pit tailings area with plans to transition to below-grade tailings treatment once space is made available in the first mining area. The peak fluid tailings inventory at Fort Hills is expected to be below 130 million cubic metres. This represents a step change in fluid tailings management compared to industry demonstrated inventories.

Tailings directive

To ensure fluid tailings volumes are managed appropriately, the Government of Alberta released the Tailings Management Framework in 2015, which is intended to ensure fluid tailings are in a ready-to-reclaim state within 10 years of the end-of-mine life.

And last year, the Alberta Energy Regulator (AER) finalized a new oil sands directive called the [Fluid Tailings Management for Oil Sands Mining Projects](#) (Directive 085). This regulation includes tailings management plan application and tailings performance reporting requirements aligned with the government's Tailings Management Framework.

In 2015 and 2016, Suncor was invited to work with Aboriginal communities, the AER and other stakeholders to support the development of Directive 085.

To meet the new requirements, Suncor requested permission and received approval in 2017 to add treatment capacity to our TRO™ operations at our Base plant. Meanwhile, Fort Hills has applied for amendments to update its tailings management plan, to align with new requirements in Directive 085, under the Tailings Management Framework policy. 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).

Raising the bar: tailings collaboration

As a member of COSIA, Suncor is sharing details of our tailings technologies with other member companies. In return, we are given access to technologies that others are using to manage their tailings. Highlights in 2017 included:

- 13 new projects started
- 178 contributed technologies
- 78 active projects, with a cost of approximately \$280 million

Through shared research, experience, expertise and financial commitments, we are able to investigate new tailings technologies faster. We anticipate this resource-sharing through COSIA will improve tailings management now and at future oil sands mine operations.

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. Thanks to teamwork and dedication, Pond 5 can now support heavy equipment – more than two years ahead of what we had planned.

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) to create a solid surface. Giant straws, called vertical strip drains, are added to dewater the fluid tailings. In the future, we will spread sand over the coke to allow placement of a soil cover and vegetation (trees and shrubs).

This is the first full-scale soft tailings cap of its kind in the industry.

Originally, Suncor anticipated completing the cap on Pond 5 in 2019. However, based on how well the dewatering had already progressed, an opportunity to mobilize a team to install the rest of the cap allowed for the pond to be fully trafficable late last year.

Now that the cap is complete, settlement will continue and Suncor will work to understand how to apply this technology to further improve our operations. In addition, we will share our lessons learned with other oil sands operators through COSIA.

™ Trademark of Suncor Energy Inc.

AIR QUALITY

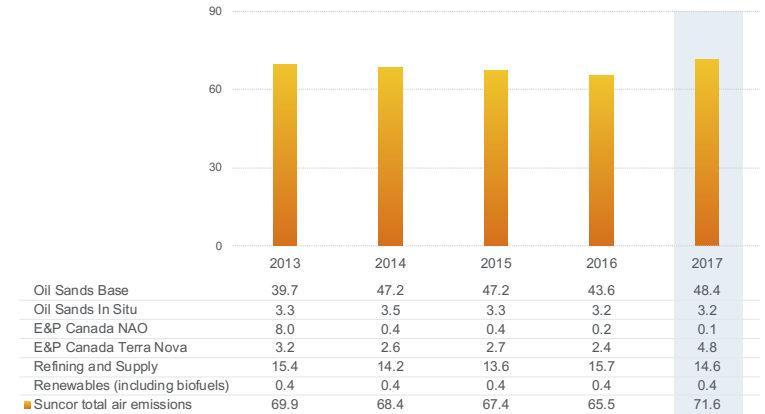
Suncor works to reduce air emissions from our operations, through operational excellence, project design and innovation and technology. Our focus for air quality management is centered on air emissions (pollutants and greenhouse gases) and odours. We are committed to maintaining and improving air quality near all of our operations.

In 2017, total Suncor-wide air emissions increased by 9% compared to 2016, largely attributed to the overall increase in VOC and NO_x emissions. VOCs increased as a result of a hydrocarbon blanket gas and recovery system outage at Terra Nova, and changing methods at our oil sands mining facility. While absolute NO_x emissions increased, due to production increases at our upstream facilities, the overall intensity stabilized due the implementation of low NO_x emissions reduction technology in our mine fleet.



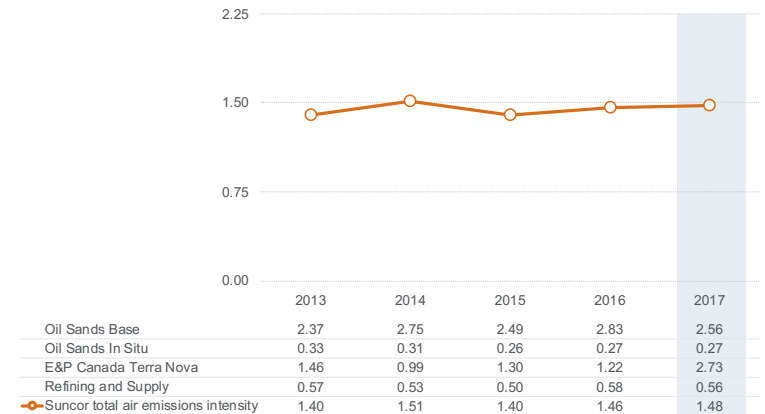
AIR EMISSIONS**

thousand tonnes / year



AIR EMISSIONS INTENSITY***

kg / m³ of production



* Air emissions include SO₂, NO_x and VOC emissions.

† The increase in Terra Nova's VOC emissions and emissions intensity in 2017 was mainly due to the hydrocarbon blanket gas and recovery system being offline for a large part of 2017 when compared to ~ 100% operational in 2016.

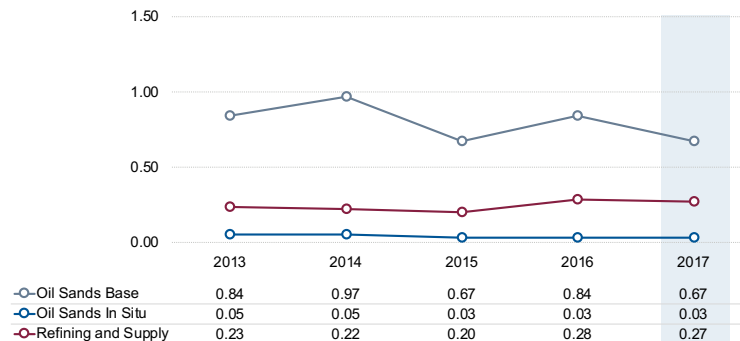
‡ For additional notes regarding this chart and its data, please refer to performance data notes (#7 - notes on other air emissions) in [Appendix A](#).

Sulphur dioxide

The overall trend in sulphur dioxide (SO₂) emissions intensity over the last five years is downward, due to more reliable operations, fewer plant upsets and flaring, and increased use of alternative fuels in place of petroleum coke. Preventative maintenance on SO₂ scrubbers caused annual fluctuations.

SO₂ EMISSIONS INTENSITY*

kg / m³ of production

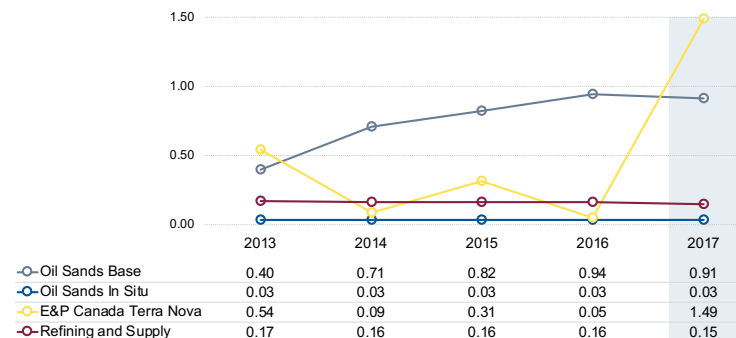


Volatile organic compounds

Volatile organic compound (VOC) emissions intensity is stable within our in situ and refining and supply businesses. The oil sands trends have been increasing, due to changing methodology of measuring emissions across our oil sands operations. The considerable fluctuation within our Terra Nova operations, is due to a hydrocarbon blanket gas and recovery system being offline for preventative maintenance and unplanned outages.

VOC EMISSIONS INTENSITY**

kg / m³ of production

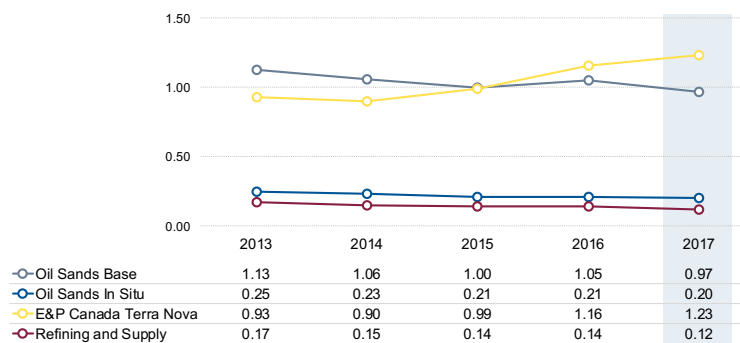


Nitrogen oxides

The overall trend in nitrogen oxide (NO_x) emissions intensity over last five years is downward, due to the installation of low NO_x emissions reduction technologies (i.e. haul truck engine replacement) in the mine fleet. The only exception is the Terra Nova facility, due to production decrease.

NO_x EMISSIONS INTENSITY*

kg / m³ of production



* Oil Sands Base estimation accuracy is greater than +/- 10% and limited by currently accepted methodology and measurement instruments.

† The increase in Terra Nova's VOC emissions and emissions intensity in 2017 was mainly due to the hydrocarbon blanket gas and recovery system being offline for a large part of 2017 when compared to ~ 100% operational in 2016.

‡ For additional notes regarding this chart and its data, please refer to performance data notes (#7 - notes on other air emissions) in [Appendix A](#).

Air quality monitoring

Suncor is a member of the Wood Buffalo Environmental Association (WBEA). The WBEA operates environmental monitoring programs to monitor ambient air, land and human exposure in the Regional Municipality of Wood Buffalo (RMWB) in northeast Alberta – providing ambient air quality data and a real-time air quality index (updated hourly) which is available to the public.

We also support air monitoring via the following airsheds/organizations that monitor and report air quality – ensuring timely availability of results to the public and regulatory agencies:

Alberta

- Parkland Airshed Management Zone
- Alberta Capital Airshed, through involvement in the Strathcona Industrial Association
- Alberta Clean Air Strategic Alliance
- Environmental Monitoring and Science Division (EMSD) of Alberta Environment and Parks

Ontario

- Clarkson Airshed Study, through participation in the Clarkson Airshed Industrial Association
- Sarnia Lambton Environmental Association

Montreal

- We work with the Service de l'environnement de la ville de Montréal by providing ambient air quality monitoring data

Odour monitoring in the RMWB

Suncor consistently 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 their concerns. We're also engaged in researching and testing new methods and technologies to monitor fugitive emissions.

RECLAMATION

Land quality and use is an important priority throughout the life cycle of a project, from project planning through to project closure and reclamation.

Land reclamation takes place once the disturbed land is no longer part of active operations; including mine and tailings areas, roads, plant facilities and buildings, wells and pipelines. Our challenge is to reduce the size and duration of our footprint in order to maintain biodiversity and to support the function of nearby natural ecosystems.

Once an oil or natural gas site is no longer productive, regulations require the operator to decommission the operation and reclaim the site.

Since Suncor began operations in 1967, we have disturbed 22,205 hectares of land in the Athabasca region (oil sands base operations). As of the end of 2017, we had reclaimed* about 10% of the total land disturbance to date, including 2,179 hectares of terrestrial reclamation and 48 hectares of wetlands and aquatic reclamation. Reclamation includes:

- **Landform construction and contouring** – all disturbed surface areas must be constructed and contoured to support the establishment of a self-sustaining boreal forest that integrates with other reclaimed landforms and adjacent natural areas. A key feature of the reclaimed landscape will be the establishment of new surface water pathways (i.e.,

closure drainage features) that will direct precipitation run-off through the reclaimed lands. Adequate erosion control will provide for landform stability and generally is achieved once vegetation establishes and matures.

- **Reclamation soil placement and revegetation** – the establishment of a self-sustaining native plant community is a benchmark of reclamation success, including the control of invasive plant species and noxious weeds
- **Reclamation Monitoring** – following reclamation, landform performance is monitored and assessed, including soil quality and quantity, vegetation performance (i.e., plant density, height, productivity, diversity, etc.) and wildlife activity. Mitigations (e.g., erosion repairs, weed management, additional planting) are completed, as required.

Suncor’s multi-phase reclamation process

Developing a mine reclamation and closure plan

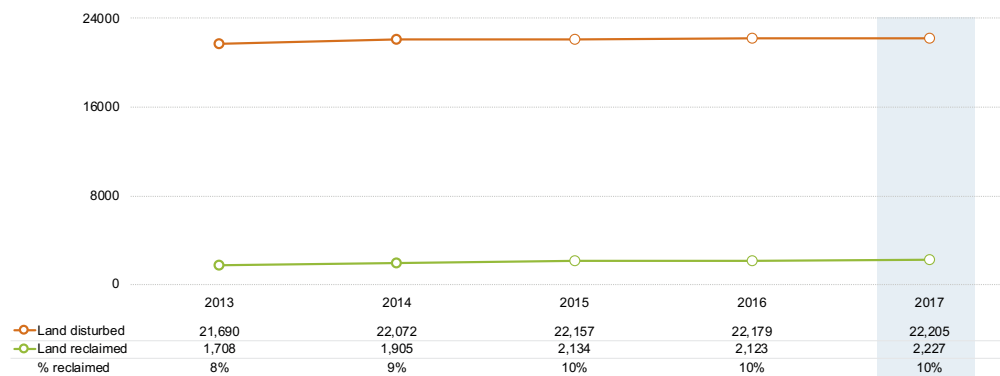
Before developing a new mine, we develop a conservation, reclamation and closure plan that identifies how and when mine-disturbed areas will be reclaimed. We engage key stakeholders and consider their input during plan development. We also develop conservation, reclamation and closure plans with respect to land disturbed by our in situ operations.

The Alberta government must authorize reclamation plans for all new projects.

Mining oil sands requires digging up to 80 metres below the surface, creating a mine pit that is usually filled in with overburden tailings from the extraction process. Prior to mining, soils and suitable overburden that sit over the oil sands deposit are salvaged. The soil is

LAND USE AT OIL SANDS**

cumulative hectares



* Reclaimed lands have not been certified as such by government regulators. For further details on what we mean by reclaimed, see the legal [advisories](#) section of this report.

† Land disturbed represents the total active footprint of our Base Plant operations which includes cumulative hectares (ha) for areas cleared of vegetation, soil disturbed, ready for reclamation, soils placed and permanently reclaimed. The area reported as land reclaimed is a subset of the total active footprint and the area of non-reclaimed land at Oil Sands was 19,977 ha for the 2017 reporting year. For further details on the definition of reclaimed, see [advisories](#).

‡ For additional information about this chart and its data, please refer to performance data notes (#10 - notes on land disturbance and reclamation) in [Appendix A](#).

used immediately, when land is available for reclamation, or is stockpiled for future use.

In the past, there was a lag time of many years between when soil and overburden were removed and land reclamation could begin. We are working to close that gap so that disturbed areas become available soon after they are created, through a process known as progressive reclamation. For example, we typically reclaim overburden storage areas immediately after they are created.

In the case of tailings ponds, closure and reclamation involves two distinct components:

- transformation of the tailings ponds into a solid deposit that can be reclaimed as a stable closure landform
- a self-sustaining ecosystem is established after soil is placed and local trees and shrubs are planted that support local wildlife

Collaborating on tailings technologies

As a company committed to accelerating environmental performance improvements, Suncor has shared details around our tailings management work with fellow members of [Canada's Oil Sands Innovation Alliance \(COSIA\)](#). In return, we have gained access to technologies that other member companies are using to manage existing tailings ponds.

By sharing research, experience, expertise and financial commitments, we are able to investigate new tailings technologies more rapidly.

We expect this will result in improved tailings and reclamation management at current and future oil sands mine sites.

Returning the land to a self-sustaining boreal ecosystem

Once a landform is considered 'ready for reclamation', and can no longer be used for active operations, final landform construction and contouring can progress. Closure drainage features are constructed and reclamation soils are placed. Surface variability and wildlife habitat features are added to encourage biodiversity in the final landscape.

Locally sourced tree, shrub and aquatic seedlings are planted and the soil is fertilized directly at the seedling roots to help the young plants during early development years. Reclaimed areas are monitored to ensure the new forest, lakes and wetlands mature into a healthy, self-sustaining ecosystem.

Areas planted in the 1980s are now seeing young conifer seedlings take root under mature trees – a positive sign of regeneration within a healthy forest. Another indicator of success is the increase in wildlife returning to reclaimed lands. The species spotted on our reclamation areas include:

- avian species, including green-winged teal, horned grebe, common yellow throat and least fly-catcher
- coyote
- grey wolf
- red fox
- mule deer and white-tailed deer
- snowshoe hare

- moose
- amphibian species, such as the Canadian toad
- muskrat
- otter
- beaver
- lynx



Grey wolf recorded as part of the photographic monitoring program that collects year-round monitoring data on terrestrial wildlife species at Firebag.

2017 progress on land reclamation

Suncor reclaimed tailings sand and overburden areas within the Millennium and Steepbank mines by completing landform construction and, contouring and soil placement over these areas.

In 2017, more than 400,000 trees and shrubs were planted, bringing the total number of trees and shrubs planted since 1976 to approximately eight million.

Suncor continues to progressively treat tailings and reclaim land that is no longer required for operations. This includes the coke-capping of consolidated tailings completed at Pond 5, and implementation of the Permanent Aquatic Storage Structure (PASS) treatment process that will start operations in 2018.

Certification of reclaimed lands – a complex issue

Some people question why so little land disturbed by the oil sands industry has been certified as “reclaimed” by the regulator. There is an expectation by the regulator and stakeholders that reclaimed land must be shown to be on a path to achieving the final closure outcome, which is, for our operations in the Wood Buffalo regional, a locally common, self-sustaining boreal forest ecosystem. There are a number of assessment points along that path, specifically related to vegetation success.

A reclamation certificate will be issued when land capability has been achieved. Land capability must consider the physical, chemical and biological characteristics of the land, including topography, drainage, hydrology, soils and vegetation. Reclamation and closure plans developed by the operators and authorized by the regulator include these objectives.

In 2009, the Government of Alberta implemented a reclamation reporting system that gives the public a clear understanding of the progress being made during the reclamation process. The [Oil Sands Information Portal \(OSIP\)](#) is a one-window source for information; the public portal has both an interactive map display and a data library.

In situ land disturbance

As the oil sands industry grows, the ratio of land being disturbed by development is expected to decline. That is due to reclamation that is underway at current sites, and the reserves that underlie approximately 97% of Canada’s oil sands surface area are recoverable using in situ technology, which is similar to conventional oil production.

In situ operations disturb only about 15% of the land required for traditional mining operations.

However, in situ oil sands projects, along with oil and gas exploration, forestry and other industrial activities, do have an impact. The associated roads, seismic lines, power corridors and pipelines leave linear paths that cause forest fragmentation, and can negatively impact wildlife habitat.

Other land disturbance challenges

As a matter of course, we undertake remediation at our downstream retail sites. Remediation is done in conjunction with upgrades to facilities and tanks at existing operations as well as at sites facing closure.

Remediation is also conducted at our conventional oil and natural gas sites impacted by historical activities. Where remediation has been completed, the next phase is reclamation, including the establishment of vegetation.

Reclamation research and monitoring

Suncor participates in several research and monitoring projects that are helping us understand the impact of development on the boreal forest, and the steps we can take to improve our reclamation efforts.



Among these are projects that support native tree, shrub and aquatic species that are an ecologically and culturally important component of boreal forest ecosystems:

- In the **Wetland Plant program**, we partnered with elders from five First Nation communities to develop a list of 10 significant wetland plants, to grow and plant in reclamation.
- The **Improving Seed Longevity of Native Shrubs program** identifies optimal storage conditions for native shrub seed so a steady supply for reclamation will be possible.
- The **Industrial Research Chair in Forest Land Reclamation** is expanding its early success in better understanding forest canopy development and working to improve tree growth during forest stand initiation and development. The program is also developing recommendations for establishing more spatially diverse site conditions and forest communities.

Part of a larger, continent-wide initiative, the **Boreal Monitoring Avian Productivity and Survivorship program** is advancing our understanding of avian population dynamics and diversity in reclaimed and disturbed habitats in the Athabasca oil sands region. Through ongoing monitoring, the program is evaluating disturbance effects on avian habitat quality and assessing reclamation designs to help guide our reclamation work.

The **Wildlife Habitat Effectiveness and Connectivity program** advanced our understanding of the effects of mine activities on wildlife population dynamics. Through research and monitoring, the program evaluated the function of undisturbed or

reclaimed buffers adjacent to mines and the buffers' effects on wildlife dispersion, connectivity and predator/prey interactions.

