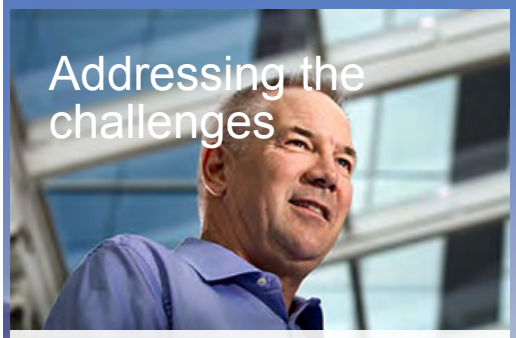

Addressing the challenges

Read CEO message

Economic prosperity

A vibrant energy industry is an engine for the larger economy, creating jobs, economic growth, and providing governments and suppliers with valuable revenues.

How we contribute

Breaking barriers

Check out the Q&A

Climate change

More on climate change

Aboriginal Relations

More on how we engage with Canada's Aboriginal Peoples

Goals and progress

More on our environmental performance goals

Report highlights

Video gallery

View featured videos

Materiality review

See the key environmental, economic, social and governance issues

Read more about our commitment to sustainability

Charts library

View all of our data charts

Performance data

See our progress for the 2015 reporting year

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Vision and strategy

On this page:

> Energy is delivered to and used by people in every country across the globe. It is vital to the world we live in and the quality of life we enjoy.

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.

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.

Strategy and competitive differentiators

Our significant asset base, strong balance sheet and integrated model set us apart from our peers. We strive to be the low-cost competitor in our sector, without compromising environmental performance. Capitalizing and executing on these differentiators has contributed to our industry-leading position and provide the foundation for delivering long-term value for shareholders.

Reserves and resources base

We are committed to getting the most value from our resources, which include a significant position in the oil sands. Our operational excellence focus is to unlock the full value of these resources.

Industry expertise

We pioneered commercial oil sands development and continue to advance by developing and collaborating on innovative technologies that improve efficiency, lower costs and enhance environmental performance.

Our people are among the most experienced and knowledgeable in the industry. They bring their passion and expertise to work every day.

Sustainable development

We are focused on delivering triple-bottom-line sustainability. That means leadership in:

- environmental performance
- social responsibility
- creating a strong economy

A proven integrated model

From the ground to the gas station and offshore platform to wind turbine, we're focused on creating value for our shareholders. The integration of our business, both financially and physically, creates the conditions for our success.

Financial strength

We aim to achieve the highest returns possible from our operations. Our focus is on keeping costs down and increasing reliability. Our strong balance sheet and ongoing focus on capital discipline continue to highlight our commitment to delivering value for shareholders.

Commitment to sustainable development

A commitment to continuously improve performance is what makes us unique. Not only is continuous sustainability improvement a pillar of our business strategy, it is also a company value driver, effectively weaving a sustainability focus into the very fabric of the organization.

Actions speak louder than words. Here are a few concrete initiatives where we have put the principles of sustainable development into practice:

Expand all | Collapse all

Climate change

- We adopted a seven-point climate change action plan aimed at increasing energy efficiency and reducing corporate-wide greenhouse gas emissions (GHG).
- This has contributed to a 45% reduction in carbon dioxide (CO_2) intensity per barrel at our oil sands operations since 1990.

Renewable energy

- We make industry-leading investments in renewable energy.
- Our interests include six operating wind power projects.
- We also operate Canada's largest ethanol plant with a capacity of 400 million litres per year.
- Our combined renewable energy portfolio displaces about about 1 million tonnes of carbon dioxide (CO_2) per year – the equivalent of the annual tailpipe emissions of about 255,000 typical cars.

Partnering with Aboriginal businesses

Through our Petro-Canada brand, we've partnered with various First Nations, including the Peter Ballantyne Cree Nation (PBCN) in northern Saskatchewan and most recently the Long Plain First Nation and Fort McMurray First Nation 468 to manage Petro-Canada retail stations.

These stations employ many First Nation members and bring tremendous value to the Petro-Canada retail model.

The PBCN partnership is just one example of the success of this model. In addition to generating positive economic returns for the First Nation, this partnership has created jobs and developed business capability in the community.

Learn more about our partnerships with Aboriginal businesses

Innovation in bitumen recovery

In collaboration with industry partners, we're developing an in situ extraction method called enhanced solvent extraction incorporating electromagnetic heating (ESEIEH — pronounced 'easy'). The ESEIEH process uses radio waves and solvents to heat, extract and transport bitumen for further processing. By reducing the energy required and eliminating the need for water or steam, the ESEIEH process has the potential to:

- improve energy efficiency
- reduce GHG
- reduce extraction costs

Preliminary ESEIEH results have been encouraging. Additional work is underway to determine the commercial viability of the process.

Learn more about ESEIEH

Social prosperity

We invest in change and social progress in the communities where we operate to ensure sustainable and resilient communities. Social Prosperity Wood

Buffalo, a five-year partnership between stakeholders in the Wood Buffalo region of northeastern Alberta, the Suncor Energy Foundation, Ontario's Waterloo region and the University of Waterloo, aims to improve the quality of life in rapidly growing Wood Buffalo by strengthening its non-profit sector.

Read more about:

- Social Prosperity Wood Buffalo
- Our community investment strategy

Reclamation

- We're improving how quickly and how well we reclaim disturbed lands. In September 2010, we became the first oil sands company to complete surface reclamation* of a tailings pond. Through adoption of environmental goals in 2009, we've met and exceeded our target for an increase in reclamation of disturbed land area by 100% by 2015.**

Water use

- We work to continuously reduce our use of fresh water.
- At Oil Sands, our gross freshwater withdrawal from the Athabasca River has declined by 58% since 2007.
- Approximately 96% of the water used at our Firebag in situ site is recycled.

Operational excellence

Operational excellence, operating in a way that is safe, reliable, cost-efficient and environmentally responsible, helps us mitigate business risks and focus on achieving industry-leading performance.

Download

Reclaimed lands have not been certified by government regulators. For further details, see Advisories — Forward-Looking Statements.
* The base year for the planned improvements is 2007. The goals were established in 2009.

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CEO's Message

Governments, industry, environmental organizations and the broader public would probably agree that the past year has been a watershed when it comes to conversations about the environment, economy and social wellbeing.

It certainly has been for us at Suncor. As we've navigated a prolonged period of low oil prices, we've had to be resilient and adaptable. We've also had to think hard about what our vision of a "triple bottom line" really means in an era when our industry — and the world around us — is being called upon to address significant economic, social and environmental challenges.

Suncor's vision guides us on taking a long view on these challenges — one that extends well beyond the next quarterly or annual results — to one that considers our role in getting to a low carbon energy future.

Our vision is one of the key reasons I've been so active in the conversation about reducing greenhouse gas (GHG) emissions. I believe in climate change and that the production and consumption of fossil fuels is contributing to this pressing global challenge. I also believe we all have the opportunity — and responsibility — to collaborate on effective solutions.

Climate change is happening. Doing nothing is not an option.

It's also clear to me that energy is central to our lives. It provides mobility, heats our homes and schools, and generates jobs and economic growth. And while alternative and renewable energy sources continue to advance, fossil fuels — including oil produced from the oil sands — are expected to remain a key source of reliable and affordable energy for the foreseeable future.

Collaboration

The need to address these parallel realities is why I strongly support the work of Canada's Ecofiscal Commission, where I serve as a member of the Advisory Board. This collaboration has brought together representatives from across the political spectrum and from many diverse sectors, including academia, industry and the environmental community.

The Commission strives to take partisanship out of the discussion and to move us towards meaningful conversations on our shared energy future. And it starts with the premise that the economy and the environment are closely intertwined.

We can't have a healthy economy without being leaders in environmental performance. And we can't have a healthy environment without a healthy

economy.

The Commission was an early and vocal advocate for putting a broad-based price on carbon. It's the kind of pricing regime, combined with an overall emissions limit for the oil sands industry that the Government of Alberta introduced in November 2015 that will set the pathway for both – a healthy economy and a healthy environment.

I was pleased to play a part in some of the discussions leading up to Alberta's Climate Leadership Plan, along with other oil sands executives and environmental organizations. It was another example of how people who are too often locked into a polarized debate can come together to find common ground.

I believe the Alberta framework provides a positive path forward. It allows our industry to grow, but not in an unlimited way. It will help accelerate the investments in technology and innovation required to bend our emissions trajectory downward. And it ensures that one of the world's largest oil-producing regions will also be a global leader in addressing the climate change challenge.

This past year, I also had the opportunity to join the Canadian delegation to the United Nations climate change conference in Paris in December 2015 and to work in a collaborative way with our federal environment minister, several premiers and prominent environmentalists.

In Paris, I spoke with a wide variety of individuals, including some long-time critics of our industry. Overall, I was pleased by the positive perception many delegates had of the Alberta climate change framework and of carbon-pricing policies undertaken by other provinces.

In all of these encounters, I learned that what divides us is not nearly as important as what unites us. Whether you are a politician, an environmental activist or an energy executive, we all basically want the same things – a strong economy, a healthy planet and a positive legacy for our children and grandchildren.

Leading by example

In addition to effective collaboration, Suncor aspires to lead by example. In 2009, we set an industry precedent by adopting "stretch" environmental performance goals on water consumption, reclamation of disturbed lands, energy efficiency and air emissions for completion in 2015. Now, we are launching long-term sustainability goals to drive improved performance in two critical areas of our business.