Human health and wildlife risk assessment research and monitoring continued in 2017 to ensure mining and in situ-disturbed lands are reclaimed in a manner that prevents health risks to people and wildlife. Results are shared with COSIA to ensure we are improving results across the entire oil sands region.

** Reclaimed lands have not been certified as such by government regulators. For further details on what we mean by reclaimed, see the [legal advisories](#) section of this report.*

LAND, BIODIVERSITY AND WETLANDS

Suncor and other oil sands companies are working to reduce the size of our environmental footprint, in order to support the function of natural ecosystems in the region and maintain the biodiversity.

Oil and natural gas operations occur in very diverse landscapes and these landscapes are home to many ecosystems containing a variety of plants and animals. Alberta's oil sands lie under 142,000 km² of land. Only about 3%, or 4,800 km², of that land could ever be impacted by the mining method of extracting oil sands. The remaining reserves that underlie 97% of the oil sands surface area are recoverable by using drilling (in situ) methods that require significantly less surface land disturbance relative to mining.

Reducing our footprint, reclaiming land, promoting biodiversity

Suncor works on three primary fronts to minimize our impact in the boreal region:

1. **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
2. **Accelerating the pace of reclamation of disturbed lands**, including the reclamation of tailings ponds



3. **Preserving biodiversity by working internally and with industry peers and multi-stakeholder organizations** on initiatives to conserve and reclaim habitat for birds, mammals, fish and other species

The following biodiversity elements were implemented recently during reclamation planning and execution to improve landscape biodiversity outcomes:

- by working with Aboriginal communities, more culturally-significant wetland and riparian plants have been incorporated into existing reclaimed areas and revegetation plans
- diverse ecosystems were created, including lakes, streams, shallow open water, riparian areas, marsh and fen wetlands
- approximately 40 species of native trees, shrubs and aquatic plants have been planted, including those important for local wildlife, food and habitat, and Aboriginal cultural significance
- coarse woody debris was recovered from disturbed forests and reused in reclamation areas to support small mammal habitat and erosion control
- logs recovered from disturbed forests were reused as snags or wildlife trees to create perches and nesting sites for birds and habitat for other wildlife
- bird and bat boxes were constructed and installed in many areas
- islands were constructed in the middle of wetlands to support safe bird nesting habitat
- direct placement of soils in newly reclaimed areas

Working with stakeholders

Local stakeholders are consulted and involved in monitoring any risks and/or potential impacts on biodiversity. The Government of Alberta requires us to provide plans and progress updates, for managing our impacts on many components of biodiversity within the areas where we operate. This includes:

- revegetation plans
- soil salvage and placement plans
- wildlife mitigation and monitoring plans

Environmental impact assessments and/or socio-economic impact assessments are required by law at all sites where we operate.

Suncor is also a signatory to the Boreal Forest Conservation Framework – a groundbreaking national conservation vision developed by 20 First Nations, environmental groups and resource companies. The vision articulated in the Framework calls for the establishment of a network of large, interconnected protected areas, covering about half of the country's boreal forest, and the use of leading-edge sustainable development practices in remaining areas.

Our ongoing biodiversity initiatives

Wildlife management program

The objective of Suncor's wildlife management program in the Regional Municipality of Wood Buffalo is to minimize human-wildlife conflicts and wildlife habituation and conditioning, while maintaining a healthy wildlife population and diversity.

We regularly consult and collaborate with Alberta Environment and Parks' (AEP) wildlife biologists and local fish and wildlife officers.

Bird protection program

Suncor is committed to minimizing interactions between birds and the process-affected ponds required for its operations in the oil sands through:

- adoption and refinement of deterrent methods
- monitoring for bird contacts
- searching for bird mortalities

We use a combination of radar linked deterrents, non-radar linked deterrents and physical deterrents to discourage birds from landing on tailings and other process-affected ponds. And we closely monitor our deterrents and attend to any affected birds in consultation with the AEP.

Industry collaboration on biodiversity

As the oil sands industry grows, it becomes increasingly important to work together to address the cumulative impacts of development on wildlife and biodiversity. One way we do this is through our participation in Canada's Oil Sands Innovation Alliance (COSIA).

COSIA's land environmental priority area is focused on reducing the footprint intensity and impact of oil sands mining and in situ operations on the land and wildlife of northern Alberta. Through COSIA, we work on a wide range of projects aimed at environmental footprint reduction, accelerating reclamation and preserving biodiversity.

Suncor worked collaboratively with other COSIA members to develop the COSIA Land Environmental Priority Area (EPA) Performance Goal, an intensity-based metric that measures the amount of in situ surface land disturbance per area of reservoir accessed. Collaboratively our organizations are working towards the [goal of reducing our operational footprint intensity by 10% by 2022](#).

In addition, Suncor led development of a [COSIA Land Challenge](#) that is focused on finding new technologies that support approaching zero land disturbance exploration. The COSIA Land Challenge was released in Q1 2017. Several new technology ideas and proposals have been received to date. At least one proposal was advanced in Q4 2017 to the pilot stage.

More examples of COSIA projects related to boreal forest biodiversity:

Reclamation efforts in the Algar region

The Landscape Ecological Assessment and Planning tool and database developed by COSIA was used to plan caribou habitat restoration in the Algar region, an area covering 570 km² along the Athabasca River southeast of Fort McMurray. The Algar project was completed through an integrated regional approach, with COSIA companies working together to repair fragmented habitat across an area of land outside of their actual licence areas.

The Faster Forests program

The Faster Forests program is designed to address forest fragmentation by strategically planting trees in disturbed areas across the oil sands region. In 2017 more than 950,000 trees and shrubs were planted, bringing the total number of trees and shrubs planted since 2009 to approximately five million.

Planting shrubs native to the area is a major focus. These shrubs will help tree seedlings grow healthier, faster and with less competition for nutrients and water from fast-growing grasses. The result: greater ecological integrity and biodiversity. Berry-bearing shrubs such as blueberry and saskatoon are important to Aboriginal communities and wildlife.

Suncor has adopted learnings from the Faster Forests program and incorporated them into our operations. This practice has allowed us to address historical disturbances that were not otherwise revegetating.

Alberta Biodiversity Conservation Chairs

COSIA is sponsoring the [Alberta Biodiversity Research Chairs Program](#) that's intended to fast-track biodiversity science and support on-the-ground research on the environmental impact of development in the boreal forest of northern Alberta.

The current program includes two research chairs at the University of Alberta, which cover four integrated research themes:

1. Rare and endangered species monitoring and conservation
2. Cause and effect assessment of biodiversity change as the foundation for effective management
3. Improve monitoring, modelling and management of terrestrial biodiversity for regional land use planning
4. Integrated restoration – from site to landscape levels

Wetlands

Wetland reclamation: pioneering fen research

Wetlands are an important part of reclamation efforts. To date, close to 50 hectares of wetland and lake reclamation have been completed by Suncor (Reclaimed lands have not been certified as such by government regulators. For further details on what we mean by reclaimed, see the [legal advisories](#) section of this report). A high research priority is developing the ability to reconstruct wetlands, including swamps, marshes, fens and bogs. Until recently, reclamation efforts had primarily focused on marshes.

In 2013, Suncor completed construction of a three-hectare fen, named the Nikanotee (pronounced Nee-ga-no-tee; Cree word for “future”) fen. The achievement established Suncor as one of the first companies in the world to complete reconstruction of this type of wetland. This work was completed in co-operation with a number of university researchers and consultants from across the continent.

A fen is the most common wetland type found in the mineable oil sands region. Fens tend to:

- accumulate large deposits of organic matter (called peat) and are primarily fed by groundwater inputs
- be perpetually wet, storing water and releasing it slowly during dry periods
- act as filters for streams and rivers lower down, improving water quality by capturing run-off and scrubbing out nutrients and sediments
- be home to diverse biota, such as amphibians, birds, moose and a wide range of plants, including the insect-eating pitcher plant

Located at our oil sands Base plant near Fort McMurray, Alberta, our three-hectare fen is fed by a man-made 32-hectare watershed. The project is the culmination of more than 10 years of collaborative research.

The University of Waterloo led the fen hydrological feasibility modelling, in partnership with the [Cumulative Environmental Management Association \(CEMA\)](#). Suncor funded the design and construction of the fen. Along with Teck Resources and Imperial, we are funding ongoing research and monitoring of the constructed site.

The [Nikanotee fen](#) is now a joint industry project, contributed by Suncor to other members of COSIA.

Recently, Suncor initiated a bog reclamation feasibility study called Raised Bogs: Western and Traditional Knowledge Review. Gathering information on bog form and function from two knowledge systems, western and traditional or Aboriginal sciences – is the first step in understanding if and how we can design and build a bog reclamation pilot that resembles natural bogs in the region – like the bogs that develop over large peat plateaus, on smaller peat basins on mineral soil, or on frost mounds. This work is guided by western scientists and Aboriginal knowledge holders.

CARIBOU CONSERVATION



Woodland Caribou (Ranifer tarandus caribou) recorded as part of the photographic monitoring program that collects year-round monitoring data on terrestrial wildlife species at Firebag. Woodland caribou have been recorded during the spring, summer and fall seasons and have been photographed in all buffer zones established based on the distance from existing and proposed Firebag developments.

Suncor and Canada's Oil Sands Innovation Alliance (COSIA) member companies are initiating and applying leading-edge habitat restoration projects to repair fragmented habitat, and are testing restoration techniques in northeastern Alberta.

Woodland caribou are well adapted to life in the boreal forest. They are a non-migratory subspecies that require large expanses of habitat with low densities of predators, like wolves, and they're usually found in small numbers.

COSIA's caribou projects

Caribou are also listed as threatened under *Canada's Species at Risk Act*, due to declining population, likely caused primarily by increased predation. Natural factors, like forest fires, within the boreal forest have altered and contributed to a fragmented landscape. This often leads to increased populations of deer, moose, elk and their predators. Given the low numbers of woodland caribou in the boreal forest, any increased predation pressure can have devastating effects.

While caribou conservation is a shared government, public and private sector responsibility, it is led by government. As such, the Government of Alberta released its Draft Provincial Woodland Caribou Range Plan in 2017. The plan aims to recover and sustain woodland caribou populations using a broad range of tools.

As an operator in the boreal forest, Suncor has a role to play in contributing towards caribou conservation, and we've developed a strategy aimed at mitigating our impact on woodland caribou.

Suncor regularly considers caribou-focused objectives at both the local and landscape levels. For example, Suncor incorporates under-pipe crossings along above-ground pipelines at in situ projects, and reclaims disturbed areas to accelerate recovery of the caribou's habitat.

In collaboration with COSIA, Suncor also completed a multi-year caribou habitat restoration program to repair fragmented habitat within the Algar region of northeast Alberta.



SOCIAL RESPONSIBILITY

We work hard to build and maintain relationships with local communities, Aboriginal 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.

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STAKEHOLDER AND ABORIGINAL RELATIONS

The trust and support of stakeholders and Aboriginal communities are very important to Suncor and foundational to successful energy development.

Stakeholders and Aboriginal communities are the individuals and groups who could be affected by our operations or who could, through their actions, affect our business. Examples include:

- landowners and community residents
- Aboriginal governments and communities
- trappers
- governments and regulators
- non-government organizations and environmental groups
- community investment partners
- business groups
- customers and suppliers
- employees

We work hard to build and maintain relationships with local communities, Aboriginal Peoples and stakeholders, and meaningfully consider their issues and concerns about our operations and the effects of proposed development. This includes working together to mitigate potential environmental, economic and social impacts, and ensuring that local communities benefit from energy development.

Our approach

We believe those affected by Suncor's business have a right to be informed about our activities,

4,980
employees

have completed Aboriginal awareness web-based training since it launched in 2015

\$521
million

spent with Aboriginal suppliers in 2017

26

Petro-Canada branded retail sites

owned or leased by First Nations across Canada

participate in a transparent engagement process and be involved in the issues and opportunities affecting them. We seek input and feedback on our activities and decisions, and encourage stakeholders and Aboriginal communities to define how they wish to be consulted.

Often, it's simply an informal discussion. At other times, it's through more formal engagement or consultation processes. For example, we regularly participate in community advisory meetings with several Aboriginal communities.

We're also a part of multi-stakeholder forums, including [Ceres](#), a sustainability non-profit

organization that works with investors and companies to build leadership and drive solutions.

We also engage on issues of national interest with stakeholders, through multiple forums. Our president and CEO Steve Williams is a member of the advisory committee to [Canada's Ecofiscal Commission](#) which aims to shape policy to encourage economic activities that support mutual benefits such as job creation, investment and innovation.

As part of Suncor's operational excellence management system, the Stakeholder Relations Framework ensures we have a consistent approach to relationships with stakeholders and Aboriginal communities, whether it is local engagement or involvement in national forums.

This framework outlines Suncor's responsibilities and commitments, and provides a mechanism to consider the needs, interests and concerns of stakeholders and Aboriginal communities, and incorporate this into our business decisions on a day-to-day basis. It is implemented via standards and guidelines, and is supported by procedures, practices and tools.

Policies

Our [Human Rights, Stakeholder Relations](#) and [Canadian Aboriginal Relations policies](#) outline our commitments and key beliefs with respect to stakeholders and the Aboriginal communities near our operations. Related policies include:

- [improper payments policy](#)
- international security policy
- [harassment and violence-free working environment](#)

Suncor's Stakeholder Relations and Canadian Aboriginal Relations policies are reviewed every three years. We continue work to ensure that the policies reflect evolving societal expectations and external context, like the government's commitment to adopt the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP).

Suncor supports the Truth and Reconciliation Commission's call to action for the corporate sector to adopt UNDRIP as a reconciliation framework for its relationship with the Aboriginal Peoples of Canada. To implement this framework, Suncor is committed to meaningfully engage with communities, listen, have open dialogue about our historical relationships, and to continue to enhance relationships and achieve broad support for our projects. Suncor also continues to engage with Aboriginal thought leaders, to continue to build our knowledge and understanding on UNDRIP.

Responsibilities and commitments

All Suncor employees and contractors engaged in activities under our operational control are responsible for applying these policies. Managers are also responsible for promoting our beliefs and principles underlying these policies in joint ventures not operated by Suncor.

Suncor's chief executive officer is accountable to the Board of Directors for ensuring that Suncor's Stakeholder Relations and Canadian Aboriginal Relations policies are implemented.

Our Stakeholder Relations and Canadian Aboriginal Relations policies outline our commitment to developing and maintaining positive, meaningful relationships with stakeholders and to working closely with

Aboriginal Peoples and communities in Canada, to build and maintain effective, long-term and mutually beneficial relationships.

Beyond those commitments outlined in the policies, we also have agreements with Aboriginal communities. These agreements address how we work together on a range of matters from project consultation to realizing the benefits from our industry through commercial and business opportunities, and skills/employment and training opportunities.

Integrated Aboriginal relations governance

To meet increasing expectations, we recognize the need to embed our approach to stakeholder and Aboriginal relations across the organization. One of the ways we're doing this is through an integrated Aboriginal relations governance structure. The structure helps connect work across the organization.

Suncor's Aboriginal relations governance structure is made up of three interconnected groups which each play a role in ensuring our activities are co-ordinated and advancing strong, co-operative relationships with Aboriginal Peoples in Canada. They include:

- a VP forum: focused on strategy – and linked to a subcommittee of Suncor's most senior executive team
- a network: focused on planning and implementation – links to Suncor's work with communities and the implementation of the social goal
- multidisciplinary teams – environment and regulatory, workforce development and business development

These groups meet regularly to ensure priorities are established and advancing. The governance structure also aids in ensuring information, approaches and best practices are shared across levels and locations.

Our approach in action

We believe relationships are best maintained through regular effort and engagement. This means being involved and part of the community, so that we can listen and engage with local stakeholders and Aboriginal community members. Examples of how we do this include:

Wetland Plant Study

In 2014, Suncor and [Alberta Innovates](#) developed a wetland plant study. The study's goal is to find linkages between Traditional Knowledge and western science, while enhancing and strengthening Suncor's relationships with Aboriginal communities in the Athabasca oil sands region.

During the second year of the study, 12 culturally significant wetland plants were selected at a gathering held with Elders, Suncor and an environmental consultant. These learnings of traditional and culturally significant plants will assist us to develop future reclamation plans.

In July 2017, the study researchers invited Elders from various communities to join them in locating and sharing their traditional knowledge about the plants originally identified. The five-day trip involved Elders from Athabasca Chipewyan First Nation, Mikisew Cree First Nation, Fort McKay First Nation, Fort McMurray 468 First Nation and Chipewyan Prairie Dene First Nation.

A total of 45 Elders went out on the land to help Suncor identify and pick seeds over the duration of the trip.

“We had many successful days of collecting seeds and sharing knowledge of the traditional values of each of the plants studied for our reclamation sites,” says Kim Rizzi, community relations and economic development specialist with Suncor. “The most successful day of harvesting was at Bohn Lake, where the rare cloudberry was found.”

In September, a second excursion took place with the Elders visiting the Smoky Lake Forest Nursery, where seeds were collected in the Wood Buffalo region to be grown and in turn, used by Suncor for reclamation purposes.

“I grew up in a bush life and had never been to a greenhouse before. My parents had a trapline, so when Suncor started talking about this greenhouse, I had a hard time believing it,” reflects Rita Roland, one of five Fort McKay First Nation Elders who participated in the Wetland Plant Study. “I was surprised when I finally had a chance to see the greenhouse and the work being done to reclaim the land. Suncor had been



Fort McKay First Nation Elder Rita Roland (right) and Suncor employee Kim Rizzi (left)

talking about the seeds they were taking from our communities and harvesting for reclamation. I never believed it until I saw it with my own eyes. I was impressed.”

Piloting a new way to monitor air quality

Recently, the Sarnia refinery has been participating in discussions with the Ontario Ministry of the Environment and Climate Change (MOECC) and local stakeholders to explore new ways to gain a better understanding of local air quality and to minimize benzene emissions.

In February 2017, the Sarnia refinery installed 12 monitoring stations around the perimeter of the site. These monitoring stations are part of a collaborative project being led by the MOECC to measure airborne concentrations of benzene, not only from the Sarnia refinery, but also from specified sampling sites at five other industrial sites in the area.

The monitoring locations were chosen based on specific criteria and considered feedback from both the MOECC and Aamjiwnaang First Nation, which has also installed several monitoring sites throughout its community.

The air samples are collected by tubes that are switched out every two weeks. Once removed, the tubes are analyzed at an accredited lab. This is important to ensure the data collected is sound.

“The goal of this collaborative air monitoring project is to evaluate the air monitoring technology being used to ensure it will meet the needs of the project,” says Scott Odolphy, environmental advisor at the Sarnia refinery.

Perimeter monitoring is included in the MOECC’s Benzene Technical Standard, which came into

effect in July 2016. The standard outlines specific maintenance and operating practices to minimize benzene emissions.

The Sarnia refinery has already taken several steps to implement these practices, including implementing an increased leak detection and repair program and conducting maintenance on a number of storage tanks as a way of reducing source benzene emissions. The data we gather will help us understand what effect our refinery’s emissions and other industrial sites participating in the project may be having on ambient air quality.

Supporting processes

Beyond direct consultation and engagement activities, several internal processes ensure that we are aware of and understand the interests and concerns of stakeholders and Aboriginal communities, and are considering those views in our operations and business planning. These processes include:

- our Strategic Issues Management Process (SIMP) works to proactively identify, monitor and manage key environmental, economic and social issues considered most critical to Suncor, stakeholders and Aboriginal communities
- through Suncor’s Asset Development and Execution Model (ADEM), consideration for stakeholders and Aboriginal communities’ concerns, and potential impacts, are integrated into early project planning stages, before engagement occurs and/or final business decisions are made
- our annual materiality review identifies key issues of concern for stakeholders and Aboriginal communities, and includes

information learned from ongoing engagement and feedback from Suncor's regular multi-stakeholder forum with Ceres

Evaluating the effectiveness of our engagement

Monitoring

As part of our Operational Excellence Management System, the Stakeholder Relations Framework includes:

- guidelines and processes to ensure that engagement planning and practice is annually reviewed and measured against performance metrics, and that those learnings are applied to future engagement
- a grievance mechanism that enables us to receive, investigate and respond to complaints from stakeholders and Aboriginal communities that may arise from direct and/or indirect impacts, associated with Suncor's operations

Beyond our policies and management system, the ongoing effectiveness of our stakeholder relations activities is monitored through several processes, including the Aboriginal Relations Governance structure and SIMP.

Results

The way the world views energy development has fundamentally changed. Expectations are increasing, the legal and regulatory context continues to evolve and become more complex. We believe our social performance is as important as our environmental and economic performance.

In 2016, we built on the learnings from the strategic environmental performance goals established in 2009 and released our first social goal. Now we're focused on implementation of this goal, which is aspirational, bold and designed to challenge and stretch our organization.

In 2017, Suncor was certified at a gold level in 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.

The certification process includes external assessment from community members of an organization's performance in four key areas: employment, business development, community investment and community engagement. This demonstrates that our approach is having an impact and contributing to advancing reconciliation in Canada.

"The PAR program encourages companies to evolve and participate in the Aboriginal business economy across Canada," says J.P. Gladu, president and CEO, CCAB. "Suncor has demonstrated that they are willing to put in the effort to continue learning and growing in this area. They are a role model for positive and progressive Aboriginal relations and more importantly, they have a continuous improvement philosophy and focus."