We share in the global challenge to tackle climate change head on by reducing emissions while providing energy the world needs. We'll therefore work to harness technology and innovation on a transformational pathway to a low carbon energy system. We'll measure our progress by reducing the overall GHG emissions intensity of our production of oil and petroleum products by 30% by 2030 - a target we believe will put us on the path to ultimately bending the curve on our absolute GHG emissions as well.

The key to achieving this goal is to harness technology and innovation to produce some of the world's lowest carbon-intensity crude oils and petroleum products. That is why, despite prolonged low oil prices, Suncor continues to:

- spend about $200 million annually on strategic research and development projects;
- collaborate with organizations like Canada's Oil Sands Innovation Alliance (COSIA) and Evok Innovations on step change technologies to address GHG emissions and other environmental challenges; and
- work closely with joint venture partners to drive improved reliability, safety and environmental performance at operations.

Our other long-term goal — and the first to focus on a social objective — is about building greater mutual trust and respect with Canada's Aboriginal Peoples by increasing their participation in energy development.

There are wide socio-economic gaps between Aboriginal Peoples and other Canadians and there is a strong public desire to bridge those gaps. As Canada's largest integrated energy company, we have an opportunity to lead and innovate.

Our social goal, to be pursued over the next 10 years, is focused on four key areas:

- strengthening relationships between Aboriginal Peoples and all Canadians, starting within Suncor;
- partnering with Aboriginal youth to develop their leadership potential;
- significantly improving our hiring, retention and advancement of Aboriginal employees; and
- increasing revenues to Aboriginal businesses and communities through mutually beneficial marketing arrangements and procurement purchases.

Both sustainability goals are ambitious and will be a stretch to achieve. Success is not a given. But even though we don't have all the answers today, we cannot put off action until tomorrow. It's better to be bold, and sometimes falter, than to shrink from the challenges at hand.

As we go forward, we're mindful of the need to be transparent in reporting on our progress. This report is just one example of our commitment. We're also working with stakeholders to be more transparent about what we're doing as a company to ensure our resilience in a future low-carbon economy. Our

support of a shareholder proposal from NEI Investments relating to ongoing reporting on Suncor's initiative, respecting climate change, at our recent Annual General Meeting underscores our commitment in this area.

Values and aspirations

Our goal aspirations are rooted in Suncor's values, one of which stands above the rest: safety first.

Our safety value guided our efforts in responding to the wild fires which occurred in the Regional Municipality of Wood Buffalo this spring. While our assets were undamaged, we took the measure of commencing a staged and orderly shutdown of operations in the area. We also collaborated closely with industry, governments and the community to shelter and then safely move thousands of people out of the region. With the province's evacuation order lifted, we have since remobilized our workforce and are working closely with the community to support what will likely be a lengthy recovery process.

Another core value is respect for human rights, which is reflected in the collaborative work Suncor and several other companies continue to do as members of the United Nations Global Compact (UNGC) Local Network in Canada. This is part of our support for the UNGC and its 10 Principles, which guide our approach to human rights, labour, environment and anti-corruption — wherever in the world we operate.

Our aspirations and our determination to provide collaborative leadership, are not tied to fluctuations in market conditions or commodity prices. These external forces will always wax and wane. Through it all, we must work to make Suncor an even stronger company and to make this industry truly sustainable. To survive and thrive in the decades ahead, energy producers will need to be competitive, both in terms of operating costs and their carbon footprint.

Building on positive momentum

Today's energy challenges are embedded in extremely complex systems that have evolved over a century or more. They cannot be tackled in isolation by one company, industry or stakeholder. Developing solutions that work for the economy, environment and society will require the creative energy of some unusual allies.

We have seen positive momentum of late. I don't believe the debate over the path ahead is nearly as polarized as it was even just a few years ago. We need to build on that momentum to ensure that our shared energy future remains bright and sustainable.

Steve Williams
president and chief executive officer

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Materiality review

On this page:

Our reporting framework

Our 2016 Report on Sustainability outlines performance in 2015 and provides a five-year performance trend wherever possible.

We have prepared our report in accordance with the Global Reporting Initiative (GRI) G4 Core Guidelines and Oil and Gas Sector Disclosures (PDF, 69 pp., 2.06 MB).

Ernst & Young LLP, an independent third party, has reviewed selected performance indicators for the 2015 reporting year using the GRI G4 guidelines and the sector disclosures.

Review the results of the third-party assurance report.

Materiality review

For the purposes of this report, materiality, in a sustainability context, is defined as the relative significance of an issue's environmental, social, governance and economic impacts (both positive and negative) to our business and our stakeholders.

Our materiality review process ensures the content we include in our annual Report on sustainability reflects the key environmental, economic, social and governance issues considered most critical to our company and our stakeholders.

We conducted an extensive materiality review in late 2014 for our 2015 Report on Sustainability. This review was done in accordance with GRI's G4 guidelines. For the 2016 report, we conducted a materiality reaffirmation process to test the validity of the prior year's assessment and allow for any necessary updates to be made. Although different in scale, both materiality review processes followed the same two-step procedure described below.

Expand all | Collapse all

Materiality assessment process

Step 1 – Review of materials and issues identification

In addition to using the framework provided by Account Ability's Five-Part test, we also conducted a thorough review and analyses of the following:

- social media and website analytics
- corporate objectives, programs and risks
- traditional news releases and media coverage
- internal communication publications
- multi-sector sustainability and corporate social responsibility reports
- topics identified through our internal strategic issues management process
- input from across our business areas

We also reviewed information from our ongoing stakeholder dialogues, in addition to feedback from our annual multi-stakeholder forum. This forum is important for providing us a venue to highlight, discuss and address complex issues with a wide range of key stakeholders and document their feedback. During this forum, we talk about our challenges and how we can work to address them.

Our extensive review resulted in a number of material sustainability issues for both external and internal evaluation for inclusion in this year's report.

Step 2 – External and internal issue evaluation

External evaluation

We incorporated direct stakeholder feedback into our materiality review process to improve on past materiality assessments as well as provide a more comprehensive evaluation of what are our most material sustainability issues.

Internal evaluation

Using feedback learned from our on-going stakeholder dialogues, we evaluated our sustainability issues with a cross functional employee team.

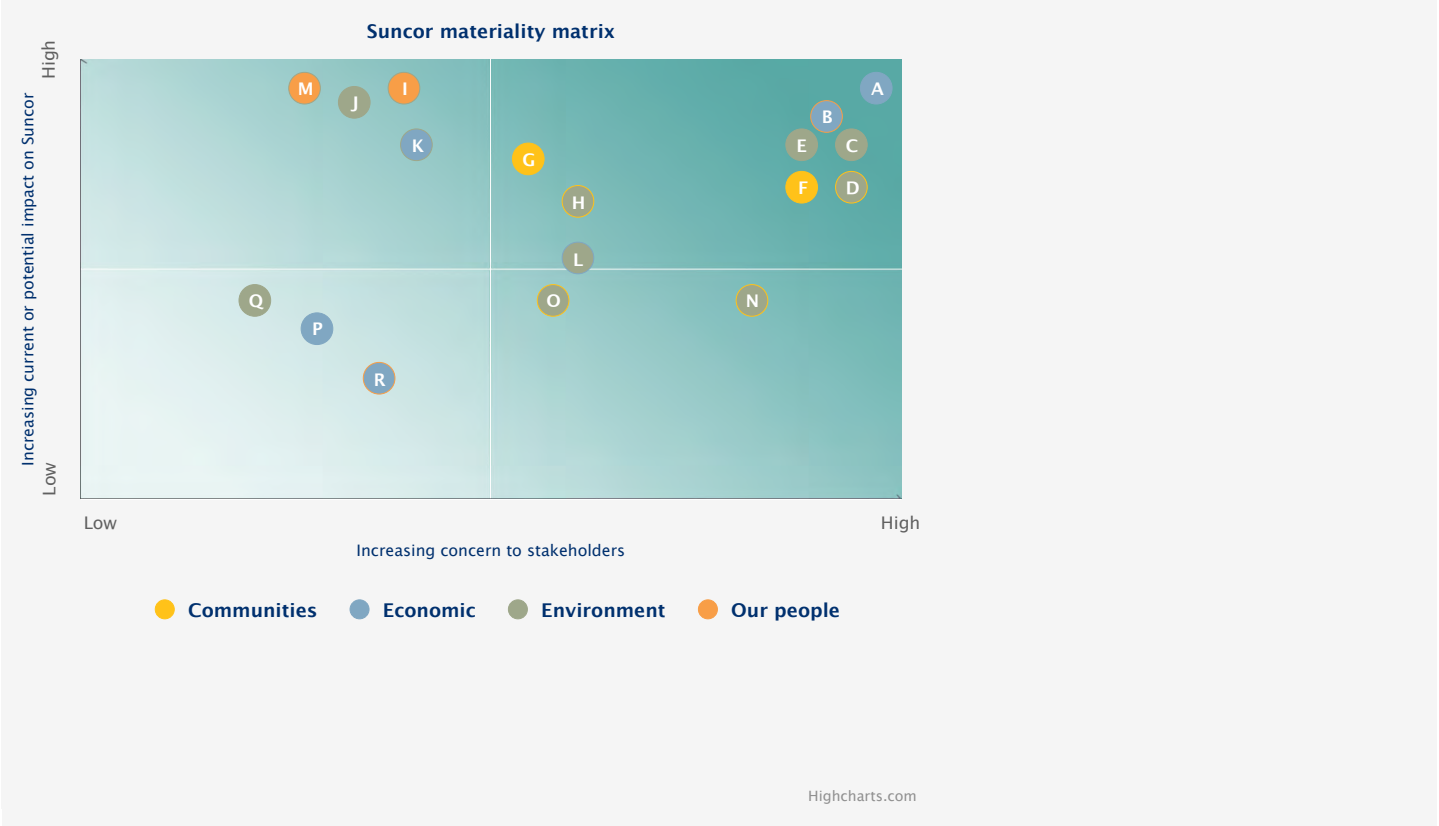
For each candidate material issue, team members determined the degree of impact and importance to the company and our stakeholders.