What we are doing differently

Social goal

We've learned that setting goals can incent us to look differently at how we do business and work with others. It is not the work of a small

group at Suncor but the work of all of us. You can learn more about how we're working across the entire business, and giving every employee the opportunity to take part, on our social goal page.

Expanding partnerships

In 2017, Suncor signed two significant business agreements with First Nations communities. In Quebec, Suncor purchased a 41% equity interest in PetroNor, a petroleum products distributor across the James Bay and Abitibi-Témiscamingue regions that is owned and operated by the James Bay Cree.

In Alberta, Suncor, Fort McKay First Nation and Mikisew Cree First Nation purchased a 49% interest in Suncor's East Tank Farm Development, a strategic infrastructure asset in the Wood Buffalo region.

Both of these agreements are examples of new ways for business and First Nations to work together as partners.

Beyond Wood Buffalo

Suncor has been operating in the Wood Buffalo region of Alberta since 1967. We've been part of the community and building relationships for a long time. While we'll continue to do so, we know that we need to broaden our focus to our other operating areas. As we continue to implement our social goal, we'll look to increase opportunities with communities and our key partners across our operations, including through the work of the [Suncor Energy Foundation](#).

COMMUNITY INVESTMENT

Within Suncor’s vision to be trusted stewards of valuable natural resources, we have the opportunity, and responsibility, to help build a better future.

Since Suncor began operations in the oil sands over 50 years ago, this commitment has been embodied in our work with communities across our operations, including within the efforts of the Suncor Energy Foundation.

Our community investment strategy

Society is facing complex challenges that are impacting the overall well-being of each of us – socially, economically and environmentally. This requires innovative, sustainable solutions and contributions from all of us.

Suncor and our private, non-profit, charitable organization, the Suncor Energy Foundation (SEF), are guided by a strategy focused on targeted investments, intended to help communities near our operations grow, thrive and become sustainable and resilient. Our strategy seeks value for society, and for our business, by addressing complex issues of material interest to Suncor.

“Collaboration and co-creation are at the heart of our community investment strategy. By leveraging our strengths as an integrated energy company and coming together with others, we can find and realize

opportunities for long-term solutions that benefit communities, future generations, and our company. It also ensures we continue to understand each other’s interests, issues, needs and concerns,” says Lori Hewson director, community investment and social innovation.

SEF’s approach has evolved over time from being primarily responsive to short-term community requests, **where we were often doing things to and for communities with a philanthropic and corporate responsibility approach, to one where we are also working with and of communities, by coming together in partnership and learning for the common good through corporate social innovation.** It is an approach that is helping to support lasting change, both in communities and within Suncor.

In 2017, SEF management and the SEF Board continued to evolve the current SEF strategy introduced in 2010.

“Going forward, we’re being more deliberate about focusing on the systems connected to three areas: Indigenous Peoples, energy future and community resilience,” says Hewson. “When we have a clear understanding of all the elements of a system – including who’s involved, the roles they play, and how impacts are felt – we can be more strategic with our investments and better ensure they support transformative and lasting change.”

Evolution and continuum of our work



"all and" approach

Our strategy in action

Here are some examples of the community investment strategy and operational model in action in 2017, and what we've learned:

Our reserve fund: beginning to rebuild

SEF's operational model includes a reserve fund which allows us to continue to support communities and be resilient during times of economic uncertainty. In 2015 and 2016, when the price of oil was low and SEF could not consider a significant degree of new funding, this reserve fund helped maintain support for strategic initiatives and partners.

With the stabilization of oil prices, SEF through contributions from Suncor, began to rebuild the reserve fund. We will continue to contribute to the reserve fund on a regular basis, so investments will be available to sustain funding to communities during future economic downturns.

The Gathering: power in togetherness

In April, 2017, SEF hosted its third Gathering, a two-and-a-half-day event that brings together diverse community partners and thought leaders from the public, private and non-profit sectors. The event explores complex community needs that require collaboration to make progress and see lasting change, and provides a forum to:

- connect existing work and initiatives
- take a system-wide view
- explore a variety of perspectives
- strengthen partnerships

Three areas – Indigenous youth leadership, community resilience and the energy future we'll all share – were the focus of the 2017 event.

The participation and perspectives of young Indigenous leaders were an important part of the conversation.

"I just hope the Gathering initiative really does benefit all parties. I just hope the youth voice is not being taken for granted to one's own benefit, and actually give credit and acknowledgement where needed," reflects Cory Beaver, a Gathering participant.

Through the Gatherings, participants have learned about and explored the connectedness of their work, and considered community needs from a systems perspective.

"Since we began hosting the Gatherings with our partners, we've learned there are no easy solutions when we're working to address complex community needs that impact us all," says Lori Hewson. "We have to take the time to understand what we're working on, open ourselves up to all perspectives, and stay in it long enough to see the opportunities."

As work is further brought together, distinct roles – whether as funder, community partner, or thought leader – begin to fall away.

"When you start weaving together, you create a basket of knowledge. That's what the people deserve – what you put into that basket. It feeds the multitude with knowledge, it feeds them with hope. And I think that's what we all come together for, to create that community out there that's going to benefit all peoples," reflects Casey Eagle Speaker, a Gathering participant, member of the Blood Tribe of southern Alberta and a recognized Elder in the community.

One outcome of the Gathering for Suncor and participants has been a powerful new way to look at the spectrum and evolution of our shared community work, the to-for-with-of model. Funders and community partners are often in the 'to' or 'for' space, wanting to provide support 'to' communities or clients, or 'for' them to address specific needs. But to truly tackle complex community needs and bring about lasting change all players in a system – including funders and communities – need to work in the 'with' and 'of' space, the space of co-creation and going beyond themselves to something much larger.

"That's what the Gathering is all about. We don't know exactly what we'll learn each time we get together, or what the impacts may be," says Hewson. "But the space – and the trust we create there – gives us the time to imagine the possible, step into the future, and together bring forth the world we want to see."

Collaborating on our energy future

Meeting society's energy challenges today and tomorrow is all about making informed choices. That's why Suncor and the SEF are investing in an evolving set of initiatives to collaborate on the energy future we'll all share. Our goal is to leverage our strengths as an energy company and be a catalyst for an inclusive national dialogue that will enable Canada to

use our energy resources wisely and pave the way for a sustainable energy future.

Launched in 2015 with 40 Fellows, the Energy Futures Lab (EFL) is an Alberta-based, multi-sector collaboration designed to help shape Alberta's energy future and strengthen its position and reputation as a global energy leader. Led by The Natural Step (TNS) Canada, it's supported by four other convening organizations: the SEF, the Banff Centre, the Pembina Institute, and the Government of Alberta. The Fellows are exploring the question: How can Alberta's leadership position in today's energy system serve as a platform for transitioning to the energy system the future needs?

The Fellows have identified nine innovation pathways, including radical carbon efficiency in energy production, deployment of distributed renewables and smart energy communities, to focus their work in the coming years. Check out the [Energy Futures Lab](#) website to learn more about each of the pathways and the progress that's being made.

Another SEF-supported initiative is Engineers Without Borders Canada's Engineering Change Lab. Launched in 2015, the lab is a platform for individuals from across the engineering profession to come together and address some of the systemic challenges that have been holding back the profession's full potential. This includes being a platform for ongoing innovation in the profession.

In the fall of 2017, the Energy Futures Lab and Engineering Change Lab, along with Innovate Calgary, came together to host Engineering Innovation for a New Energy Future; 250 leaders in engineering, innovation and energy explored the emerging opportunities for engineering and innovation to drive energy transition.

"We know we are in a period of energy transition. At the same time, by 2040 the world's population is projected to increase from seven to nine billion and energy demands are expected to increase by nearly 30% as a result. This is the challenge of our time. How do we increase energy supply for the world while reducing carbon intensity?" asks Mike Krayacich, vice president enterprise technical, Suncor and a member of the Engineering Change Lab. "This will take all forms of energy, as well as collaborative technological and social innovation. Here in Canada – with our large resource base, history of innovation and highly skilled workforce – we are uniquely positioned to address these challenges. Working together, there is great potential to do this."

Success of Indigenous Peoples

Another example of our community investment strategy in action is our efforts to support the success of Indigenous Peoples. We have focused on four areas – reconciliation, culture, learning and leading – and have partnered with organizations that are building networks across these four streams. Find out more below, and within our social goal focus area around partnering with Aboriginal youth.

Reconciliation Canada

Through our partnership with [Reconciliation Canada](#), Suncor is learning what reconciliation means in Canada and for our organization. As outlined in our social goal, Suncor has committed to changing the way we think and act in regards to our relationship with Aboriginal Peoples in Canada. Reconciliation is the process of understanding and coming to terms with our shared history in order to have a vibrant community where all peoples achieve their full potential and have an opportunity to share in prosperity.

Indspire

Our longtime work with [Indspire](#) includes support of the yearly Indspired Youth Experience, which brings Indigenous youth from communities near our operations to the Indspire Awards gala. This event enables youth to see role models, celebrate culture and learn from recipients. In 2017, 22 youth from communities near our operations joined Suncor team members in Ottawa for the gala and Indspired Youth Experience.

SEF also supports Indspire's yearly National Gathering for Indigenous Education, which brings together 700-800 educators to focus on ways to support Indigenous education success, and services and supports for educators.

Actua

SEF has also been a longtime supporter of [Actua](#) and its national Indigenous outreach efforts. Actua is a Canadian charitable organization focused on preparing youth to be innovators and leaders in science, technology, engineering and math (STEM) sectors. Through Actua's community-focused, multi-sector approach, they are changing Aboriginal community engagement in innovative ways across Canada.

In 2017, SEF provided additional support to expand Actua's [National Indigenous Youth in STEM \(InSTEM\)](#) programming. InSTEM is a

customized, community-based approach to engaging First Nations, Métis, and Inuit youth in locally and culturally relevant STEM education programs. These programs engage 30,000 Indigenous youth annually in over 200 communities across Canada.

Investing in social innovation

To further support the new skills and thinking needed to make progress on complex community challenges, SEF, in partnership with The Banff Centre, continued to support the four-week Getting to Maybe social innovation residency program in 2017. It brings together approximately 30 leaders from diverse corporate, government and community roles to explore ways to make communities better places to live by looking at issues through:

- systems thinking
- the environment
- Indigenous knowledge
- the creative process and arts, as a foundation for social innovation theory

The program is collaboratively designed by academic experts from the Waterloo Institute for Social Innovation and Resilience at the University of Waterloo and expert faculty and thought leaders from The Banff Centre and SEF.

“The Getting to Maybe program helped me explore how I can further understand and apply Indigenous environmental knowledge to current oil sands reclamation practices,” says Christine Daly, a senior advisor in sustainability and reclamation at Suncor who participated in 2017. “I’m now a PhD student learning from Indigenous knowledge holders and land users in the Regional Municipality of Wood Buffalo, and working on a co-creation reclamation pilot project to connect the two knowledge systems.”

Local communities

During 2017, Suncor and SEF continued to support many local initiatives in communities near our operations.

This included investing as a founding partner in the [Wood Buffalo Community Foundation \(WBCF\)](#) as part of Suncor marking 50 years of

operations in the oil sands. The investment will help the WBCF continue its collaborative work with donors, grant committees and local charities to strengthen the community and enhance quality of life in the Wood Buffalo region.

“We’re thrilled the Suncor Energy Foundation is one of our first founding partners. This generous gift puts us well on the path to achieving our \$10 million dollar fundraising target,” says Maureen Cormier Jackson WBCF founding Chair. “We will invest the donations we receive and provide grants to eligible community organizations using the interest earned from those investments. Everyone in this region will benefit from this donation for generations to come.”

Calgary

[Beakerhead](#): Suncor is a founding supporter of this arts and engineering collaboration established in 2013 to advance understanding of science and engineering through art and culture. Besides a variety of year-round programming, Beakerhead hosts a five-day community event that “erupts” on the streets of Calgary every September.



The Serpent Mother at Beakerhead, an annual five-day Calgary event which brings together science, engineering and art to spark new collaborations and ignite imaginations.

Denver

[Boys and Girls Club](#): As a long-time supporter, we proudly partner with the Suncor Boys & Girls Club facility in Commerce City. This space provides young people with a safe and accessible opportunity to learn, grow and develop in education and career development, character and leadership development, health and life skills, technology, the arts, and sports fitness and recreation.

Edmonton

[Women Building Futures](#): Takes unemployed and underemployed women and puts them through an intense pre-trades program to empower women to succeed in non-traditional careers, inspiring positive economic change for women and forever transforming the face of industry in Canada.

Mississauga

[The Riverwood Conservancy](#): The Riverwood Conservancy Leaders in Environmental Achievement through Diversity and Skills (LEADS) program is a skills based environmental education program for secondary students grounded in the Ontario secondary school curriculum.

Montreal

[Youth Fusion](#): If we want our youth to understand that they can be the future innovators in energy fields, we must start supporting them at an early age. Youth Fusion exposes youth to different careers in science, technology, engineering and math, but also provides the necessary tools to experiment and learn directly through a variety of mentors.

Sarnia

[Centennial Park](#): Sarnia's waterfront plays an important role in bringing the community together and supporting local organizations working hard to make the community a great place to work and live. Supporting the Agora gathering space in Centennial Park was our way to help bring people together.

St. John's

[St. John's Native Friendship Centre](#): Seed funding to help this community based non-profit and registered charity serve the urban Aboriginal population of St. John's.

[Memorial University – Centre for Social Enterprise](#): Funding to support the first MBA in Social Enterprise and amplification of other social innovation initiatives.

SunCares: Inspiring employee community engagement



Volunteerism and community engagement have long been part of how our employees contribute to the community. Through our [SunCares employee program](#), we support the causes that are important to employees in the following ways:

- Volunteering – providing tools and resources to help our employees find volunteer opportunities, either as an individual, or as part of a Suncor team. Employees can also track their volunteer hours and receive SunCares rewards from Suncor for every hour volunteered up to \$1,000 per year. These rewards can then be donated to any charity of choice
- SunCares rewards and grants – SEF and Suncor provide a number of grants to support our employees' engagement in their communities, including leadership rewards for those who serve in a leadership role with a non-profit organization, and bereavement, humanitarian and post-secondary matching grants
- SunCares Together we Care community giving campaign with United Way – During the 2017 campaign, more than \$5 million was raised for community organizations and United Way chapters through employee donations, special events and the corporate

donation provided by Suncor and SEF. Employees also volunteered nearly 55,000 hours

In 2017, SEF launched a refreshed [SunCares program](#) to further support employee efforts in engaging with their communities and supporting causes that are important to them. This included a new online platform to make volunteering and contributing to communities easier than ever.

To encourage community engagement and use of the SunCares program, Suncor and SEF also ran a [Three Things for Canada](#) initiative in 2017. Three Things for Canada challenged Canadians to commit to doing three things for their community in 2017 in recognition of the 150th anniversary of Canada's Confederation. Suncor employees in all regions were invited to share their three things for community. For sharing, employees were given \$150 SunCares reward dollars they could donate to any charities of their choice. Over 1,300 employees participated and helped distribute an additional \$200,000 to communities in 2017.

Canadian Olympic and Paralympic Games support

Through our Petro-Canada brand, we are a long-time supporter of the Canadian Olympic and Paralympic movement. Our current sponsorship agreement extends our support for Canadian Olympic and Paralympic athletes, coaches and their families through to 2024.

Our involvement in the Canadian Olympic movement is a journey that began in 1987, when Petro-Canada organized and sponsored the Torch Relay for the 1988 Olympic Winter Games in Calgary. We are proud to continue our support of the Canadian Olympic and Paralympic Teams and the Coaching Association of Canada.

[Petro-Canada's Fuelling Athlete and Coaching Excellence \(FACE™\) Program](#) has supported more than 3,000 athletes on their way to the Olympic and Paralympic Games. Every year, 55 promising athletes from across Canada are awarded a \$10,000 FACE grant, shared with their coaches, to help them along their journey.

We believe one of the best ways to support Canadian athletes is to help their biggest fans – their families. We continue to support a Canadian ticketing program that will help ensure family members have the opportunity to see their athletes compete live at the Olympic and Paralympic Games in Tokyo in 2020.



Event supporting our Canadian athletes achieve their dreams during the Olympic and Paralympic Games.

SOCIAL GOAL

Our relationship with Aboriginal communities over the past 40 years has been a journey. We know that earning the trust and support of Aboriginal Peoples and communities is foundational to our business.



There is much we can learn from Aboriginal Peoples and communities. By listening and being willing to learn from one another, we can uncover mutual interests and build authentic relationships.

We know there is still work to be done, and we are making progress. Many initiatives are underway to embed our approach to Aboriginal relations across all areas of our business. In 2016 we announced a social goal as part of our larger sustainability goals.

The social goal is a declaration of our intent to do things differently – to choose a new path that focuses on strengthening relationships with Aboriginal Peoples and communities. For us, that path is about working together and creating more opportunities for greater involvement in the energy industry, so that the social and economic benefits from Canada's resources are shared more fully.

The goal outlines four areas to focus on through 2025 and beyond, where we can work together to advance greater participation of Aboriginal Peoples and communities in energy development.

Strengthening relationships

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

Partnering with Aboriginal youth

Developing Aboriginal youth leadership potential through meaningful connections within and outside of Suncor.

Partnering with Aboriginal businesses

Increasing revenues to Aboriginal businesses and communities through mutually beneficial marketing arrangements and procurement of materials and services.

Improving Aboriginal workforce development

Focused efforts on hiring, retention and advancement of Aboriginal employees across our business.

STRENGTHENING RELATIONSHIPS

Strengthen relationships among Aboriginal Peoples and all Canadians, starting within Suncor

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

We commit to providing our employees with more training and also more opportunities to participate in cultural experiences. We aim to measure changes in understanding and behaviours – within Suncor and through the work of the [Suncor Energy Foundation](#)'s key partners, like Indspire, Bridges Social Development and Reconciliation Canada.

Supporting initiatives

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

1. Increasing awareness
2. Building understanding
3. Shifting attitudes
4. Changing behaviours

Aboriginal awareness training

Aboriginal awareness training is a key way we're enabling every employee at Suncor to learn more about the history and experience of Aboriginal Peoples in Canada.

Since 2015, Suncor has offered a web-based training module to ensure every employee can have a basic level of awareness about the history and experiences of Aboriginal Peoples. We developed our training with input and guidance from partners such as Reconciliation Canada and our own Aboriginal employees. The training features their stories and perspectives, which has made the information and messages more relatable.

By the end of 2017, close to 5,000 employees had completed Aboriginal awareness web-based training.

After requests from Suncor employees and a number of community partners who wanted to be able to share the training within their organizations, the web-based training module was made broadly available (free of charge) on suncor.com in the spring of 2017.

We also offer a more comprehensive classroom session for employees that expands on the awareness created through the web-based training. It builds understanding about the historic and current relationship between Aboriginal Peoples and all Canadians through storytelling and meaningful discussion. In 2017, close to 200 employees completed classroom training.

Employees who've taken the training have given some great feedback. Here are just a few samples of what they said:

- "From the bottom of my heart I thank you for today, and I would ask where I can get more information...As I sat at supper tonight having the conversation with my grandkids, I was thankful for today, knowing I can make a difference." – Bernd Wehmeyer, Fort McMurray
- "I thought it was a powerful message about the past and a great reminder of how far we have come in society in respect to acceptance of ALL peoples...for someone who has no firsthand knowledge of the past atrocities our country committed against Indigenous people it's a great educational piece...one of the best courses I have taken in my tenure here. Great work by all involved!" – Ryan Miller, Fort McMurray
- "Thank you for holding such a great learning opportunity for the people at the Sarnia Refinery. It was so interesting, meaningful and sparked a lot of great conversation." – Penny Mcachern, Sarnia



Aboriginal Employee Network

Suncor's Aboriginal Employee Network (AEN) is our employee resource group that supports advancing Aboriginal inclusion at Suncor. The network is structured around four focus areas, called circles.

The Aboriginal Awareness Circle specifically supports cross-cultural sharing by increasing awareness and understanding of Aboriginal experiences within Suncor. For instance, the AEN distributes a regular e-newsletter and shares cultural insights, maintains a page on Suncor's intranet that highlights a wide variety of topical resources (books, movies, websites, music and podcasts), and hosts lunch and learn sessions.

"I learn something new about my culture every time I'm in an AEN session. I can't express how good it makes me feel as an Aboriginal. Much better than when I was younger and tried to hide who I was. I've spoken more about my heritage this year than I did in my previous 33 years at the company, including sharing my story with my fellow managers and leaders." - Darcy Venne, member of the Muskeg Lake Cree Nation; manager of technical services, Suncor.

Experiential learning opportunities

We are creating opportunities for employees across Suncor to participate in cultural learning experiences. These experiences enable direct engagement and cultural exchange between Aboriginal and non-Aboriginal people. Examples include participating in community events, such as Treaty Days and Powwows, hosting events internally or volunteering for specific initiatives.

"This was an exceptional program that changed my perspective

profoundly. Thanks so much for putting this on for us." - Angela Butler, vice president and controller, Suncor; cultural experience participant.