The aggregated data collected from both our internal and external reviews resulted in a list of our most material sustainability issues, which are plotted on the materiality matrix below. This diagram displays a sampling of the pertinent issues identified during the materiality review. Issues increase in material importance to both the company and our stakeholders from the lower-left corner up to the right corner of the matrix. While these are all important issues, we've prioritized the content of this report around our most material issues.

In some instances we chose to report above and beyond the issues identified in our materiality review because although they don't meet the GRI G4 materiality threshold, they remain important to our stakeholders.

Materiality matrix

Select a letter in the chart below to identify and learn more about an issue. You can filter categories below by selecting communities, economic, environment or our employees. Click the category again to turn the filter off. We not only identified our most material issues, we also mapped where the most material positive or negative impacts of those relevant issues occur within our value chain, both within and outside of our organizational boundary. Our upstream, refining and marketing and corporate offices exist within this boundary while our suppliers, some joint venture relationships, product transportation, customers and broader society exist outside of this boundary.



Download

Communities

Continuously earning and maintaining our social license to operate is crucial to our business. If not managed well, these issues could potentially result in increased project delays and costs, legal proceedings, stakeholder outrage and an erosion of community resilience. Managed well, these issues present a vital shared value opportunity to build relationships and provide economic and social benefit.		Impact across Suncor value chain	
		Inside of Suncor	Outside of Suncor
F	**Aboriginal engagement in energy development** • Aboriginal relations • Partnering with Aboriginal businesses • Partnering with Aboriginal youth • Strengthening relationships	X	X
G	**Responsible community partnerships** • Community investment • Social responsibility	X	X

Economy

The following issues are material to Suncor s performance and growth. Managed poorly, these issues could result in unplanned legal, financial, operational or reputational impacts. Managed well, these issues help to support business continuity and maximize shareholder value.		Impact across Suncor value chain	
		Inside of Suncor	Outside of Suncor
A	**Economic conditions and performance** • Capital spending and discipline • Production costs and production mix • Royalties and taxes	X	X
B	**Market access** • Market access		

K	**Operational reliability** • Facility and asset reliability • Operational excellence and business continuity	X	X
P	**Corporate governance** • Board composition and diversity • Enterprise risk management • Executive compensation	X	
R	**Business ethics** • Ethical business conduct • Prevention of improper payments	X	X

Environment

Our environmental performance represents a key strategic risk and opportunity. The **management** of these issues are subject to strict scrutiny from both government regulators and stakeholders. Poor management of these issues could result in regulatory fines, stakeholder outrage, 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.		Impact across Suncor value chain	
		Inside of Suncor	Outside of Suncor
C	**Water management** • Water quality and quantity • Water use • Water stewardship	X	X
D	**Climate change** • Policy and regulation • Greenhouse gas (GHG) emissions • Growth in a carbon constrained environment • Energy system transition	X	X
E	**Tailings management** • Tailings management	X	X
H	**Land management and biodiversity** • Caribou • Wetlands • Land reclamation	X	X
J	**Technology and Innovation** • Collaboration • New technology	X	X
L	**Air quality** • Air quality monitoring and emissions • Flaring • Odours	X	X
N	**Cumulative impacts** • Regional impacts and environmental thresholds	X	X
O	**Environmental protection and compliance** • Spills and releases • Operational issues	X	X
Q	**Waste Management**		

	• Waste Management	X	X

Our people

		Impact across Suncor value chain	
Our people are our most valuable asset and key to our success. If managed poorly, these issues could result in labour shortages, talent depletion, process and personal safety incidents or even worse, fatalities. Managed well these issues could result in improved productivity, lower costs, innovation and a strong and thriving work culture.		**Inside of Suncor**	**Outside of Suncor**
I	**Employee attraction, retention and development** • Building talent • Skilled labour • Engagement, productivity and diversity • Improving Aboriginal workforce development	X	
M	**Health and safety (employees and contractors)** • Occupational health and wellness • Personal safety • Process and operational safety	X	

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Our operations

On this page:

> We are Canada's largest integrated energy company with operations in all stages of the oil and gas industry — upstream, midstream and downstream.