Learning together

Suncor recently had the opportunity to host a group of Aboriginal youth from the [Siksika Nation](#) at our office in Calgary.

The students were each paired up with a Suncor employee from the Aboriginal Employee Network. They spent the day learning from each other. The Siksika youth shared details about living in a First Nation community, and Suncor team members reflected on what it takes to be part of the Suncor team. For some of the youth, it was the first time they'd ever been to the city centre or in a high-rise office building.

"The day was perfect, the people were amazing and the vast options were spot on. Also, the guides answered everything perfectly," reflects Dallas Dick, a member of the Siksika Nation who participated in the event.

This initiative was organized by Suncor's stakeholder and Aboriginal relations and human resources teams in partnership with [Bridges Social Development](#) and the Suncor Energy Foundation. Bridges is a non-profit organization founded for the purpose of capacity building and training for professional and youth leaders in various communities, including First Nation communities like Siksika. The Suncor Energy Foundation has been a supporter of Bridges since 2011.

"The experience was very rewarding for me personally. I really have a passion for talking to people who want to get into the industry. It's great to have one-on-one discussions with Aboriginal youth and show them things they have never seen before. The job of leaders is to create more leaders," says Dwayne McLeod, a member of the Upstream team at Suncor.

Measuring our progress

We're measuring relationship building in a number of ways along the journey. Internally, we're measuring awareness building and changing attitudes through the number of participants attending the online and classroom-based Aboriginal awareness training, as well as conducting pre and post-surveys. We're also starting to use developmental evaluation frameworks to assess the effectiveness of our work, to look for shifts in perception, attitudes and behaviours, as well as identify emerging opportunities.



PARTNERING WITH ABORIGINAL YOUTH

Partnering with Aboriginal youth to develop their leadership potential.

Our partners and youth have taught us that organizations and programs rooted in culture and reconciliation lead to pride in self, culture and create a path towards success. Today's youth are tomorrow's leaders – that's why we're focused on building stronger connections with Aboriginal youth.

Through the [Suncor Energy Foundation \(SEF\)](#), we are supporting our partner organizations working towards innovative solutions for Aboriginal communities, such as youth engagement, cultural opportunities and leadership/education programs to provide pathways towards a successful future.

Supporting initiatives

It starts with partners who share our vision. Through the SEF funding strategy, we believe we can be a catalyst, working with others, and connecting and supporting our communities. Some partners leading change in our community include:

- [Bridges Social Development](#)
Works with Aboriginal youth in southern Alberta to find their purpose and voice while developing community leadership opportunities
- [Actua](#)
Inspires youth in Aboriginal communities across Canada to see science, technology and math as a potential career path by using connection to culture and communities
- [Indspire](#)
Provides opportunity for Suncor to invite Aboriginal students from our operating communities to the Indspire Awards and meet the inspiring award recipients for a life-changing experience
- [Learning Through the Arts](#)
Works with Aboriginal students in the Wood Buffalo region to use arts and culture as tools to understand curriculum and has significantly improved graduation rates in the region



Supporting development of future Aboriginal leaders

Suncor has been supporting the Indigenous Leadership and Management programs at the Banff Centre since 2002. The programs cover subject matter such as governance, negotiation and planning.

In 2017, Suncor provided funding for several members of the Stoney/Nakoda Youth Council to attend Indigenous Leadership and Management programs. The Stoney/Nakoda First Nation is located in Morley, Alberta, 60 kilometres west of Calgary and includes members of the Bearspaw, Chiniki and Wesley Nations. The Stoney/Nakoda Youth Council was founded in 2014, with a goal of revitalizing culture and bridging the gap between youth and Elders.

“Suncor Energy Foundation has supported me greatly in building my capacity as a Nakoda youth leader to be a recipient of the Banff Centre Certificate of Indigenous Leadership, Governance, and Management Excellence,” reflects participant and Stoney/Nakoda Youth Council member Daryl Kootenay. “With the knowledge, skills, and support received, I feel more confident now than ever in being a provider for my family, community, and Nations as my ancestors did.”

The Banff Centre has also learned from the involvement of Stoney/Nakoda Youth Council members in the program.

“During our time together we have seen the youth shine as they influenced positive change in their communities and gained new competencies to supplement their leadership practices,” says Alexia McKinnon, associate director of Indigenous leadership at the Banff Centre. “These youth are the strength of their community and are inspiring others to create a new collective story of empowerment.”

Measuring our progress

In 2017, we measured year-over-year increases in two areas:

1. The number of opportunities for youth leadership training and experiences
2. The number of opportunities for Suncor employee and youth interactions

In 2018, we are re-evaluating our measurements to ensure we are driving positive outcomes with respect to supporting Aboriginal youth leadership potential. Future years may include further use of story-telling, to demonstrate how we are supporting the progress of Aboriginal youth.

We’ll continue to measure much of this work through our engagement with our SEF transformative community partners. We also continue work with our own employees through the Aboriginal Employee Network (AEN).

In 2017, the AEN’s Outreach Circle developed an AEN ambassador program. The program is designed to create meaningful interactions between ambassadors representing a broad cross-section of our Aboriginal employees and youth in schools and communities.

PARTNERING WITH ABORIGINAL BUSINESSES AND COMMUNITIES

Increase revenue to Aboriginal businesses and communities.

Increasing marketing arrangements

Over the last several years, we have successfully grown relationships and expanded business development opportunities with Aboriginal communities through Suncor's downstream business.

These mutually beneficial business relationships between Suncor and Aboriginal communities leverage our Petro-Canada brand and communities' goals for economic development. During 2017, three new retail sites opened. There are now 26 Petro-Canada branded retail sites owned or leased by First Nations across Canada.

In the next 10 years, we want to expand these efforts and increase our business with Aboriginal communities because it makes good economic sense – for Suncor and for Aboriginal Peoples across Canada.

Increase Aboriginal supplier-spend

Suncor has a long history of working with Aboriginal suppliers and communities, particularly in the Wood Buffalo region.

In 2017 Suncor spent \$521 million with Aboriginal suppliers across Canada, and we have spent approximately \$4.0 billion with Aboriginal suppliers since 1999. This includes both direct spend and indirect spend where non-Aboriginal suppliers sub-contract to Aboriginal suppliers.

Suncor defines an Aboriginal business as a company owned and operated, either wholly or in part (i.e., ≥ 51%) by an Aboriginal community or entrepreneur. This is in line with the [Canadian Council of Aboriginal Business \(CCAB\)](#) and [Northeastern Alberta Aboriginal Business Association \(NAABA\)](#) definitions.

We want to apply what we've learned over the last 20 years more consistently across our businesses, so that more Aboriginal entrepreneurs and communities have the opportunity to participate in and benefit from our operations.

Working with Aboriginal businesses and communities is good business for Suncor, and it is one thing Suncor can do to contribute to economic reconciliation with Aboriginal Canadians. This is aligned to the [United Nations Declaration on the Rights of Indigenous Peoples \(UNDRIP\)](#) and the [Truth and Reconciliation Commission's](#) Call to Action for corporate Canada.

Community partnerships

Suncor signed two significant business partnerships with First Nation communities in 2017. The signing of these agreements is the result of many years of hard work and discussions to understand and identify areas of mutual interest. Through this process, we've developed greater understanding and trust – and we worked collaboratively to achieve this. This demonstrates a very positive evolution in our long-term relationships and new ways that we are working together with communities.

PetroNor

On November 2, 2017 Suncor purchased a 41% equity interest in PetroNor, a petroleum products distributor across the James Bay and Abitibi-Témiscamingue regions of Quebec. Owned and operated by the James Bay Cree, PetroNor services commercial, industrial, aviation and mining and residential clients. PetroNor's technical expertise and logistics capabilities have helped them support the unique and specialized needs of northern customers and communities for many years.

"This announcement clearly shows that we are integral players in business and we have the ability and means to build strong relationships," says Ted Moses, president, PetroNor. "We believe Suncor's continued willingness to forge a long-term business relationship with the James Bay Cree demonstrates a shared belief in the long-term growth opportunities for PetroNor and the northwestern regions of Quebec."

As part of the agreement, under our Petro-Canada brand, we will continue to exclusively supply PetroNor with fuel and distillate from our Montreal refinery to the northwest Quebec region. We will also work collaboratively with PetroNor to pursue additional opportunities in northwestern Quebec to better serve customers in the region.

East Tank Farm Development



At a signing ceremony on November 22, 2017 Suncor, Fort McKay First Nation (FMFN) and Mikisew Cree First Nation (MCFN) announced the completion of the acquisition by FMFN and MCFN of a 49% interest in Suncor's East Tank Farm Development (ETF-D).

The ETF-D, part of the larger East Tank Farm, provides a hub for receiving, storing, cooling, blending and shipping bitumen to market on behalf of the Fort Hills partners. FMFN and MCFN financed the acquisition through a bond offering.

"The deal represents the largest business investment to date by a First Nation entity in Canada, and not only demonstrates the great potential for partnerships between First Nations and industry but serves as a model for how First Nations can achieve greater self-determination through financial independence," says FMFN Chief Jim Boucher. "It is an example of how First Nations and natural resource development companies can find ways to support each other for the mutual long-term benefits."

This agreement is one of the largest in size and scale for the First Nations and Suncor, and is an important, historic new way for business and First Nations to work together as partners. The investment will provide a steady stream of revenue to both FMFN and MCFN for at least 25 years.

"The economic benefits generated from this deal will help our Nation to build capacity within our businesses, develop infrastructure in our community, fund social economic programs, and provide us with the means to help pay for education and training for our youth, and will be felt in our community for generations to come," says MCFN Chief Archie Waquan.

Read more about what the partnership has meant for MCFN in a [letter from Chief Waquan](#).

Planning for long-term relationships

Joint Business Development Plans (JBDPs) with key communities in the Regional Municipality of Wood Buffalo have been developed. The JBDPs provide structure on how we work together and collectively focus on key objectives. These plans include annual work plans that help Aboriginal communities to direct efforts where there is a possibility to increase business and help Suncor to track suppliers' capabilities.

Sustaining opportunities

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. Suncor believes this kind of dialogue is important to having long-term, mutually beneficial relationships.

Our approach focuses on listening, being transparent and honest about the opportunities that exist, and being fair and firm when explaining decisions – no matter the outcome.

Christina River Enterprises (CRE), the business entity of the Fort McMurray #468 First Nation, is one example of a long-term business partnership. Chief executive officer Samantha Whalen reflects: "2017 was a year we experienced significant growth with Suncor and we are optimistic with the future outlook for Fort McMurray #468 First Nation and CRE. We value working with Suncor Energy, who we believe is a leader on building bridges for local Aboriginal communities."

While we monitor our supply chain spending and want to continue to grow our work with Aboriginal businesses, we are also mindful that it must be done in the right way. We will continue to be commercially responsible and ensure agreements are of benefit to all parties involved, and not simply focused on achieving a set dollar value or target. Suncor's engagement with Aboriginal suppliers is part of the way we do business for procurement opportunities across Canada.

IMPROVING ABORIGINAL WORKFORCE DEVELOPMENT

We're improving Aboriginal workforce development through hiring, retention and advancement of Aboriginal employees across our businesses.



Our focus on advancing Aboriginal workforce participation is strengthened by the numerous collaborative partnerships and relationships we continue to build with Aboriginal communities, leaders and teams within Suncor, and external stakeholder groups and agencies who share similar goals. We are pleased to share a number of successes experienced as a result of these relationships.

Supporting initiatives

Fort Hills workforce strategy

Significant hiring took place in 2017 to recruit and prepare a workforce to safely, reliably and in an environmentally responsible way, start up and operate Alberta's newest oil sands asset – Fort Hills. One consideration in the Fort Hills workforce strategy was recommendations provided to Suncor in 2015 by the Aboriginal Human Resource Council (now called

[Indigenous Works](#)) which focused on how to strengthen attraction activities and encourage Aboriginal candidates.

In addition, leaders at Fort Hills who were hiring candidates were given training to build their awareness of how unconscious bias can impact decisions around hiring. By taking a deliberate, focused approach on Aboriginal recruitment and hiring, a total of 33 Aboriginal employees were hired in 2017 to work in Fort Hills. This is 6% of the total number of hires at Fort Hills in 2017.

Summer Aboriginal Student Program

The Summer Aboriginal Student Program (SASP) supports our social goal of building greater mutual trust and respect with Aboriginal Peoples in Canada and aligns with our belief that today's youth are tomorrow's leaders. This program offers Aboriginal students an opportunity to gain valuable work experience at one of our locations. It is open to Aboriginal students who are starting or returning to a post-secondary program on a full-time basis in September.

The SASP experienced an increase in the number of roles in 2017 – going from eight summer positions in 2016 to 17 in 2017. Through the fall of 2017, Suncor leaders and teams continued to express increasing interest in the program and a significantly expanded program will unfold in future years.

“My experience in the Summer Aboriginal Student Program was extremely positive. It really helped me confirm that engineering is what I want to pursue as a career. It was really helpful to be able to discuss the experience with other students in the program. It was also really beneficial to network and meet new people.” Paul Fleet, engineering co-op student

Aboriginal workforce development advisor

In 2017, just over 3% of Suncor’s workforce self-identified as Aboriginal, a small increase over 2016. We aim to do more to achieve our goal of increasing the participation of Aboriginal Peoples in Suncor’s workforce.

To support this important work, Suncor created the role of an Aboriginal workforce development advisor. Based in Fort McMurray, our advisor is focused on working with First Nation communities in the Regional Municipality of Wood Buffalo (RMWB) and with Aboriginal skills and employment training (SET) holders in the RMWB and Edmonton areas. Specifically, our advisor:

- Engages with and supports communities to help Suncor understand the employability, needs, interests and barriers to employment of Aboriginal Peoples in the areas where we operate.
- Shares information on Suncor’s current and future workforce needs, the recruitment process and the skills and training required for roles. In 2017, the advisor and Suncor recruiters spent a day in Fort McKay, providing a workshop on Suncor’s hiring requirements and

recruitment standards and offering help to strengthen resumes and cover letters, as well as help people become more comfortable with video interviews.

- Works closely with Suncor’s talent acquisition team to ensure job postings are sent to communities on a weekly basis, and Suncor is aware of Aboriginal community sponsored job/career-related events.
- Shares information with communities on Suncor-sponsored training and pre-employment programs (e.g., Women Building Futures).
- Engages with other Aboriginal workforce stakeholders in the Wood Buffalo region to identify where Aboriginal employment opportunities exist and how to develop an Aboriginal labour force that aligns to labour market demand.

This position also acts as an internal advisor to Suncor leaders and teams, providing advice, support, information, analysis and wisdom to help Suncor drive increased Aboriginal workforce participation and Aboriginal inclusion in our people processes and programs.

Aboriginal Employee Network

The Aboriginal Employee Network is an employee resource group developed by and for Suncor employees wanting to play a part in advancing Aboriginal inclusion and creating a safe and supportive workplace culture for Aboriginal employees. The network has grown to over 600 Aboriginal and non-Aboriginal members since its launch in the summer of 2015. The network is structured around four

focus areas being advanced by small work teams called Circles. Each Circle has five to eight members from across Suncor’s businesses who meet regularly to develop programs and initiatives:

- **Aboriginal Community Circle**
Build a community of support for Aboriginal employees at Suncor
- **Aboriginal Outreach Circle**
Develop a pool of Suncor ambassadors to visit Aboriginal communities, with a focus on youth
- **Aboriginal Advisory Circle**
Create a way for Aboriginal employees to advise Suncor on how the company works with Aboriginal Peoples
- **Aboriginal Awareness Circle**
To increase awareness and understanding within Suncor of Aboriginal experiences



INNOVATION

Suncor pioneered oil sands development. Our early investments in technology helped unlock the potential of the oil sands by improving reliability and performance, expanding productivity and driving down costs while reducing our environmental footprint. Today, new technologies and innovative thinking remain fundamental to how we do business.

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OUR APPROACH TO TECHNOLOGY AND INNOVATION

Suncor pioneered oil sands development. Our early investments in technology helped unlock the potential of the oil sands by improving reliability and performance, expanding productivity and driving down costs while reducing our environmental footprint.

Today, new technologies and innovative thinking remain fundamental to how we do business. We take a balanced approach to technology development, focusing on continuous improvement technology (step-change improvements in existing processes) and strategic technology (game-changing, disruptive). In 2017, we invested approximately \$350 million in technology development and deployment as part of a robust technology strategy to optimize current assets and develop next-generation facilities.

Our technology development efforts largely focus on four areas with specific outcome areas in environmental impacts and cost management:

1. In situ
2. Mining and tailings
3. Upgrading and refining
4. Closure

Digitization

We're already extensively using information technology in our business but 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.

Collaboration in technology

In some cases, we aggressively lead development and deployment of new technologies on our own. In most areas, however, we collaborate through consortiums or with third parties. Collaboration is a key enabler to the oil sands industry's efforts to develop and deploy new technologies.

COSIA

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

- 981 contributed technologies (45 obtained in 2017)

- \$1.4 billion spent to develop technologies (\$188 million in 2017)
- 308 current, active projects (99 obtained for 2017)
- \$545 million cost for current projects in progress (\$188 million in 2017)
- Suncor being the lead for several projects, including the [Water Technology Development Centre](#)
- Suncor participating as a COSIA member company in the [NRG COSIA Carbon XPRIZE](#)
- In 2017, Suncor leading 61 COSIA studies and Joint Industry Projects

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](#) brings together British Columbia's clean tech industry and Alberta's oil and gas sector to advance new technologies directed at environmental and economic improvements for the oil and gas value chain.

Launched in 2016, Evok is a fund that offers innovators mentorship and access to capital to progress development of pre-commercial technologies. 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 start-up companies.

In 2016 and 2017, Evok funded 10 technology companies:

- **DarkVision**
High resolution ultrasound-based imaging technology that can be used within the wellbore
- **Expeto**
Provides private, global and secure networks for enterprise applications
- **HARBO Technologies**
Developed the world's smallest and lightest containment system for marine oil spills
- **Kelvin**
Industrial 3D motion intelligence and asset relationship management
- **Metabolik Technologies**
Bioremediation platform that enables microbes to reduce the concentration of naphthenic acids and other components found in oil sands tailings ponds
- **Mosaic Materials**
Removing carbon dioxide and other impurities from gases through high-efficiency metal-organic framework (MOF) adsorbents
- **Opus 12**
Developing a device that recycles CO₂ into cost-competitive chemicals and fuels
- **Rotoliptic Technologies**
Downhole pump technology as a high efficiency alternative to existing electric submersible pumps

- **Syzygy Plasmonics**

Develops chemical reactors to provide a low-cost, low-emission hydrogen production system for light and heavy-duty transportation

Clean Resource Innovation Network

Suncor is an active member of the [Clean Resource Innovation Network \(CRIN\)](#), a group of forward-thinking oil and gas industry professionals, innovators, financiers, policy makers, incubators and accelerators, academics and students committed to the success of the hydrocarbon energy sector, the people and communities that it touches, and a strong, carbon-competitive and diversified Canadian economy.

CRIN accelerates the development of groundbreaking solutions by establishing industry priorities and connecting innovators within the ecosystem (researchers, investors, small and medium enterprises, governments, NGOs, other innovators) and resources (funding, talent, labs, and facilities) to focus on world-leading environmental performance and cost competitiveness. This will ensure Canada's continued prosperity with new high-skilled, high-value jobs and produce economic diversity through spinoffs and increased technology exports.

As a network, CRIN is comprised of individuals and companies representing a diverse range of highly successful industrial and regional resources, capital and talent; our participants and impacts are global in nature. CRIN builds on a long-standing Canadian innovation success story and positions the energy industry for further success in the 21st century through a determined focus on accelerated

commercialization of technology and innovation.

Strategic investments and partnerships

Suncor also monitors technologies being developed by external parties to determine if, and when, an investment by us could make sense to advance a technology and adapt it for our business. This involves funding outside companies whose 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 include:

- **[Emerald Technology Ventures](#)**
A global leader and investor in emerging industrial technology investments
- **[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 low carbon fuels and chemicals
- **[Benefuel](#)**
A technology commercialization company that is able to process low-cost feedstocks to produce a high-quality and low-carbon intensity biodiesel
- **Academic partnerships**
Suncor is a long-time supporter of research and program work at leading Canadian universities

TECHNOLOGY DEVELOPMENT & DEPLOYMENT

	DISCOVER	DESIGN	DEVELOP	DEPLOY
IN SITU	<ul style="list-style-type: none"> Well-bore technologies Novel subsurface technologies Alternative gas co-injection 	<ul style="list-style-type: none"> DCSG (Direct Contact Steam Generation) Thermal-solvent technologies <ul style="list-style-type: none"> EASE & ESEIEH™ Nsolv™ Steam-solvent technologies <ul style="list-style-type: none"> ES-SAGD (Expanding Solvent - Steam Assisted Gravity Drainage) Optimized steam-solvent 	<ul style="list-style-type: none"> High Temperature Reverse Osmosis Produced Water Treatment 	<ul style="list-style-type: none"> SAGD LITE (Steam Assisted Gravity Drainage Less Intensive Technically Enhanced) Non-condensable gas co-injection pilots (Firebag and MacKay River) Well-bore enhancements <ul style="list-style-type: none"> Multilateral well pilot (Firebag) Electric Submersible Pump pilots Flow control devices M-Tool pilot (Firebag)
MINING	<ul style="list-style-type: none"> Froth Treatment Tails 	<ul style="list-style-type: none"> Non Aqueous Extraction 		<ul style="list-style-type: none"> Paraffinic Froth Treatment (PFT) Autonomous Haulage System (AHS)
UPGRADING & REFINING		<ul style="list-style-type: none"> Mild thermal cracker technology 		<ul style="list-style-type: none"> Wastewater treatment Membrane Ultrafiltration
RECLAMATION				<ul style="list-style-type: none"> Demonstration Pit Lake PASS (Permanent Aquatic Storage Structure) Nikanotee Fen

LEGEND

Area of impact: GHG (greenhouse gas), Water, Land, Safety

Technology name / grouping

Time to implementation: Operational (green), 0-3 years (blue), 4-6 years (yellow), 7-10 years (orange), 10+ years (red)

IN SITU TECHNOLOGIES



Next generation in situ extraction

Technology and innovative thinking have enabled profitable, sustainable oil sands development over the past five decades. Our industry is now addressing different challenges – to decrease greenhouse gas (GHG) emissions, water consumption and land impacts. Within this context we believe the development and deployment of new technologies have key roles to play in the continued development and growth of our oil sands production.