Our operations include:

- Oil Sands
- Exploration and Production
- Supply and Trading
- Refining and Marketing

Our operating areas

Expand all | Collapse all

Oil Sands

Our Oil Sands business is focused on the responsible development of one of the world's largest petroleum resource basins — the Athabasca oil sands — through both mining and in situ technologies.

Read about Oil Sands on suncor.com

Exploration & Production

Our Exploration & Production business is focused on delivering value and growth through the development and operation of lower cost crude oil assets, which includes:

- offshore operations off the east coast of Canada and in the North Sea
- onshore assets in North America, Libya and Syria (Note: Operations in Syria have been suspended indefinitely due to political unrest and resulting sanctions. Production in Libya has been substantially shut-in due to political unrest, with the timing of a return to normal operations remaining uncertain.)

Read about Exploration & Production on suncor.com

Supply & Trading

Our Supply & Trading business provides midstream services including crude oil marketing and logistics activities to optimize our value chain. It is part of the Corporate, Energy Trading and Eliminations grouping, which also includes the company's investments in renewable energy projects. Our renewables business includes investments in six operating wind farms and Canada's largest ethanol production facility which feeds into our retail gasoline network.

Read more about Supply & Trading on suncor.com

Read more about our wind power business on suncor.com

Refining & Marketing

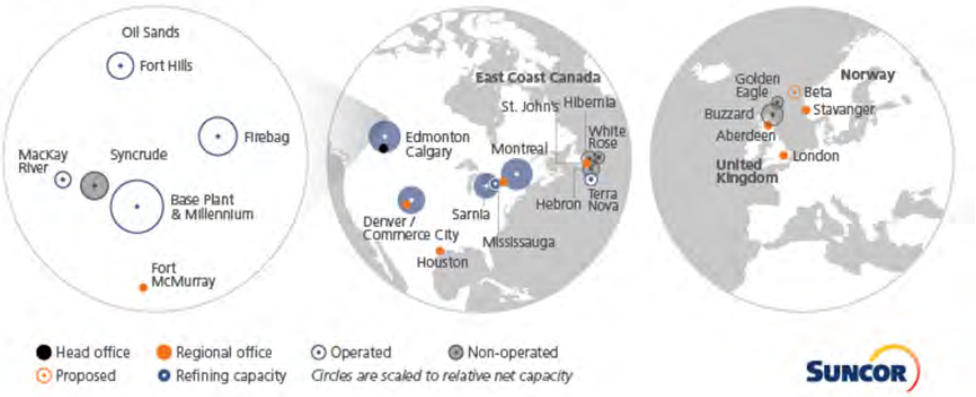
Our Refining & Marketing operations further unlock the value of the upstream barrel through our strong refining and marketing network, which includes more than 1,475 Petro-Canada retail stations.

Operations Map

Operations Map

Below is a map of our operations around the globe. Click the image to view larger.

WHERE WE OPERATE



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Technology development

On this page:

> 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 technology and innovative thinking remains fundamental to how we do business. We take a balanced approach to technology development, focusing on both operational technology (step-change improvements in existing processes) and strategic technology (game-changing, disruptive). Our technology development efforts largely focus on four areas (in situ, mining, upgrading and refining, and closure) targeting specific outcome areas: cost management/enhanced profitability, global environment footprint, and regional environmental impact (tailings, water and land).

We invest more than $200 million annually in research and development as part of a robust technology strategy to optimize current asset and develop next generation facilities.

In some cases, we aggressively lead research and development of new technologies. In others, we collaborate through consortiums or 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 a number of technology studies and projects under Canada's Oil Sands Innovation Alliance (COSIA), an alliance of 13 companies representing 90% of oil sands production. COSIA allows participating companies to share technologies and innovations focused on environmental improvements. To date:

- 814 environmental technologies that cost almost $1.3 billion to develop have been shared among COSIA member companies and 68 projects costing more than $200 million
- Suncor is the lead for the Water Technology Development Centre and a participating COSIA member company in the NRG COSIA Carbon XPRIZE.
- In 2015, Suncor led 51 of the approximately 300 COSIA studies and Joint Industry Projects

Read more about COSIA's environmental priority areas on its website

EVOK Innovations

Suncor is a co-founder of Evok Innovations, an initiative between the BC Cleantech CEO Alliance, Cenovus Energy and Suncor to accelerate early-stage technologies. Evok brings together British Columbia's cleantech industry and Alberta's oil and gas sector to advance new technologies directed at environmental and economic improvements. Evok was launched in early 2016 and is actively seeking opportunities to deploy its funding with early stage companies to develop technologies for commercial adoption by the energy sector.