Suncor's current technology for in situ production, Steam Assisted Gravity Drainage or SAGD, employs parallel pairs of 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 the reservoir is typically heated to 200°C or

more to get the bitumen to flow, consuming a significant amount of natural gas that generates greenhouse gas emissions and necessitating large amounts of water handling and treatment for steam production.

In 2016, we announced a greenhouse gas goal that aims to reduce the total emissions intensity of the production of our oil and petroleum products by 30% by 2030. To help meet that goal we need to develop and deploy technologies that go beyond today's SAGD.

“We are advancing a portfolio of in situ technologies to lower the carbon intensity of producing bitumen and improve the cost competitiveness,” says Gary Bunio, general manager, Oil Sands, strategic technology, Upstream.

We are using what we have learned implementing SAGD over the past 15 years to progress a range of technologies that offer the potential to deliver significant improvements in the following areas:

- energy usage and GHG emissions
- water use and treatment
- production rates and resource recovery
- land impacts
- capital and operating costs
- product quality and value

Our initial piloting and simulation results of these technologies indicate there is significant potential for GHG emissions reductions for existing facilities (brownfield) and up to 50% or more for new growth facilities (greenfield). In addition, we anticipate the downstream emissions associated with refining the product will be reduced. These technologies may deliver a lighter, lower carbon intensity crude oil, resulting in less diluent required for transportation and further reducing the lifecycle GHG emissions for these technologies.

“We believe these technologies, if successful, would allow oil sands-derived oil to have GHG intensities at or below the average North American barrel,” adds Gary. “In our view, a likely solution will be a hybrid of the many innovative approaches and technologies we are currently evaluating.”

Technology and innovation will help shape the future of energy production and consumption. We take a portfolio approach – advancing

multiple technologies at any given time, with the understanding that not all of them will be a success. The technologies profiled in this Report on Sustainability reflect only a portion of the many initiatives our teams are currently working to understand and advance.

Suncor works extensively with research organizations, technology providers and universities, as well as with Suncor's own technical experts to identify, evaluate and advance early stage technologies. Some examples of these technologies include:

- wellbore technologies, including flow control devices
- novel subsurface heating technologies including electric circulating fluid and steam
- alternative gas co-injection for SAGD
- applying advanced data analytics to optimize our processes and operations

Thermal-solvent based processes

Currently, Suncor is advancing a number of technologies into the piloting phase that offer the potential for significant reductions in environmental impacts while simultaneously improving the economics of in situ bitumen production. Our primary focus is on the use of solvents to reduce extraction temperatures and energy usage, increase productivity and the improvement of product quality.

Solvents can be used in conjunction with steam and wellbore heating technologies such as EASE; determining the optimal configuration and application is a primary focus of Suncor's technology development.

EASE

Instead of using steam to heat the bitumen, electromagnetic assisted solvent extraction (EASE) uses electromagnetic energy in conjunction with a light solvent (like butane or propane) to gently heat and mobilize the bitumen for production. The electromagnetic heating works much like your microwave does; the use of a light solvent significantly reduces the required operating temperatures, offering the potential to eliminate the need for process water and treatment, as well as reduce energy usage and GHG emissions.

ESEIEH™

While EASE is a general technology platform, we have done specific work for over five years to advance this technology as part of the Enhanced Solvent Extraction Incorporating Electromagnetic Heating (ESEIEH™) field pilot at our Dover site.

The ESEIEH™ field pilot is a project supported by a consortium of Suncor, Devon Canada, Nexen Energy ULC, Harris Corporation and Emissions Reduction Alberta, and testing is currently underway. ESEIEH™ uses wells configured in horizontal pairs much like a SAGD operation. With the ESEIEH™ process, steam is replaced by electromagnetic heating and solvent.

If commercially successful, this technology offers the potential for the following improvements:

- 50-75% reduction in GHG emissions
- eliminates process water needs
- reduces the size of surface facility
- ability to transport with less diluent
- reduction in bitumen carbon content

We anticipate having results from the ESEIEH™ pilot in 2018 and 2019 that will allow us to more fully evaluate the commercial potential of the technology.

Concurrently with the pilot, Suncor is advancing the commercial design of the EASE technology with Harris Corporation, and this work will be completed in 2018. Once the ESEIEH™ pilot is complete Suncor intends to implement the technology at a pad-scale In Situ Demonstration Facility.

NSolv™

From 2013-2017, Suncor supported a pilot at our Dover lease to field test the solvent extraction technology called Nsolv™. Nsolv™ uses vapourized propane or butane to provide heat the same way steam does. Solvent also dilutes and mobilizes the bitumen, significantly reducing temperatures, and the amount of heat required for the process, resulting in much lower GHG emissions.

If commercially successful, Nsolv™ offers the potential for the following improvements:

- 50-75% reduction in GHG emissions
- eliminates process water needs
- reduces the size of surface facility
- ability to transport with less diluent
- reduction in bitumen carbon content

The field test with Nsolv™ was completed in 2017, and Suncor and NSolv™ continue to evaluate the results.

Optimized solvent-steam hybrid

Suncor is building on its experience and background knowledge of solvent-dominated processes, which dates back to participation in experiments going back more than 20 years, to develop an optimized solvent-steam hybrid technology to be considered for a demonstration. Unlike ES-SAGD, this process is predominantly solvent-based, with a relatively small fraction of steam co-injection (<15%) used to deliver additional heat to the reservoir.

Suncor is currently engaged in simulation and optimization activities, and expects to be able to make a decision on whether or not to advance this technology to a piloting/demonstration phase in 2018.

Steam-solvent technologies

The combination of steam and solvent offers potential for achieving significant GHG reductions, and Suncor continues to advance these technologies through simulation, piloting and demonstration. There is a wide variety of solvents, concentrations and other variables to consider, and the optimal technology will depend on a combination of factors.

One of the technologies we are currently advancing is ES-SAGD.

ES-SAGD

Expanding Solvent SAGD (ES-SAGD) co-injects up to 15% solvent with steam to reduce the steam requirements of SAGD production. The process is anticipated to reduce process water requirements and lower greenhouse gas emissions by 15% or greater. A key component of our evaluation of this technology

is enhancing our understanding of solvent containment and recovery. Suncor will be demonstrating the technology at Firebag starting in 2018, and is currently evaluating the potential for commercial implementation.

We aim to commence the commercialization strategy in 2018 with implementation scheduled for 2022.

Direct Contact Steam Generation (DCSG)

In the Direct Contact Steam Generation (DCSG) process, wastewater comes in direct contact with the products of oxy-fuel combustion. This creates a mixture of steam and carbon dioxide which replaces the need for steam generated using the conventional boiler technology, called once-through steam generators. Suncor has been progressing this technology with CanmetENERGY on the design of the pilot.

In 2017, Suncor undertook a pilot project at MacKay River to co-inject CO₂ with steam and continues to evaluate the results. This process has the potential to reduce greenhouse gas emissions and water requirements as well as reduce the required equipment and land requirement by removing the need for an OTSG. Suncor continues to evaluate this technology in collaboration with CanmetENERGY and Alberta Innovates.

Suncor continues to evaluate the results of the CO₂ co-injection pilot, as well as advancing the commercial design of the DCSG. It is expected that a decision on a field pilot will be made in 2018.

High temperature reverse osmosis produced water treatment

Suncor has partnered with Devon Energy and Suez (formerly GE Water) to demonstrate High Temperature Reverse Osmosis (HTRO) membranes for SAGD water treatment. The project will validate the technology for application in high-temperature SAGD conditions. If successful, the membranes could eliminate the need to reduce the temperature and pressure of produced water prior to water treatment.

A high temperature membrane plant could reduce the energy required and infrastructure for the SAGD water treatment process. The technology could reduce greenhouse gas emissions by 5 to 10%, compared to a typical SAGD baseline facility. In addition, for new builds, the technology could reduce capital costs compared to conventional SAGD water treatment facilities.

Suncor and the project partners aim to complete prototype testing in 2019, with the potential to advance to a field pilot demonstration in 2020 with completion anticipated in 2021.

In Situ Demonstration Facility

The In Situ Demonstration Facility (ISDF) will be a place where we can optimize, test and commercialize a suite of enhanced in situ technologies. This facility will be flexible in its design enabling Suncor to pilot and test multiple technologies that use a combination

of injected light hydrocarbons (butane or propane), wellbore heating and/or small quantities of injected steam with the aim to improve conventional in situ extraction methods and environmental and economic performance.

The first recovery technology that is expected to be deployed at the ISDF is a process that uses a solvent (such as propane or butane) in combination with wellbore heating and/or steam.

The project schedule has site preparation beginning in 2019, and we anticipate construction to be completed in late 2020.

SAGD LITE

During the producing life of an oil sands reservoir, different techniques can be applied to optimize oil production and recovery. A good example of an incremental technology with the potential to make a big difference is the addition of slight amounts of soap-like additives – surfactants – in the steam for SAGD production. Potentially, a reduction of SOR will enable more oil production with less steam generation and fluid handling requirements resulting in lowering costs and GHG intensity. Unlike other ideas that are more suited to installation at new facilities, SAGD LITE can be deployed at existing operations to reduce our current environmental footprint more quickly.

Our surfactants program at MacKay River has been extended to a larger technology demonstration in 2018. Contingent to positive results at MacKay River, we would extend this project to a larger project at Firebag in 2018.

Wellbore enhancements

Improving the reliability of SAGD assets creates opportunities to be more efficient with oil recovery while using less energy and water.

Suncor has a number of wellbore enhancement projects at Firebag and MacKay River that aim to reduce greenhouse gas emissions and lower costs. These technologies are readily adaptable to our greenfield assets. Meadow Creek and Lewis, where we are integrating these into our field development plans to increase the value of the projects.

Suncor also has a large number of wellbore enhancement technologies that are able to be commercially viable in a one-to-four-year time span. Projects include:

- **Drilling a multilateral well at Firebag in 2018.** This technology reduces the number of required wellheads and overall footprint and in doing so reduces sustaining drilling and completion capital. The pilot will test the performance of two producing wells through one multilateral.
- **Improving the reliability to Electric Submersible Pumps (ESPs)** in connection with joint industry collaboration. Improving the lifespan of the pumps will greatly improve maintenance and reliability costs, avoid lost production and reduce GHG emissions. Through our partnership we are on schedule to pilot two wells in early 2019.
- **Successful deployment of Flow Control Devices (FCDs)** in more than 300 of Suncor and industry partners wells. Controlling where steam is allocated to the reservoir allows us to improve steam conformance along the well, and greatly

improve steam efficiency. In doing so, we are able to avoid barriers and baffles to steam and coning of steam between wells.

- **Enhancements to Flow Control Devices known as the M-Tool** further improve the efficiency and reliability of the devices, and reduce costs through design simplification. The M-Tool is currently being piloted at Firebag, with encouraging preliminary results.

Non-condensable gas co-injection

Later in life, mature SAGD reservoirs exhibit declining production and increasing Steam-to-Oil Ratio (SOR). Suncor piloted Non-Condensable Gas (NCG) co-injection to divert steam from aging wells to newer wells with lower SOR. Methane is co-injected with steam to reduce the SOR while maintaining production and pressure. This technique reduces environmental impact by optimizing steam demand at our facilities while reducing energy intensity and CO₂ emissions.

The pilot projects at Firebag and MacKay River have shown encouraging results, prompting larger technology demonstrations at both fields. The expanded demonstration at MacKay River is currently in progress with Firebag expected to start later in 2018.

Suncor is also examining the use of NCG co-injection to improve reservoir extraction. By increasing the reservoir pressure, heat losses may be reduced which may decrease SOR and CO₂ emissions.

MINING TECHNOLOGIES

Decarbonization

Suncor is committed to 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.

What does this mean?

Bitumen is a complex mixture of compounds, including heavy hydrocarbon components that require significant upgrading and refining before they can be used as gasoline, diesel, or other fuels. Upgrading refers to processes that increase the ratio of hydrogen to carbon in these heavy components; one way to achieve this is by rejecting a portion of the carbon from the bitumen. This 'decarbonization' could result in:

- higher value bitumen-derived crude oil while simultaneously permanently removing carbon, sulphur and impurities from the global fuel system
- less diluent required for transportation and lower the downstream processing hydrogen and energy requirements resulting in lower greenhouse gas emissions
- increasing pipeline capacity

Decarbonization is a strategic focus area for technology development in Suncor – reliable, less energy intensive processes will be needed to realize the benefits. The result could be a higher value crude oil delivered at a lower cost and with a lower environmental impact from wells to wheels.

Non-aqueous extraction

Through partnerships with equipment suppliers and research organizations such as [Innotech Alberta](#) (formerly Alberta Innovates), we are pursuing new technologies in surface mining and bitumen extraction that could reduce or eliminate the need for water in bitumen extraction.

Currently, warm water is used to separate bitumen from the sands. If we could reduce the need for water and replace it with an alternative solvent, we may be able to reduce water usage, the need for tailings ponds

and potentially our greenhouse gas footprint by reducing operating temperatures and simplifying our overall process.

We are currently undertaking various lab pilots utilizing solvents to prove that we can extract bitumen effectively without water and produce a dry mixture of sand and clays from this process that could be returned to the mine for reclamation.

This work includes evaluating many process options to develop an optimal design for a demonstration pilot tentatively planned for 2019.

Froth Treatment Tailings

Bitumen production from mineable oil sands deposits consists of a number of steps aimed at improving the quality of the bitumen produced. One of these steps – called 'froth treatment' – uses a light hydrocarbon to help remove most of the water and minerals from bitumen froth generated in the extraction circuit, making the resulting diluted bitumen suitable for upgrading. The water and minerals are part of a tailings stream known as Froth Treatment Tailings (FTT). The FTT consists of water, sand, various minerals and residual hydrocarbons.

In order to manage FTT material efficiently (both short term and long term), some of the properties of the stream need to be considered. Constituents like Rare Earth Elements (REEs) or titanium and zirconium compounds could be potential revenue streams in the future. At the same time, environmental considerations for other constituents require detailed plans for long-term placement.

Environmental performance assessment of FTT provides a strong example of successful industrial collaboration. Through COSIA, Suncor is actively involved in various programs to measure the impact of FTT, and develop mitigation strategies. Suncor is further actively looking at ways to utilize the natural bio-activity observed in the tailings containment areas to manage environmental impacts of the material.

In addition, Suncor has recognized that the presence of REEs in FTT could mean that these materials could be considered a strategic resource for the 21st century rather than a 'waste' stream. Many daily-use items (from rechargeable batteries and magnets to welding goggles) make use of minerals like vanadium and titanium. Research is ongoing to determine

if processes can be developed that would commercially unlock the value of these elements, while at the same time improving the long-term environmental performance of the oil sands industry.

Paraffinic Froth Treatment

Our Fort Hills mine uses a Paraffinic Froth Treatment (PFT) to convert bitumen froth generated in the extraction circuit into an upgrader feedstock. In PFT, we selectively remove part of the asphaltenes (the low-value, heavy fraction of the mined bitumen) to create a lighter, higher quality bitumen that requires less diluent to transport by pipeline and no upgrading requirements leaves us more flexibility for downstream processing. As a result of this partial decarbonization process, our greenhouse gas emissions for the average barrel extracted at Fort Hills are on par with the average crude refined in the United States.



Our Fort Hills mine uses a process called Paraffinic Froth Treatment (PFT). The bitumen product we obtain using this partial upgrading process is higher quality as we cut the bottom 10% of the barrel – which is essentially composed of low value heavy asphaltene molecules and mineral solid particles – and leave it in the ground – which helps avoid the production and release of CO₂ emissions from this marginal part of the barrel.

Autonomous haulage systems (AHS)

In early 2018, we announced we are proceeding with the phased implementation of autonomous haulage systems (AHS) at company-operated mines, starting with the North Steepbank mine. Over the next six years, we expect to deploy more than 150 autonomous haul trucks in the full program, which will be one of the largest investments in electric autonomous vehicles in the world.

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. They also reduce interaction between people and equipment which decreases incident rates and injury potential. Trucks used to support Suncor's operations are designed to operate in either an autonomous or manual mode.

While Suncor is the first company in Canada to deploy the equipment, this technology is used commercially in mining environments across Australia, the United States and Chile.



UPGRADING AND REFINING TECHNOLOGIES

Suncor's upgrading and refining operations provide an important link between our Canadian resource base and the energy market.

We process crude 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 distributing of fuels.

Mild Thermal Cracker Technology

Suncor uses two upgrading processes:

- **coking/thermal cracking** which heats bitumen to the point where it cracks into a vapour stream and a byproduct called coke
- **hydrotreating** where hydrogen is added to remove sulphur and blended for shipments to refineries

Both processes require significant energy. We are advancing research in low temperature thermal vis breaking to examine the potential for bitumen to be upgraded to a transportable and marketable product in the field. This would avoid the need for a large centralized upgrader, decreasing the amount of diluent required to market the product.

Lower operating temperatures have the potential to decrease emissions at production and refining.

We are also evaluating the integration of a de-asphalting step as a form of decarbonization to reject asphaltenes to make an even lighter and more valuable crude product for the market. This opportunity would be the refining version of our [Paraffinic Froth Treatment](#) process used at our Fort Hills mine.

Wastewater treatment facility at Commerce City

Many industrial processes use water, from wood and metal manufacturing to paper and food production – petroleum refining is no different. Our Commerce City refinery uses both city water and collected groundwater for steam production and cooling, as well as to wash out the natural contaminants in crude oil, like salts and minerals, to prevent corrosion in our processing units.

Much of this water is recycled for reuse at our facility, and the remaining portion is treated and discharged to a local waterway, Sand Creek, under a permit issued by the Colorado Department of Public Health and Environment.

In 2017, the Commerce City refinery operationalized a \$65 million upgrade to our existing wastewater treatment facility leveraging a technology called membrane ultrafiltration to treat and filter the water. The facility is one of the first in North America to use this technology in treating refinery wastewater streams.

"Membrane ultrafiltration removes particles from wastewater down to approximately 0.08 microns in size," explains April Maestas, director of engineering, Downstream, at Suncor. "That's about 1,000 times smaller than the diameter of a human hair."

Ongoing and future construction phases of the wastewater treatment facility will enable us to strive to continuously improve our environmental performance related to wastewater treatment and discharge.

RECLAMATION TECHNOLOGIES

We're aggressively working to accelerate the pace of progressive reclamation of disturbed land at our mining and in situ locations.

Nikanotee fen

In 2013, Suncor completed construction of a three-hectare fen, named the Nikanotee (pronounced Nee-ga-no-tee; Cree word for "future") Fen. The achievement established Suncor as one of the first companies in the world to complete reconstruction of this type of wetland. This work was completed in co-operation with a number of university researchers and consultants from across the continent.



Located at our Oil Sands Base plant near Fort McMurray, Alberta, our three-hectare fen is fed by a man-made 32-hectare watershed. The project is the culmination of over 10 years of collaborative research.

The University of Waterloo led the fen hydrological feasibility modelling, in partnership with the Cumulative Environmental Management Association (CEMA). Suncor funded the design and construction of the fen. Along with Teck Resources and Imperial, we are funding ongoing research and monitoring of the constructed site.

Research is showing that the fen (a form of wetland area that is a highly productive and diverse ecosystem) is remaining wet through the seasonal weather cycles, water quality is good and plants are growing and spreading naturally.

The Nikanotee Fen is now a joint industry project, contributed by Suncor to other members of COSIA.

Permanent Aquatic Storage Structure (PASS)

Built upon the processes currently used in our Tailings Reduction Operations (TRO™), Suncor has developed Permanent Aquatic Storage Structure (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 not only achieves our closure plan, but in an accelerated timeline.

To validate this closure concept, we have constructed a Demonstration Pit Lake that contains PASS treated fluid tailings that will have an aquatic cover established in 2018. The project is planned to be monitored and adaptively managed for the next 15 years.

Demonstration Pit Lake

The Demonstration Pit Lake (DPL) is part of our aquatic closure technology development program designed to ensure we can successfully reclaim mine sites. The DPL project incorporated the PASS fluid tailings treatment process as the first step to accelerating the process to establish a lake capable of supporting a full ecosystem of aquatic life. An aquatic cover will now be established on the treated tailings and operated in the same way that is planned for the full scale closure drainage system.

Pit lakes are a necessary part of successful closure and reclamation plans and are considered a best practice in mining industries around the world. There are a number of pit lakes in Alberta that were created from former coal mine pits which are now used for recreational fishing, swimming and continue to demonstrate naturally colonized fish and staging areas for migratory birds.

Throughout the DPL project, engagement with Aboriginal communities is a major focus. We are working to collaborate with communities on the research and monitoring program so we can jointly learn from each other. Before construction work began, we invited Elders from a neighbouring community to perform a blessing on the land that will be used to develop the demonstration lake.

DIGITIZATION

Innovation isn't new to us; digital technology isn't either. Suncor entered the digital space years ago, with the introduction of enterprise-wide technologies.

Today, we're increasingly harnessing digital technology capabilities to help improve the safety, productivity, reliability and environmental performance of our operations.

Since 2017, we have been piloting robotic process automation in our corporate functions to:

- reduce repetitive manual tasks
- improve the quality of our data
- free up valuable human capital for higher-value, more meaningful work

The next evolution of this work is to look at where it might apply in other areas of the business, including in some of our more repetitive, manual environmental, health and safety processes.

Opportunities to reduce safety risks are always a priority, and remote sensing technologies are providing another solution that is quick, safe and cost-efficient.

Drones are in use in our operations to assist with equipment inspection and conduct earthworks surveying; other uses are currently being evaluated.

Suncor is also investigating the use of advanced analytics to improve personal and process safety as well as environmental performance. Representing a broad range of solutions, advanced analytics allow for a sophisticated mining of data that produces deeper insights into patterns and trends across our assets and workforce. As a result, we can make faster, more proactive decisions and system changes that can prevent accidents or incidents. This increased ability to make evidence-based predictions is also expected to improve reliability, reduce maintenance costs and optimize facility throughput.



Digital solutions are also relevant at a personal level. Wireless employee badges were tested during planned maintenance activities in one of Suncor's operating facilities in 2015 and are now being introduced at other Suncor sites as a component of personal safety gear. The badges transmit the employee's location and have a panic button that can be used in an emergency. Aggregated data from the badges helps us understand workforce patterns and remediate possible areas of concern.

Employee and contractor personal protective gear at select upgrading sites have been tailored to include sophisticated gas detection monitors. The monitors can detect hazardous levels of certain gases or solvent vapours. They also include tracking devices to assist in providing faster emergency response.

We've also started connecting frontline staff to information; for example, providing tablets to maintenance and operations workers so they can create and access information in the field, eliminating the need to travel back and forth to a central location and enabling better, and immediate, data-based decisions that improve our operations.

A more digital environment means higher quality and faster decisions, and increased transparency, collaboration and efficiency. Digital solutions can also reduce costs, and many can target safety, productivity, reliability and environmental benefits that can now be expanded across the organization.

COLLABORATION

We all have a role to play in creating our energy future. Moving forward requires deep conversations – with stakeholders, governments and industry partners, among others. And while we might not always agree on everything, the conversations help us understand what we have in common – a desire for energy to improve quality of life, a healthy environment and vibrant communities.

Environmental non-government organizations (ENGO) partnerships

We engage with a wide variety of groups and individuals to seek input. Some of the relationships we form are with those who are openly critical of oil sands development. We have these conversations because we think it's important to listen and understand other perspectives and share knowledge and insights. We find value in thinking about things differently and this often leads to new ideas, joint problem solving or different ways of working with our stakeholders.

Environment of mutual respect

We seek to engage with ENGOs in an atmosphere of mutual respect, although this does not mean either side is co-opted by the other. Our ENGO partners are free to publicly criticize our company or industry as they see fit except on specific initiatives in which we've agreed to co-operate. We, in turn, are free to counter statements and research by ENGO partners if we know it to be contrary to established facts. Simply put, both sides can agree to disagree, while continuing to work together for the greater good.

We have entered into several successful partnerships with ENGOs in recent years. These organizations include:

Ceres

[Ceres](#) mobilizes a network of investors, companies and public interest groups to accelerate and expand adoption of sustainable business practices and solutions to build a healthy global economy. Suncor has been a Ceres member company since 2007. We have worked closely with a diverse stakeholder group assembled by Ceres to discuss our overall sustainability strategy, including reporting, risk analysis and issues management. This Ceres stakeholder panel encouraged us to develop our first set of environmental performance goals. In 2015, Ceres reviewed our draft sustainability goals and provided feedback. Most recently, Ceres reviewed and provided feedback for Suncor's Climate Report.

Boreal Leadership Council (BLC)

[BLC](#) is composed of leading conservation groups, First Nations, resource companies and financial institutions, all of which have a stake in the future of Canada's boreal forest. As a member of the BLC, we are a signatory to the Boreal Forest Conservation Framework. We are committed to implementing this national vision through our own sphere of activity and have submitted an action plan to council members outlining our priorities and focus areas.

Suncor sponsored a BLC project to look at how Aboriginal Peoples are working to protect the woodland caribou. The review looked at tools, data, practices and governance structures used by Aboriginal Peoples, including:

- Indigenous knowledge
- identifying habitat
- monitoring populations
- other aspects of caribou conservation

Suncor also participated in a working group looking at understanding and implementing Free, Prior and Informed Consent (FPIC) in Canada. We continue to work closely with the BLC on this important issue.

Energy Futures Lab

Meeting society's energy challenges today and tomorrow is about making informed choices. That's why Suncor and the [Suncor Energy Foundation \(SEF\)](#) are investing in an evolving set of initiatives to collaborate on the energy future we'll all share. Our goal is to leverage our strengths as an energy company and be a catalyst for an inclusive, national dialogue that will enable Canada to use our energy resources wisely and pave the way for a sustainable energy future.



Launched in 2015 with 40 Fellows, the [Energy Futures Lab](#) is an Alberta-based, multi-sector collaboration designed to help shape Alberta's

energy future and strengthen its position and reputation as a global energy leader. Led by [The Natural Step \(TNS\) Canada](#), it's supported by four convening organizations:

- The Suncor Energy Foundation (SEF)
- Banff Centre
- Pembina Institute
- Government of Alberta

The Fellows are exploring the question:

How can Alberta's leadership position in today's energy system serve as a platform for transitioning to the energy system the future needs?

Student Energy

Another initiative supported in the energy space is [Student Energy \(SE\)](#) and its interactive energy literacy platform. SE is a global not-for-profit organization that is helping post-secondary students to become the next generation of leaders committed to transitioning the world to a sustainable energy future. Their approach of engaging all perspectives for a balanced understanding aligns with how we want to have the conversation about our energy future.

Pollution Probe

Pollution Probe is a national, not-for-profit organization that defines environmental problems through research, promotes understanding through education and presses for practical solutions through advocacy.

Through the [Suncor Energy Foundation](#), we have been partners with Pollution Probe since 1998, most recently supporting [Energy Exchange](#) – an entity aimed at advancing the national dialogue on Canada's energy future. Pollution Probe publishes the Energy Exchange Magazine twice per year, which promotes a systems-based understanding of energy issues among its readers.

Environmental multi-stakeholder working groups

We believe working with stakeholders to understand their environmental concerns is the best way to develop programs to monitor the environment and to develop a better understanding of environmental limits. We are a member of:

Wood Buffalo Environmental Association (WBEA)

The [WBEA](#) is a collaboration of communities, environmental groups, industry, governments and Aboriginal representatives that has developed and implemented an integrated and intensive program on air and terrestrial monitoring in the region. Through the Environmental Science and Monitoring Division of Alberta Environment and Parks, the WBEA monitors air quality in the Regional Municipality of Wood Buffalo, 24 hours a day, 365 days a year, and shares the information collected with stakeholders and the public.

Oil Sands Advisory Group (OSAG)

As a member of the [OSAG](#), a Suncor representative provides input to the provincial government on the oil sands aspects of the [Alberta Climate Leadership Plan](#). The OSAG is composed of members from industry,

environmental organizations and Indigenous and non-Indigenous communities and helps ensure initiatives under the Climate Leadership Plan are effective and widely supported.

Alberta Association of Conservation Offsets (AACO)

Suncor is on the Board of the [Alberta Association of Conservation Offsets \(AACO\)](#), which is a non-governmental collaboration among a number of diverse entities and interests sharing an interest or expertise in the field of conservation and biodiversity. This group is working on a provincial offsetting policy.

Athabasca Watershed Council (AWC)

The [Athabasca Watershed Council](#) is a multi-stakeholder, not-for-profit Watershed Planning and Advisory Council (WPAC) that was formed in August 2009. To provide timely credible information about the Athabasca Watershed, the council works with:

- academia
- industry
- environmental and stewardship groups
- various levels of government
- communities and citizens

The AWC-WPAC actively promotes, fosters respect, and plans for an ecologically healthy watershed by demonstrating leadership and facilitating informed decision-making to ensure environmental, economic and social sustainability.

Industry collaborations

We also participate in industry organizations that work to improve the industry's environmental, social and economic performance. These organizations include:

Canada's Oil Sands Innovation Alliance (COSIA)

[COSIA](#) is an alliance of oil sands producers focused on accelerating the pace of improvement in environmental performance in Canada's oil sands through collaborative action and innovation. Through COSIA, participating companies capture, develop and share innovative approaches and best thinking to improve environmental performance in the oil sands. COSIA represents 90% of oil sands production in Canada, focusing on five environmental priority areas:

- tailings
- water
- land
- greenhouse gases
- monitoring

COSIA is accelerating innovation and environmental performance through a continued focus on collaboration and transparent exchange.

Clean Resource Innovation Network (CRIN)

The [Clean Resource Innovation Network \(CRIN\)](#) is a group of forward-thinking oil and gas industry professionals, innovators, financiers, policy makers, incubators and accelerators, academics and students committed to the

success of the hydrocarbon energy sector, the people and communities it touches, and a strong, carbon-competitive and diversified Canadian economy.

Oil Sands Community Alliance (OSCA)

Building on the work of the predecessor Oil Sands Developers Group, the [Oil Sands Community Alliance \(OSCA\)](#) aims to help communities in the oil sands region thrive economically and socially. OSCA's collaborative approach facilitates engagement, builds relationships and creates measurable socio-economic benefits in focus areas of Aboriginal communities, community well-being, infrastructure and workforce planning.

Industry associations

We are a member of several industry associations. There is strength in having forums for creating alignment and discussing issues. For a list of certain industry associations, please refer to [Lobbying and Disclosure](#).

Advocacy coalitions

We value and advocate reaching out to diverse stakeholders to generate constructive dialogue about energy development. In 2013, we joined the [Resource Works](#) multi-stakeholder coalition to encourage broad dialogue on energy and resource development in Canada. Through this partnership, we hope to encourage Canadians to learn more about the value the resource sector brings to their daily lives and the Canadian economy.



PERFORMANCE DATA

Our sustainability performance data provides annual (January 1 to December 31) operational, environmental, economic, health and safety, and workforce data for 2017, with five-year performance trends where possible.

We've prepared our report in accordance to the Global Reporting Initiative (GRI) Standards: Core Option, with additional use of their Oil and Gas Sector Disclosures.

Environmental performance indicators reflect assets operated by Suncor only, unless otherwise stated. Economic metrics are reported in a manner consistent with our 2017 Annual Report.

Any data point that is accompanied by the (A) symbol has been independently reviewed and assured by Ernst & Young LLP.

PERFORMANCE DATA

Company-wide performance is presented in the table below. More detailed business segment or facility level performance data, and explanatory notes which detail methodology, boundary conditions, restatements, changes or definitions is also available:

- Ernst & Young LLP Independent Assurance Statement in [Appendix B](#)
- [All performance data](#)

Indicators - Suncor (company totals)*	GRI Standards	2013	2014	2015	2016	2017
OPERATIONAL PERFORMANCE⁴						
Total upstream and downstream production million m ³ /yr	OG1	49.79	45.38	48.24	44.71	48.53 (A)
Upstream processed volumes and net production million BOE/yr	OG1	186.64	162.03	171.63	152.40	171.21 (A)
Upstream processed volumes and net production million m ³ OE/yr	OG1	29.67	25.75	27.29	24.23	27.22 (A)
Downstream net production million m ³ refined product/yr	OG1	27.35	27.16	27.62	27.23	27.98 (A)
Ethanol production million litres of ethanol product/yr	OG1	414.98	412.45	417.91	414.39	407.80
Wind energy generated MWh	OG3	326,953	320,720	313,283	106,912	76,589
Ethanol blended into gasoline thousand m ³	-	828	1,000	1,027	1,135	1,117
Sulphur content of gasoline ppm	-	22.70	18.70	15.70	15.30	16.20
GREENHOUSE GAS (GHG) AND ENERGY^{5, 6}						
GHG emissions thousand tonnes CO ₂ e	305-1 305-2	20,535	20,468	20,480	18,739	19,874 (A)
GHG emissions intensity tonnes CO ₂ e/m ³ OE production	305-4	0.41	0.45	0.42	0.42	0.41 (A)
Indirect (Scope 3) GHG emissions thousand tonnes CO ₂ e	305-3	1,628	1,466	1,549	1,623	1,303
Energy use million GJ	302-1 302-2	299.3	304.3	310.4	285.8	302.0
Direct energy use million GJ	302-1	291.0	296.0	301.0	276.0	287.9
Indirect energy use million GJ	302-2	8.37	8.24	9.78	10.02	14.08
Energy intensity GJ/m ³ production	302-3	6.01	6.70	6.44	6.39	6.22

* Please refer to the corresponding notes in [Appendix A](#) for additional notes about the performance data.

Indicators - Suncor (company totals)*	GRI Standards	2013	2014	2015	2016	2017
AIR EMISSIONS⁷						
SO₂ emissions thousand tonnes	305-7	23.20	23.10	18.40	21.10	20.51
SO₂ emissions intensity kilograms/m ³ production	305-7	0.47	0.51	0.38	0.47	0.42
NO_x emissions thousand tonnes	305-7	33.30	27.80	27.90	24.90	26.64
NO_x emissions intensity kilograms/m ³ production	305-7	0.67	0.61	0.58	0.56	0.55
VOC emissions thousand tonnes	305-7	13.40	17.50	21.10	19.50	24.44
VOC emissions intensity kilograms/m ³ production	305-7	0.27	0.38	0.44	0.44	0.50
WATER USE⁸						
Water withdrawal million m ³	303-1	155.91	149.27	142.47	162.18	105.07 (A)
Surface water withdrawal million m ³	303-1	113.02	116.36	118.92	124.78	74.90
Groundwater withdrawal million m ³	303-1	3.04	2.10	2.72	2.51	2.26
Municipality / city / district water withdrawal million m ³	303-1	4.00	3.49	4.27	4.22	4.20
Treated wastewater withdrawal million m ³	303-1	1.54	1.29	1.51	1.37	1.60
Industrial run-off water withdrawal million m ³	303-1	34.30	26.03	15.05	29.30	22.10
Water withdrawal intensity m ³ /m ³ production	303-1	3.13	3.29	2.95	3.63	2.16 (A)
Water returned million m ³	306-1	97.14	101.22	97.46	105.12	65.99
Water consumption million m ³	-	58.77	49.14	45.33	57.19	39.07
Water consumption intensity m ³ /m ³ production	-	1.18	1.08	0.94	1.28	0.81
Fresh water consumption million m ³	-	41.20	30.80	35.90	36.80	22.35
Fresh water consumption intensity m ³ /m ³ production	-	0.83	0.68	0.74	0.82	0.46

* Please refer to the corresponding notes in [Appendix A](#) for additional notes about the performance data.

Indicators - Suncor (company totals)*	GRI Standards	2013	2014	2015	2016	2017
WASTE⁹						
Hazardous waste generated thousand tonnes	306-2	2,231	2,299	1,992	1,982	999
Hazardous waste incinerated thousand tonnes	306-2	1.43	3.11	2.38	3.60	3.54
Hazardous waste deep well injection thousand tonnes	306-2	2,133	2,185	1,980	1,963	985
Hazardous waste landfilled thousand tonnes	306-2	12.26	1.80	5.70	12.01	7.25
Hazardous waste otherwise disposed or treated thousand tonnes	306-2	84.62	109.28	4.09	3.15	3.27
Non-hazardous waste generated thousand tonnes	306-2	235	214	399	167	1,124
Non-hazardous waste incinerated thousand tonnes	306-2	1.15	1.13	1.56	0.69	0.09
Non-hazardous waste deep well injection thousand tonnes	306-2	3.01	1.21	0.80	0.87	987
Non-hazardous waste landfilled thousand tonnes	306-2	173	197	383	161	135
Non-hazardous waste otherwise disposed or treated thousand tonnes	306-2	58.87	14.22	13.92	4.27	1.62
Waste recycled, reused or recovered thousand tonnes	306-2	97	89	135	123	71
ENVIRONMENTAL COMPLIANCE¹¹						
Environmental non-compliance #	307-1	-	-	-	5	4
Environmental regulatory fines thousand CND\$	307-1	-	-	-	275	413
Significant spills #	306-3	-	-	-	0	0
ECONOMIC¹⁴						
Revenues and other income \$ millions	201-1	40,297	40,490	29,680	26,968	32,079
Operating, selling and general expense (OS&G) \$ millions	201-1	9,462	9,541	8,607	9,150	9,245
Employee costs \$ billions	201-1	3.30	3.40	3.30	3.40	3.20
Royalties and taxes paid \$ millions	201-1	3,347	5,259	1,805	105	1,489
Community investments \$ thousands	201-1	30,534	27,246	26,346	33,800	26,557

* Please refer to the corresponding notes in [Appendix A](#) for additional notes about the performance data.

Indicators - Suncor (company totals)*	GRI Standards	2013	2014	2015	2016	2017
Distribution to shareholders \$ millions	201-1	1,826	2,267	2,565	2,889	3,069
Economic value retained \$ millions	201-1	-	23,396	16,677	14,789	18,249
Market capitalization (debt plus equity) \$ thousands	102-7	66	66	67	89	89
Capital and exploration expenditures \$ millions	201-1	6,777	6,961	6,667	6,582	6,551
Political donations \$ thousands	201-1 415-1	73	96	15	3	0
Purchases of goods and services \$ millions	-	11,487	11,951	12,797	11,905	11,636
Canada \$ millions	-	10,584	10,915	11,178	10,632	10,842
Local businesses and suppliers \$ millions	204-1	3,498	4,920	4,504	3,732	3,615
Aboriginal supplier-spend \$ millions	204-1	431	463	599	445	521
COMMUNITY INVESTMENTS¹⁵						
Total contributions to charitable, non-charitable and community groups \$ thousands	201-1	30,534	27,246	26,346	33,800	26,557
Value of cash donations \$ thousands	201-1	23,367	23,745	24,425	22,843	25,466
Value of time donations \$ thousands	201-1	747	798	408	83	800
Value of in-kind donations \$ thousands	201-1	2,716	214	382	10,873	291
Value of management cost donations \$ thousands	201-1	1,685	1,384	988	953	994
Value of external resources leveraged \$ thousands	201-1	2,079	1,105	143	744	232
Suncor's donation to the Suncor Energy Foundation (SEF) \$ thousands	201-1	19,740	19,530	4,500	10,164	16,600
Suncor Energy Foundation / Suncor Energy Inc. disbursements (distribution by funding priority):						
Building Skills and Knowledge \$ thousands	201-1	4,777	5,381	5,321	3,978	4,529
Collaborating for a Shared Energy Future \$ thousands	201-1	1,901	2,087	2,219	1,848	0
Cultivating Community Leaders \$ thousands	201-1	3,554	3,719	3,051	2,442	4,109

* Please refer to the corresponding notes in [Appendix A](#) for additional notes about the performance data.

Indicators - Suncor (company totals)*	GRI Standards	2013	2014	2015	2016	2017
Engaging Citizens \$ thousands	201-1	8,581	4,538	4,146	4,663	3,638
Inspiring Innovation \$ thousands	201-1	2,487	3,890	3,443	3,183	4,271
Local Relationships \$ thousands	201-1	5,530	4,342	6,627	8,603	9,041
SunCares Employee Program						
Employee participation %	201-1	-	-	-	-	27
Organizations supported #	201-1	-	-	-	-	1,271
Value of corporate donations \$ thousands	201-1	-	-	-	-	1,668
Value of employee personal donations \$ thousands	201-1	-	-	-	-	1,313
Volunteer hours #	201-1	-	-	-	-	80,706
HEALTH AND SAFETY¹²						
Employee lost-time injury frequency # per 200,000 hours worked	403-2	0.06	0.05	0.05	0.04	0.03
Contractor lost-time injury frequency # per 200,000 hours worked	403-2	0.06	0.04	0.04	0.05	0.04
Employee recordable injury frequency # per 200,000 hours worked	403-2	0.32	0.37	0.27	0.24	0.30
Contractor recordable injury frequency # per 200,000 hours worked	403-2	0.72	0.50	0.56	0.38	0.45
Fatalities #	403-2	0	3	0	0	1 (A)
WORKFORCE¹³						
Suncor employees #	102-7	14,132	14,425	13,235	13,243	12,649
Full-time employees #	102-8	13,815	14,056	13,042	12,888	12,389
Part-time employees #	102-8	67	108	97	121	111
Temporary/casual employees #	102-8	250	261	96	252	149
Long-term contractors #	102-8	3,669	3,231	2,663	757	809
Unionized workforce %	102-41	32.3	32.4	34.5	34.6	32.8

* Please refer to the corresponding notes in [Appendix A](#) for additional notes about the performance data.