Read more about Evok Innovations

Pursuing external technology collaborations

Suncor also monitors technologies being developed by external parties to determine if, and when, an investment by us could make sense to advance the technology or adapt them for our business. This involves funding outside companies whose technology ideas align with the strategic needs of our operations or businesses.

- Examples of these investments are 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 feedstock.

In all cases this type of technology development is carefully managed to ensure it provides strategic, economic and environmental benefits to Suncor. This external innovation approach is a key strategy in a world of fast changing products and services.

2009 2010 2012

CIVITAS™

CIVITAS™ is the first commercially available fungus control and plant health product for the golf course industry that has a unique mode of action called Induced Systemic Resistance (ISR). CIVITAS™ products impact the plant working to treat diseases and prevent them from taking hold in the first place.

CIVITAS™ products are OMRI-listed for use in organic turfgrass

2009

CIVITAS™

CIVITAS is the first commercially available fungus control and plant health product for the golf course industry that has a unique mode of action called Induced Systemic Resistance (ISR). CIVITAS products impact the plant working to treat diseases and prevent them from taking hold in the first place.

CIVITAS products are OMRI-listed for use in organic turfgrass management.

2009 2010 2012

TRO™

This new approach to managing mine tailings, developed in 2010, is focused on a de-watering process that will more rapidly turn fluid tailings ponds into solid landscapes suitable for reclamation.

TRO is a key tool in our efforts to progressively reclaim tailings ponds, allowing us to reclaim entire mine sites faster – resulting in the more rapid return of natural habitats.

2012

Oxyfuel technology

Through our partnership with CO2 Capture Project, we are involved in a collaborative research and development project that could improve the prospects for implementing carbon capture and storage at in situ facilities. This technology produces a concentrated carbon dioxide (CO2) steam that is 'capture ready' and is, therefore, expected to avoid or eliminate substantial CO2 emissions at a reduced cost.

2012

Hydrocarbon blanket gas and recovery system

Our hydrocarbon blanket gas and recovery system was installed on the Terra Nova offshore drilling platform in 2012.

Unlike conventional cargo systems which use inert gas to maintain a positive pressure in storage tanks and then vent that gas, along with volatile organic compounds (VOCs), into the atmosphere during production, our system 'blankets' cargo tanks with pure hydrocarbon gas recovered during production and effectively eliminates the release of VOCs.

2013

N-Solv

Through collaborative technology development, we are currently undertaking field tests on using a condensing solvent to extract bitumen, which could significantly reduce energy use and greenhouse gas emissions. The N-Solv pilot at Dover is currently operating with encouraging results.

2013

SAGD LITE

SAGD LITE involves the addition of slight amounts of soap-like additives – surfactants – in the steam for steam assisted gravity drainage (SAGD) production.

A pilot project testing this technology was successfully operated at our MacKay River in situ field in 2013. Results were positive and the program is being extended. In addition, three other enhanced surfactants will be tested in 2014.

2013

Autonomous haulage systems

In fall 2013, we began engineering tests for Autonomous Haulage Systems (AHS) at our mine site near Fort McMurray. Using GPS and perception technologies the trucks can operate in a continuous fashion and provide potential efficiencies in maintenance costs, reduced stoppages and fuel consumption, resulting in reduction in GHGs. The technology may also create opportunities for employees to upgrade their technical skills. Testing of AHS equipment is being performed in a tightly controlled mine environment. If we decided to proceed with using AHS on a commercial scale, progressive implementation would begin after 2017.

2014

ESEIEH

This pilot is testing a new method of in situ bitumen recovery using radio frequency heating and solvent to reduce energy, greenhouse gases and water use. Currently, a joint development partnership is doing a technology proof-of-concept project. Field pilot testing for ESEIEH is scheduled for 2014.

2014

DCSG technology

As part of Canada's Oil Sands Innovation Alliance (COSIA), we are leading a project investigating the potential benefits of using direct contact steam generation (DCSG) - a direct combustion process that generates a mixture of steam and CO2 that is then pumped underground. The process has the potential to reduce GHG emissions because a significant portion of the CO2 may be sequestered underground in the SAGD reservoir.

2015

Water Technology Development Centre

As part of Canada's Oil Sands Innovation Alliance (COSIA), we are working to develop the Water Technology Development Centre (WTDC), which will advance new water treatment and recycling technologies for in situ oil sands development.

Construction of the WTDC is expected to begin in 2015 with opening planned for 2017.

management.

Advancing in situ technology

A major focus for Suncor has been on transforming the in situ production of bitumen, and we are aggressively pursuing a portfolio of technologies that offer the potential to transform the environmental and economic performance of producing oil from the oil sands.