Indicators - Suncor (company totals)*	GRI Standards	2013	2014	2015	2016	2017
Women %	405-1	23.5	25.1	23.4	24.5	23.8
Men %	405-1	74.6	74.7	75.7	75.5	76.2
Aboriginals/American Indians %	405-1	2.6	1.5	1.6	1.9	3.0
Visible minorities %	405-1	12.1	10.4	10.3	12.6	14.7
Persons with disabilities %	405-1	0.8	0.5	0.5	0.8	0.7
Women in management %	405-1	21.3	21.7	22.4	20.1	19.0
New employee hires						
Male %	401-1	73.9	72.8	70.7	77.0	76.9
Female %	401-1	26.1	27.2	29.3	23.0	23.1
Employee turnover						
Male %	401-1	4.1	5.0	7.6	7.0	5.8
Female %	401-1	4.2	5.4	11.3	8.9	7.1
Percentage of basic salary						
Management %	405-2	-	96	96	96	96
Professional %	405-2	-	95	97	97	97
Business support %	405-2	-	104	103	103	102
Operations %	405-2	-	98	100	100	100

* Please refer to the corresponding notes in [Appendix A](#) for additional notes about the performance data.



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APPENDIX A: PERFORMANCE DATA NOTES

Notes on performance data for Suncor's 2018 Report on Sustainability

1. Overview

Performance data provided throughout our Report on Sustainability in tables and graphs includes social, environmental and economic indicators from the 2017 reporting year with 5-year trends, where feasible. Economic data is reported in a consistent manner with our 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

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 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 operations) 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 (Oil Sands In Situ operations) data includes oil sands bitumen production from Firebag and MacKay River operations and supporting infrastructure.
- d. Upstream Exploration & Production (E&P) includes:
 - › E&P Terra Nova FPSO vessel situated off the east coast of Canada.
 - › E&P North America Onshore (NAO) natural gas assets operated by Suncor. Assets were significantly divested from 2013-2015, and data were reported until the date of sale.
 - › Additional information about our E&P business can be found at www.suncor.com.
- e. Downstream (Refining and Supply) includes refining operations in Montreal, Sarnia, Edmonton, and Commerce City, Colorado. Suncor previously operated a lubricants business in Mississauga, Ontario, which was sold on February 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
- f. Renewables includes the St. Clair ethanol plant in Ontario and wind power facilities operated by Suncor.

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 Annual Report.
- c. In Situ production is net bitumen sales associated with total plant saleable product.
- d. NAO: processed volume is the total amount of hydrocarbons processed at Suncor-operated facilities, including production owned by other companies and processed at Suncor-operated facilities.
- e. East Coast (Terra Nova) production is total amount of product sold, not flaring or internally produced fuel.
- f. Refining & Supply net production is reported on a business unit level, where transfers between our facilities have been removed from facility production totals.
- 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.

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 (CO₂e). This common unit for reporting GHGs represents volumes of gases that have been studied to have an impact on the global atmosphere. CO₂e means that individual GHGs have been multiplied by their assessed global warming potential (GWP) compared to carbon dioxide (CO₂). This report (and our 2014-2017 Report 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 (N₂O) 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 where prescribed by regulation, secondarily from site-specific factors if available 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, Ontario and British Columbia all required operators to use specified factors for the 2016 reporting year.

Alberta requires large emitting facilities to use the methodology and emission factors used in their site-specific and government-approved Specified Gas Emitters Regulation (SGER) baseline, and changes cannot be made without restating and re-verifying the baseline and previous year's emissions. Each of our sites that report through the SGER successfully generated positive (approved) verifications for the 2016 reporting year at a reasonable level of assurance.

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 that 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:

- IPCC fourth assessment report 2007
- American Petroleum Institute Compendium 2009
- World Business Council for Sustainable Development/World Resources Institute Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard 2004
- U.S. Environmental Protection Agency AP-42 Fifth Edition June 2007
- Environment Canada Greenhouse Gas Inventory 1990 – 2007 Report 2009
- Environment Canada Facility Greenhouse Gas Reporting Program

- Canadian Industrial Energy End-use Data and Analysis Centre 2009
- Intergovernmental Panel on Climate Change 2006 Guidelines for National Greenhouse Gas Inventories
- IPCC Guidelines Reference Manual (volume 2)
- Western Climate Initiative (WCI) Design for the WCI Regional Program, July 2010
- Technical Guidance For Completing Specified Gas Compliance Reports (Version 7.0)
- U.S. Environmental Protection Agency Mandatory Reporting Rule: GHG Reporting Program
- National Renewable Energy Laboratory Life Cycle Assessment of Hydrogen Production via Natural Gas Steam Reforming

5.5 Additional GHG notes

- a. Forward looking GHG estimates are based on current production forecasts and methodologies and users of this information are cautioned that the actual GHG emissions and emission intensities may vary materially. Please see Advisories.
- b. GHG emissions data from 1990 and 2000 do not include Suncor's U.S. operations, or legacy Petro-Canada facilities, and only include business areas in operation during these years. These data points have been provided for historical comparability, consistent with previous sustainability reports.
- c. 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.
- d. Suncor-wide emissions intensity uses net production, which is the sum of net facility production minus all internal product transfers. The resulting net production is our Suncor product sales to market. The sum of the business unit GHG intensities therefore will not equal the Suncor-wide intensity.
- e. In situ (MacKay River) indirect emissions methodology reported since 2014 include electricity purchased from the grid, purchased electricity and steam from the third party MacKay River cogeneration. Firebag cogeneration units are owned and operated by Suncor and therefore all cogeneration emissions contribute to total direct emissions including emissions associated with generating electricity that is sold to the AB grid.
- f. Absolute (total) GHG emissions are the sum of direct and indirect emissions.
- g. Direct (Scope 1) GHG emissions are from sources that are owned or controlled by the reporting company. Refining and Supply direct emissions do not include CO₂ transfers to third parties, such as the food and beverage industries as they do not meet the definition for CO₂ releases.
- h. 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). Emissions are calculated based on actual supplier data where possible and published literature where supplier data is unavailable.
- i. Indirect (Scope 3) GHG emissions include hydrogen purchased from third-parties and CO₂ 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 in Ontario and Quebec. Additional scope 3 emissions include:

- › commercial air travel
 - › leased buildings (Suncor Energy Centre, Sheridan Park and Suncor Business Centre)
 - › ground transportation services for employees and contractors in Fort McMurray licensed Canadian fleet vehicles
- j. Direct and indirect CO₂e emissions are included for this report, whereas the Alberta SGER (replaced by the Carbon Competitiveness Incentive Regulation in 2018) and other regulatory reports are direct emissions only. No credit is taken for GHG reductions due to cogen export, internally generated performance credits, purchased offsets, ethanol lifecycle GHG reductions or wind generated offsets.

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 duty from third parties. The indirect energy calculation methodology credits operations for electricity exported to external users and/or other Suncor facilities. For wind energy facilities, electricity that is sold to provincial grids is converted to an equivalent amount in GJs and deducted from the total indirect energy.
- 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. Graphs associated with SO₂ and NO_x 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.
- b. Other air emissions include SO₂, NO_x and VOC emissions.
- c. The increase in Terra Nova's VOC emissions and emissions intensity in 2017 was mainly due to the hydrocarbon blanket gas and recovery system being offline for a large part of 2017 when compared to ~100% operational in 2016.
- d. 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.

8. Notes on water use and return

- a. Freshwater consumption and intensity graph: water withdrawal and consumption only includes facilities that are material sources of freshwater consumption for our business. The sum of business area freshwater consumption volumes do not equal the Suncor total due to the transfer of treated wastewater from Oil Sands to the Firebag in situ facility. This volume is netted out of the Suncor total to avoid double counting. Oil Sands in this graph does 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 of our Report on Sustainability. Water measurement and estimation methodology on select Refining & Marketing operations is greater than +/- 10% uncertainty.

- b. Oil sands freshwater withdrawal and consumption graph: the methodology for this graph does not include industrial runoff volumes. Withdrawal and consumption including industrial runoff volumes are shown in the performance data tables of our Report on Sustainability.
- c. 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.
- d. Freshwater consumption intensity is the volume of water consumed (m³) per volume of hydrocarbon produced (m³)
- e. 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 is comprised of 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).
- f. In Situ water withdrawal includes licenced groundwater wells, treated wastewater and industrial run-off water.
- g. 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.
- h. Refining & Marketing surface water withdrawal sources and return destinations vary by refinery facility location.
- i. Water effluent quality parameters for Oil Sands Base plant and Refining & Supply is reported in mg/L (year) for both 2017, and prior years, opposed to previous reports which were in tonnes per year.
- j. Fresh water consumption at Oil Sands Base Plant reduction in 2017 is due to a focus on optimizing our wastewater recycle. This included modifications and improvements to our industrial wastewater system that were implemented in 2017. The fresh water consumption in 2016 increased due to the forest fires impacting the industrial recycle rates and the unplanned Upgrader 2 turnaround 2016 was also extended by more than one month due to the forest fires.
- k. Refining and supply fresh water consumption decreased in 2017 due to the sale of our Lubricants business. Suncor previously operated a lubricants business in Mississauga, Ontario, which was sold on February 1, 2017. 2017 performance data reflects this sale.

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 feed water 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.

10. Notes on land disturbance and reclamation

- a. Total land holdings approved for development is consistent with the Government of Alberta's Environmental Protection and Enhancement Act (EPEA) approved footprint for Suncor's Base Plant operations and our Firebag and MacKay River in situ operations, as mapped by GIS internally. Fort Hills and Meadow Creek East are approved but not yet included.

- b. Total land disturbed represents the total active footprint of our Base Plant mining operations and approved in situ projects, which including the cumulative hectares (ha) 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 (AER) in the annual reports.
- c. Land reclaimed is land that is no longer being used for mine or plant purposes or in situ production purposes and has been, or is in the process of being, reclaimed. This value is a subset of the total active footprint. In 2017 Suncor re-assessed the active footprint at our in situ operations and the revised numbers are presented, and reflect those used for in situ closure planning. The area of non-reclaimed land at our oil sands Base Plant mining operation was 19,977 ha and 1,743 at our in situ operations for the 2017 reporting year. 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. No permanent reclamation was conducted at Base Plant in 2016, due to the wildfires that occurred in proximity to our operations. Some permanent reclamation was lost due to the creation of firebreaks. For further details on the definition of reclaimed, see Advisories.
- d. The tailings pond area calculation is based on fluids area only and does not include solid structures such as beaches and dykes.

11. Notes on environmental compliance

- a. New in 2018, we have 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. Includes administrative penalties, but not enforcement tickets.
- d. 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.

12. Notes on health and safety

- a. Since 2014, health and safety data reported for Upstream Terra Nova represents our E&P business segment, including North America Onshore. This reflects the significant divestments in our conventional natural gas business since 2013.
- b. Since 2014, Upstream Refining & Supply health and safety data includes our St. Clair ethanol plant. Our U.S. operations use the Occupational Health and Safety Administration (OSHA) definitions to classify their injuries, which differ slightly from Canadian standards.
- 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. 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.
- e. Contractors refer to any organization, company or individual who provides goods and/or services to Suncor.
- f. Fatalities are reported for employees and contractors (excluding prime contractors). The prime contractor for a work site is (a) the contractor, employer or other person who enters into an agreement with the owner of the work site to be the prime contractor, or (b) if no agreement has been made or if no agreement is in force, the owner 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. Tragically 3 employees and two prime contractors were fatally injured in 2014. In 2017, a contract worker was fatally injured when inside an excavation.

13. Notes on workforce

- a. All employees receive performance reviews, except those paid hourly (informal evaluations).
- b. Training and development represents fees for professional development courses taken by Suncor employees in all business areas and corporate operations.
- c. New employee hires are any externally hired regular full-time or part-time employee whose permanent start date falls within the reporting period.
- d. 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.
- e. All regular full-time and part-time employees may apply for maternity leave, parental leave and paternity leave. These are unpaid leaves. To qualify, you must have completed 13 continuous weeks of service before the anticipated date of placement of the child or prior to the commencement of your leave.
- f. 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.
- g. Beginning in January 2015, as part of an overall cost management program that began in 2014 accelerated by a low crude price environment, Suncor reduced the size of our workforce primarily through our contract workforce, not backfilling attrition for non-critical positions, and employee reductions.
- h. Long-term contractors are individual workers engaged as a Contractor to support short-term, variable work.
- i. Unionized workforce data is only applicable in areas where there is a unionized environment.
- j. Certain operating regions prohibit collecting information on gender, therefore diversity data may not be reflective of 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 of this information.
- k. Salary between women and men for Suncor employees do not differ based on operating area. Position levels are administered corporately. Base pay is linked to how an employee's job is classified within job families to ensure consistency of how work is assessed and valued across the

company. Variation within a job's salary band recognizes an individual's position on the learning curve and demonstration of job capacity.

- I. Management is classified as front-line leaders, mid-level leaders, members of the management committee or members of the corporate committee.

14. Notes on economic performance

- a. Select economic figures have been calculated according to the International Financial Reporting Standards (IFRS). For complete disclosure of our financial information, see our 2017 Annual Report.
- b. OS&G expenses are subject to historical restatements due to reclassifications within our income statement. Employee costs are reported in our Annual Report under Operating, Selling & General 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. Local goods and services spend reflects goods or services purchased in the area of operations. Suncor-wide spend excludes Syria and Libya.
- h. Aboriginal businesses include those with a minimum of 51% ownership by Aboriginal individuals or organizations
- i. Values reported for Aboriginal supplier revenues earned for 2013 include GST. Beginning in 2014, values reported reflect amounts captured in our enterprise software data management system, minus 5% GST.
- j. Inclusion of contracts in the reporting year is based on the payment date, not the date of services rendered.
- k. Aboriginal supplier spend includes Canadian-wide spend across Suncor's operations.

15. Notes on community investments

- a. Since 2014, values for community investments have been calculated by Suncor and the Suncor Energy Foundation (SEF). The SEF is audited annually by PricewaterhouseCoopers (PWC). 2013 contributions was defined by the London Benchmarking Group Canada model.
- 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 2014-2017 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. Charitable contributions to the community made by the SEF are included in community investment values.
- f. Suncor launched a new SunCares Employee Program in 2017, and prior year data is not available. Corporate donations include corporate rewards, grants and the value of volunteer time during work hours. Employee personal donations include employee and retiree donations and SunCares Impact Portal donations.

APPENDIX B: INDEPENDENT ASSURANCE STATEMENT



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Independent Assurance Statement

To the Board of Directors and Management of Suncor Energy Inc. (Suncor)

Scope of our Engagement

Our responsibilities included providing limited assurance over a selection of performance indicators as presented in Suncor's 2018 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, 2017 (the Subject Matter). Unless otherwise noted, the indicators were assured on a corporate-wide basis.

- Total upstream and downstream production (48.53 million m³/year)
- Upstream processed volumes and net production (171.21 million BOE/year or 27.22 million m³ OE/year)
- Downstream net production (27.98 million m³ refined product/year)
- Greenhouse Gas (GHG) emissions (19,874 thousand tonnes CO₂e)
- GHG emissions intensity (0.41 tonnes CO₂e/m³ OE production)
- Water withdrawal (105.07 million m³)
- Water withdrawal intensity (2.16 m³/m³ production)
- Fatalities (1 fatality)
- Total land disturbed (Oil Sands Base only) (22,205 cumulative hectares)
- Total land reclaimed (Oil Sands Base only) (2,227 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. 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:

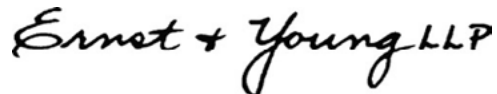
- The materiality, completeness or accuracy of data sets or information relating to areas other than the Subject Matter, and any site-specific information.
- Information reported outside of the Report.
- Management's forward looking statements.
- Any comparisons made by Suncor against historical data.
- 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 logo for Ernst & Young LLP, featuring the company name in a stylized, cursive script font.

Ernst & Young LLP

Calgary, Canada

16 July 2018

APPENDIX C: ADVISORIES

Forward-looking statements

Suncor's 2018 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 2018 Report on Sustainability include references to: Suncor's mission, vision and strategies, including to strive to be the low-cost and low-carbon producer and competitor in its sector and deliver long term value for shareholders, unlock maximum value from its extensive resources, demonstrate triple bottom line sustainability leadership in environmental performance, social responsibility and creating a strong economy, keep costs down, deliver economic prosperity, improved social well-being and a healthy environment, and increase reliability; the belief that Suncor has created a strong foundation for resilient and sustainable energy development; Suncor's goal to decrease overall greenhouse gas ("GHG") emissions intensity of its production of oil and petroleum products by 30% by 2030 and that Suncor can see a realistic path to achieving such goal and the areas of focus to achieve this goal, the social goal relating to increasing the participation of Canada's Aboriginal Peoples in resource development and strengthening Suncor's relationships with Aboriginal Peoples of Canada and the areas of focus to achieve this goal, [and Suncor's intention to create a long-term goal relating to water conservation]; the expected impact of achieving these goals; the expectation that Suncor will continue to explore other opportunities, work to improve Aboriginal Peoples' participation in its workforce, the progress of Aboriginal youth and continue efforts to increase Suncor employees' awareness of the history and experience of Aboriginal Peoples; Suncor's confidence in its resilience over the long term; that Suncor will exclusively supply PetroNor with fuel and distillate and work collaboratively to pursue additional opportunities in northwestern Quebec; the expectation that technology will keep Suncor competitive, allow Suncor to grow its business, allow for oil sands-derived oil to have GHG intensities at or below the average North American barrel and that Suncor can and will get beyond today's technologies; the belief that Suncor can generate sufficient cash flow provided by operating activities at a \$US45 to \$45 per barrel oil price to cover sustaining capital and its dividend; the belief that Suncor will need to drive not just continuous improvement, but transformative improvement, to remain competitive in a low carbon future; Suncor's expectations (including potential outcomes and benefits) and plans around technologies being developed, tested, introduced in Suncor's operations or considered for use, including technologies related to decarbonization, in situ technologies, including the next generation SAGD platform, coke capping, remote monitoring, control and support, solvent and surfactant assisted SAGD recovery, radio frequency heating techniques, electromagnetic assisted solvent extraction, direct contact steam generation and produced water treatment, mild thermal cracker technology, non-condensable gas co-injection, solvent-only technologies (including NsolTM), steam-solvent technologies, expanding solvent SAGD, optimized solvent-steam hybrid, high temperature reverse osmosis, digitization, thermal-solvent based processes, demonstration pit lake, CO₂ capture, SAGD LITE, surface mining technologies, including paraffinic froth treatment, non-aqueous extraction, well-bore enhancements, froth treatment tails, permanent aquatic storage structure treatment process, land reclamation, wireless badges, wireless gas detection monitors, flaring and tailings management; timelines and plans relating to technology development and testing; the expectation that technology will result in oil sands crudes being both a low cost and low carbon source of crude and that the carbon intensity of bitumen can be lowered while improving the cost competitiveness; expectations around ESEIEHTM including the potential benefits and the timing of the results from the ESEIEHTM pilot; and further implementation of the technology at a pad-scale In Situ Demonstration Facility; Suncor's aim to bend the curve on the company's absolute GHG emissions; potential replacement of petroleum coke fired boilers and benefits thereof; potential benefits of investment in expanding cogeneration including its impact on Alberta's electrical grid; statements about Suncor's autonomous haulage systems, including the plan to deploy more than 150 autonomous haul trucks over the next six years and the expected performance and benefits thereof; that Suncor will continue to work together with other affected stakeholders to work out the details of implementation of the recommendations of the TCFD; Suncor's expectations for the world's population by 2040 and the energy demands associated with such growth; possible initiatives that could be undertaken to achieve Suncor's sustainability goals; Suncor's strategy to be an industry leader in sustainable development by continued performance improvements in air emissions, water withdrawals, land reclamation and energy efficiency; Suncor's plan to remain resilient in a world transitioning to a lower carbon energy system; the expectation that oil and gas will continue to be a significant part of the global energy mix for the foreseeable future; Suncor's goal to continue to reduce costs and carbon intensity; statements about the Fort Hills project, including that it will provide energy for the next 50 years, will reach 90% of nameplate bitumen

production capacity by the end of 2018, and the expected increase to the total CO₂e of Suncor's operated GHG emission profile; potential future wind and solar power projects in Alberta and Saskatchewan; the expected peak fluid tailings inventory at Fort Hills and the expected benefits from treating fluid tailings from the start of operations; expectations for renewable power development, including its potential to contribute to Suncor's social goal and the manner and areas in which Suncor will proceed with such projects; expectations regarding the REP II and REP III program and the opportunities provided by the Alberta merchant market structure; the belief about the development and opportunities for renewable energy projects in Alberta and Saskatchewan and Suncor's position to participate in such projects; [statements surrounding Suncor's renewable development portfolio and potential development opportunities, including the potential additional of more than 1,000 MW in Alberta and 400 MW or more of wind capacity in Saskatchewan;] the expectation that the environmental benefit of the St. Clair Ethanol plant will double to up to 600,000 tonnes of greenhouse gas reductions annually; the impacts of Suncor's safety initiatives and incident management and corrective actions; Suncor's aim to decrease the probability of ad-hoc or reactive policy development through engagement activities and by working to reduce polarized dialogue; statements surrounding the new Canadian Energy Regulator and what it is seeking to achieve; Suncor's belief that efficient, effective and transparent regulatory oversight will be valuable to accurately inform Canadians, decision-makers and other stakeholders; expectations about Bill C-68 and Bill C-69; the belief that a well-designed carbon price is the most economically efficient and inclusive way to drive responsible emission reductions, that additional policies can play a role supporting carbon pricing in specific circumstances and that a "patchwork quilt" or carbon pricing policies across the provinces can mean higher costs than necessary; statements about the Climate Leadership Plan and the expected impact thereof; the strategies, goals and areas of focus by the Suncor Energy Foundation including the steps it will take to implement such strategies and achieve such goals and that it will continue to contribute to its reserve fund so that investments will be available to sustain funding during future economic downturns; the anticipated benefits from communication with government officials; the goals of the diversity and inclusion council, including that diversity is improved, valued and optimized, and the steps being taken to achieve such goals; Suncor's carbon price outlook and the estimated impact thereof; expected impacts of changing regulations; expectations for the Water Technology Development Centre and the timeline for opening it; expectations for future water use; the expected impact and benefits from Suncor's participation in COSIA, including the impact of its research on tailings management and ensuring that oil sands pit lakes are viable features in the closure landscape; expectations for, and potential benefits from, Suncor's wastewater plant; land reclamation goals; tailings management plans; the belief that Suncor's highly efficient, integrated model limits Suncor's exposure to heavy crude differentials; that Suncor will continue to work with governments, regulators, industry associations and stakeholders in support of market access objectives; Suncor's aim to deliver competitive and sustainable returns to shareholders by focusing on capital discipline, operational excellence, long-term profitable growth; the expectation that the East Tank Farm Development transaction will provide a steady stream of revenue to both FMFN and MCFN for at least 25 years and the anticipated uses of such revenue; and estimates of future absolute GHG emissions and emissions intensity. 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; 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 execution of projects; and the receipt, in a timely manner, of regulatory and third-party approvals. 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.

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; 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 execution of Suncor's major projects and the commissioning and integration of new facilities; 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 we have material relationships to perform their obligations to us; 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; the risk that competing business objectives may exceed Suncor's capacity to adopt and implement change; risks and uncertainties associated with obtaining regulatory and stakeholder approval for the company's operations and exploration and development activities; 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 risk management 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 an 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; the receipt of any required regulatory or other third party approvals outside of Suncor's control and the satisfaction of any conditions to such approvals; risks associated with land claims and Aboriginal consultation requirements; risks relating 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 2018 dated May 1, 2018 and its Annual Information Form, Form 40-F and Annual Report to Shareholders, each dated March 1, 2018, 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 or by referring to the company's profile on SEDAR at sedar.com or EDGAR at 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.

Non-GAAP measures

Certain financial measures in Suncor's 2018 Report on Sustainability – namely funds from operations, operating earnings (loss) and Oil Sands operations cash operating costs per barrel – are not prescribed by Canadian generally accepted accounting principles ("GAAP"). These non-GAAP measures are defined and reconciled in Suncor's Management's Discussion and Analysis for the year ended December 31, 2018.

These non-GAAP financial measures do not have any standardized meaning and therefore are unlikely to be comparable to similar measures presented by other companies. These non-GAAP financial measures are included because management uses the information to analyze business performance, leverage and liquidity, and should not be considered in isolation or as a substitute for measures of performance prepared in accordance with GAAP.

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.

BOEs

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 and 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

References to "Suncor", "we", "our" and "the company" in Suncor's 2018 Report on Sustainability mean Suncor Energy Inc., its subsidiaries, partnerships and interests in associates and jointly controlled entities, unless the context otherwise requires.

Partnerships

The use of "partnership" throughout Suncor's 2018 Report on Sustainability does not necessarily mean a partnership in the legal context.

Version control

Revised August 10th, 2018: Water withdrawal from the Athabasca River was reported incorrectly as 16.9 million m³ when this report was published on July 19, 2018. This typographic error has been corrected to 15.9 million m³.

APPENDIX D: GRI CONTENT INDEX

This Report on Sustainability has been prepared in accordance with the Global Reporting Initiative (GRI) Standards: Core option, with additional use of the Oil and Gas Sector Disclosures. We've also 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.

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

GRI standards	Description	Response, link or additional information	UNGC principle(s)
GRI 101: FOUNDATION 2016			
N/A	Principles for defining report content and quality, and the process for sustainability reporting using the GRI Standards.	Throughout this report, we have adhered to the following principles: <ul style="list-style-type: none"> • stakeholder inclusiveness • sustainability context • materiality • completeness • accuracy • balance • comparability • reliability • timeliness 	
GRI 102: GENERAL DISCLOSURES 2016			
Organization profile			
102-1	Name of the organization	Suncor Energy Inc.	
102-2	Activities, brands, products and services	Operations summary (p. 32)	
102-3	Location of headquarters	Calgary, Alberta (Canada)	
102-4	Location of operations	Operations summary (p. 32)	
102-5	Ownership and legal form	2017 Annual Information Form (p. 5)	
102-6	Markets served	Operations summary (p. 32)	
102-7	Scale of the organization	Operations summary (p. 32) Performance data (p. 125) 2017 Annual Report	
102-8	Information on employees and other workers	Performance data - workforce (p. 130)	6
102-9	Supply chain	Economic impact (p. 34)	
102-10	Significant changes during the reporting year to the organization and its supply chain	Performance data (p. 125) 2017 Annual Report (p.27-29)	
102-11	Precautionary Principle or approach	Our vision (p. 11)	7

GRI standards	Description	Response, link or additional information	UNGC principle(s)
102-12	External initiatives	Land and biodiversity (p. 85) Policy engagement (p. 25) Collaboration (p. 122)	
102-13	Membership of associations	Lobbying and disclosure (p. 29)	
Strategy			
102-14	Statement from senior decision-maker	CEO message (p. 3)	
102-15	Key impacts, risks and opportunities	Corporate governance (p. 21) Economic impact (p. 34) Performance data (p. 125) Risk management (p. 23) Climate change (p. 46) Sustainability goals (p. 17) Suncor's Climate Report	
Ethics and integrity			
102-16	Values, principles, standards and norms of behavior	Ethical business conduct (p. 39)	1, 2, 6, 10
102-17	Mechanisms for advice and concerns about ethics	Ethical business conduct (p. 39)	1, 2, 10
Governance			
102-18	Governance structure	Corporate governance (p. 21) Schedule C: Corporate Governance Summary of our 2018 Management Proxy Circular	
102-19	Delegating authority	Suncor Energy Inc. Management Proxy Circular 2018 ; (Schedule C: Corporate Governance Summary - Risk Oversight, pp. C-8 to C-9) 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.	
102-20	Executive-level responsibility for economic, environmental, and social topics	We have several senior leadership positions whose roles include sustainability oversight in the organization, including: <ul style="list-style-type: none"> • Chief Sustainability Officer (directly reports to the CEO) • Vice President, Sustainability & Communications • General Manager, Strategy & Integration 	
102-21	Consulting stakeholders on economic, environmental, and social topics	For additional information about stakeholder feedback with our Board of Directors, refer to our 2018 Management Proxy Circular Schedule C: Corporate Governance Summary – Communications/Disclosure Policy and Stakeholder Feedback, p. C-7 to C-8	

GRI standards	Description	Response, link or additional information	UNGC principle(s)
102-22	Composition of the highest governance body and its committees	Suncor Energy Inc. Annual Information Form dated March 1, 2018; (Directors and executive officers, pp. 69-74)	
102-23	Chair of the highest governance body	Suncor Energy Inc. Management Proxy Circular 2018 (Schedule D: Position description for independent board chair)	
102-24	Nominating and selecting the highest governance body	Suncor Energy Inc. Management Proxy Circular 2018 (Schedule C: Corporate Governance Summary, pp. C-11 to C-13)	
102-25	Conflicts of interest	Suncor Energy Inc. Management Proxy Circular 2018 (Schedule C: Corporate Governance Summary – Conflicts of Interest, p. C-15)	10
102-26	Role of the highest governance body in setting purpose, values, and strategy	Suncor Energy Inc. Management Proxy Circular 2018 (Schedule F: Board Terms of Reference – Part IV: Mandate of the Board of Directors, pp. F-4 to F-6)	1, 7, 8
102-27	Collective knowledge of highest governance body	Suncor Energy Inc. Management Proxy Circular 2018 (Schedule C: Corporate Governance Summary – Orientation and Continuing Education, pp. C-13 to C-14) Additionally, our Board of Directors receive periodic reports from our Chief Sustainability Officer. The Environment, Health, Safety & Sustainability 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. For details, see the Suncor Energy Inc. Management Proxy Circular 2018 (Schedule C: Corporate Governance Summary – Annual Evaluation Process, pp. C-5 to C-6) 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. For details, see the Suncor Energy Inc. Management Proxy Circular 2018 (Schedule C: Corporate Governance Summary – Risk Oversight, pp. C-8 to C-9)	1, 2, 7, 8, 9, 10
102-30	Effectiveness of risk management processes	The Board oversees Suncor's Enterprise Risk Management Program. For details, see the Suncor Energy Inc. Management Proxy Circular 2018 (Schedule C: Corporate Governance Summary – Risk Oversight, pp. C-8 to C-9)	1, 2, 7, 8, 9, 10
102-31	Review of economic, environmental and social topics	The Board oversees Suncor's Enterprise Risk Management Program. For details, see the Suncor Energy Inc. Management Proxy Circular 2018 (Schedule C: Corporate Governance Summary – Risk Oversight, pp. C-8 to C-9)	1, 2, 7, 8, 9, 10
102-32	Highest governance body's role in sustainability	Our Executive Leadership Team, including the CEO, review and approve this report prior to 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	1, 10
102-34	Nature and total number of critical concerns	Throughout 2017, key issues remained focused on climate change, water and First Nations issues. In depth discussions, goal setting and initiatives to address these issues have been ongoing and will continue to evolve.	

GRI standards	Description	Response, link or additional information	UNGC principle(s)
102-35	Remuneration policies	For more information, see the Suncor Energy Inc. Management Proxy Circular 2018 (Board of Directors Compensation and Executive Compensation, pp. 14-52)	10
102-36	Process for determining remuneration	Suncor Energy Inc. Management Proxy Circular 2018 (Board of Directors Compensation and Executive Compensation, pp. 14-52)	10
102-37	Stakeholders involved in remuneration	Suncor Energy Inc. Management Proxy Circular 2018 (Advisory Vote on Approach to Executive Compensation, p. 13)	
Stakeholder engagement			
102-40	List of stakeholder groups	Stakeholder and Aboriginal relations (p. 90)	
102-41	Collective bargaining agreements	Performance data - workforce (p. 130)	1, 3
102-42	Identifying and selecting stakeholders	Stakeholder and Aboriginal relations (p. 90)	
102-43	Approach to stakeholder engagement	About our report (p. 6) Stakeholder and Aboriginal relations (p. 90)	
102-44	Key topics and concerns raised	About our report (p. 6) Stakeholder and Aboriginal relations (p. 90) Climate change (p. 46) Personal and process safety (p. 37) Water performance and stewardship (p. 72) Suncor's Climate Report	
Reporting practice			
102-45	Entities included in the consolidated financial statements	Suncor Energy Inc. Annual Report 2017, pp. 27-28 For more information about the entities not covered in this report, refer to the performance data page(s).	
102-46	Defining report content and topic boundaries	About our report (p. 6)	
102-47	List of material topics	About our report (p. 6)	
102-48	Restatements of information	Any re-statements of information provided in earlier reports and reasons for re-statements can be found throughout the performance data pages and accompanying notes that have been restated.	
102-49	Changes in reporting	Significant changes from previous reporting periods in scope, boundary or measurement methods can be found on the performance data page and accompanying notes.	
102-50	Reporting period	January 1 – December 31, 2017 (unless otherwise stated)	
102-51	Date of most recent report	July, 2017	
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 info@suncor.com	

GRI standards	Description	Response, link or additional information	UNGC principle(s)
102-54	Claims of reporting in accordance with the GRI Standards	This report has been prepared in accordance with the GRI Standards: Core option.	
102-55	GRI Content Index	The GRI content index as available for download and as an appendix to Suncor's Report on Sustainability.	
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 on the performance data page.	
GRI 103: MANAGEMENT APPROACH 2016			
103-1	Management approach for material topics	Our management approach to material sustainability priorities in this 2018 Report on Sustainability are presented in the following sections:	1, 2, 6, 7, 8, 9, 10
103-2		CEO's message (p. 3)	
103-3		Corporate governance (p. 21)	
		Policy engagement (p. 25)	
		Economic impact (p. 34)	
		Personal and process safety (p. 37)	
		Ethical business conduct (p. 39)	
		Diversity and inclusion (p. 42)	
		Climate change (p. 46)	
		Water performance and stewardship (p. 72)	
		Tailings management (p. 76)	
		Air quality (p. 78)	
		Reclamation (p. 81)	
		Land use and biodiversity (p. 85)	
		Stakeholder and Aboriginal relations (p. 90)	
		Suncor's Climate Report	
		In 2017, 19 grievances mostly related to environmental impacts, were documented through our formal grievance mechanism. Most concerned environmental impacts related to our operations. All of the grievances have been addressed and many have been resolved. Although all have been addressed, some may still be in progress and on their way to being resolved.	
GRI 200: TOPIC SPECIFIC STANDARDS ECONOMIC			
GRI 201: Economic performance 2016			
201-1	Direct economic value generated and distributed	Performance data (p. 125)	10

GRI standards	Description	Response, link or additional information	UNGC principle(s)
201-2	Financial implications and other risks and opportunities due to climate change	CEO's message (p. 3) Climate change (p. 46) Suncor's Climate Report Suncor's 2018 CDP Climate Change response (pp. C2)	7
201-3	Defined benefit plan obligations and other retirement plans	2017 Annual Report (p. 111-115)	
201-4	Financial assistance received from government	Federal (Canada) and Provincial Government funding is publicly reported and available through the Office of the Commissioner of Lobbying of Canada. For more information about our public policy participation, visit the following pages: Public policy participation (p. 25) Lobbying and disclosure (p. 29)	
GRI 203: Indirect economic impacts 2016			
203-1	Infrastructure investments and services supported	Economic impact (p. 34) Community investment (p. 94)	
203-2	Significant indirect economic impacts	Economic impact (p. 34) Partnering with Aboriginal businesses (p. 105)	
GRI 204: Procurement practices 2016			
204-1	Proportion of spending on local suppliers	Economic impact (p. 34) Performance data (p. 125)	10
GRI 205: Anti-corruption 2016			
205-1	Operations assessed for risks related to corruption	Ethical business conduct (p. 39) Risks related to bribery and corruption related to our foreign operations can be found in our Annual Information Form dated March 1, 2018 (p. 63)	
205-2	Communication and training about anti-corruption policies and procedures	Ethical business conduct (p. 39) Training specific to the prevention of improper payments is provided on a targeted basis to certain individuals in high-risk jobs and jurisdictions. Certain third party business associates are also provided with anti-corruption training, based on assessed risk.	
GRI 206: Anti-competitive behaviour 2016			
206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	Ethical business conduct (p. 39) No regulatory enforcement actions were initiated for anti-competitive conduct against Suncor in 2017. 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.	

GRI standards	Description	Response, link or additional information	UNGC principle(s)
GRI 300: TOPIC SPECIFIC STANDARDS ENVIRONMENTAL			
GRI 302: Energy 2016			
302-1	Energy consumption within the organization	Performance data (p. 125) Suncor's 2018 CDP Climate Change Response (pp. CC8)	7, 8
302-2	Energy consumption outside of the organization	Performance data (p. 125) Suncor's 2018 CDP Climate Change Response (pp. CC8)	8
302-3	Energy intensity	Performance data (p. 125) Suncor's 2018 CDP Climate Change Response (pp. CC8)	8, 9
302-4	Reduction of energy consumption	Performance data (p. 125)	8, 9
GRI 303: Water 2016			
303-1	Water withdrawal by source	Performance data (p. 125)	7, 8
303-2	Water sources significantly affected by withdrawal of water	Performance data (p. 125) Water performance and stewardship (p. 72) Suncor's 2018 CDP Water Response (pp. W1.2)	8, 9
303-3	Water recycled and reused	Performance data (p. 125) Water performance and stewardship (p. 72)	8
GRI 304: Biodiversity 2016			
304-1	Operational sites in proximity to protected areas and areas of high biodiversity value outside protected areas	Performance data (p. 125) Land and biodiversity (p. 85)	8
304-2	Significant impacts of activities, products, and services on biodiversity	Performance data (p. 125) Land and biodiversity (p. 85)	8
304-3	Habitats protected or restored	Performance data (p. 125) Reclamation (p. 81)	8
GRI 305: Emissions 2016			
305-1	Direct (Scope 1) GHG emissions	Performance data (p. 125) Suncor's 2018 CDP Climate Change Response (pp. C6.1)	7, 8, 9
305-2	Energy indirect (Scope 2) GHG emissions	Performance data (p. 125) Suncor's 2018 CDP Climate Change Response (pp. C6.2-C6.3)	7, 8, 9
305-3	Other indirect (Scope 3) GHG emissions	Performance data (p. 125) Suncor's 2018 CDP Climate Change Response (pp. C6.5)	7, 8
305-4	GHG emissions intensity	Performance data (p. 125) Suncor's 2018 CDP Climate Change Response (pp. C6.10-C6.12)	7, 8, 9

GRI standards	Description	Response, link or additional information	UNGC principle(s)
305-5	Reduction of GHG emissions	Performance data (p. 125)	7, 8, 9
305-7	Nitrogen oxides (NO _x), sulfur oxides (SO _x), and other significant air emissions	Performance data (p. 125) Air quality (p. 78)	7, 8
GRI 306: Effluents and waste 2016			
306-1	Water discharge by quality and destination	Performance data (p. 125) Water effluent quality is monitored and reported on. Unplanned water discharges are rare. We currently report the number of unplanned water discharge events as well as exceedances in our discharge water quality.	8
306-2	Waste by type and disposal method	Performance data (p. 125)	8
306-3	Significant spills	Performance data (p. 125)	8
306-5	Water bodies affected by water discharges and/or runoff	Land and biodiversity (p. 85) Tailings management (p. 76) Water performance and stewardship (p. 72)	
GRI 307: Environmental compliance 2016			
307-1	Non-compliance with environmental laws and regulations	Performance data (p. 125)	8
GRI 400: TOPIC SPECIFIC STANDARDS SOCIAL			
GRI 403: Occupational health and safety 2016			
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 & Marketing 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.	1, 3
403-2	Types and rates of injury and number of work-related fatalities	Personal and process safety (p. 37) Performance data (p. 125)	1
GRI 405: Diversity and equal opportunity 2016			
405-1	Diversity of governance bodies and employees	Diversity and inclusion (p. 42) Performance data (p. 125)	
405-2	Ratio of basic salary and remuneration of women to men	Performance data (p. 125)	1, 6
GRI 411: Rights of indigenous peoples 2016			
411-1	Incidents of violations involving rights of indigenous peoples	In 2017, Suncor did not have any formal grievances reported in regard to 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.	1, 2

GRI standards	Description	Response, link or additional information	UNGC principle(s)
GRI 413: Local communities 2016			
413-1	Operations with local community engagement, impact assessments and development programs	Stakeholder and Aboriginal engagement (p. 90) Partnering with Aboriginal businesses (p. 105)	
GRI 415: Public policy 2016			
415-1	Political contributions	Lobbying and disclosure (p. 29)	10
GRI 419: Socioeconomic compliance 2016			
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 2017 for non-compliance with laws and regulations.	
GRI SECTOR SPECIFIC DISCLOSURES			
Oil and gas sector specific disclosures			
OG1	Volume and type of estimated proved reserves and production	Performance data (p. 125)	
OG2	Renewable energy investment	Renewables (p. 18)	8, 9
OG3	Renewable energy generation	Performance data (p. 125)	8, 9
OG4	Biodiversity assessment and monitoring	Land and biodiversity (p. 85)	
OG5	Formation or produced water	Performance data (p. 125)	
OG6	Flaring and venting	Air quality (p. 78) CDP Climate Change (C4.8) We do not report vented gas. Our operational practices help to limit venting, such as vapour recovery units that are used on some of our storage tanks.	
OG7	Drilling waste	Performance data (p. 125)	
OG8	Fuel content	Performance data (p. 125)	
OG13	Process safety events	Personal and process safety (p. 37)	