Currently, Suncor is advancing several significant technologies by conducting field trials and advancing the commercial design and implementation:

Electromagnetically Assisted Solvent Extraction (EASE)

Instead of using steam to heat the bitumen, electromagnetically assisted solvent extraction involves using radiofrequency electromagnetic energy to heat the water already in the reservoir and then the reservoir itself. Radiofrequency electromagnetic heating is similar to your microwave at home. Among the suite of electromagnetically assisted solvent technologies we are pursuing, we are a partner in the Enhanced Solvent Extraction Incorporating Electromagnetic Heating **(ESEIEH)** field pilot at our Dover site.

The ESEIEH process, also uses a solvent to further lower bitumen viscosity, enabling production to a horizontal well at economic rates. This potentially game-changing technology may remove the need for water to heat the bitumen plus the solvent leaves asphaltines in the reservoir producing a lighter oil, with lower GHG footprint when refined into gasoline and other products.

Expand all | Collapse all

Enhanced Solvent Extraction Incorporating Electromagnetic Heating Pilot (ESEIEH)

We are part of a technology consortium that is moving forward with a field demonstration at our Dover Site – home of the original steam assisted gravity drainage (SAGD) demonstration facility – to demonstrate the viability of an innovative in situ production technology.

The field pilot, known as ESEIEH (pronounced “easy”), is a project supported by a consortium of Suncor, Devon Canada, Nexen Energy ULC, Harris Corporation, and Alberta’s Climate Change and Emissions Management Corporation (CCEMC).

ESEIEH uses wells configured in horizontal pairs much like a SAGD operation. The radio frequency energy and solvent is introduced to the reservoir in the upper well. Bitumen and residual solvent are produced from the lower well.

If commercially successful, ESEIEH offers a number of potential benefits over conventional SAGD technology, including:

- reducing energy requirements by up to 75%, which reduces costs and GHG emissions
- eliminating process water needs, including water treatment and handling equipment
- significantly reducing the size and complexity of the surface facility, reducing both capital costs and land footprint

Current phase

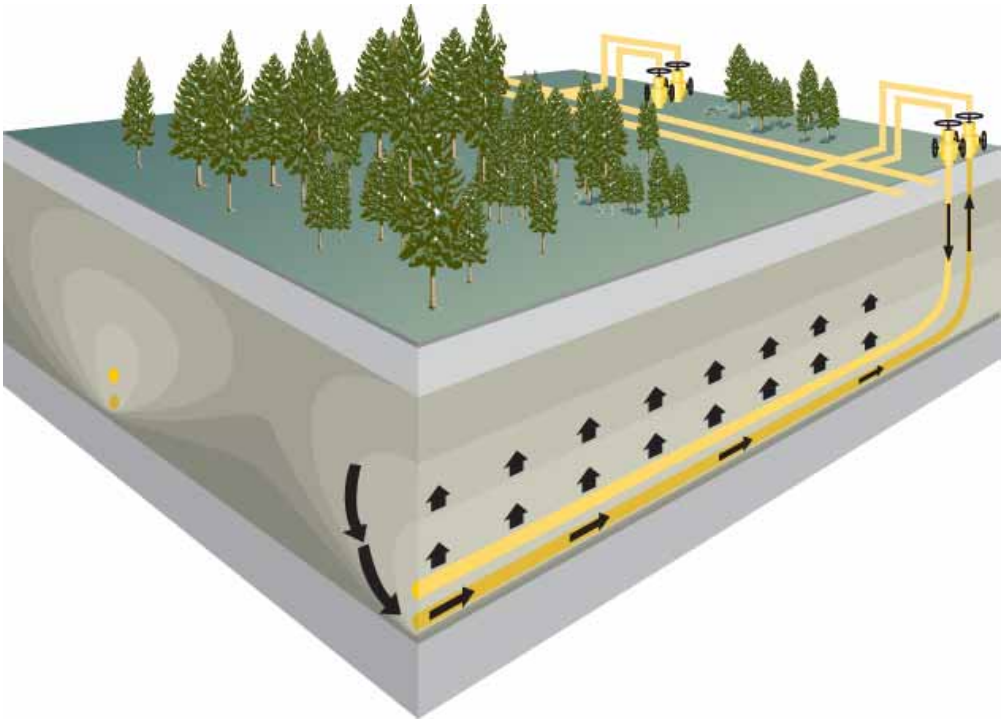
The project is currently in the second phase which began operations in 2015, and will run for up to 2 years.

First and second phase

- In 2012, the first phase was a test at our Steepbank mine facility north of Fort McMurray.
- This test successfully demonstrated radio frequency energy could safely and efficiently heat bitumen, and led to the second phase of the project.
- The second phase demonstration is located at our Dover site.

Nsolv: toward waterless extraction

Our current technology for in situ production, SAGD, employs parallel pairs of horizontal wells to recover the bitumen. The top well distributes steam to heat the reservoir and the bitumen, allowing it 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.



Starting in 2013, a pilot plant at our Dover lease began field-testing a condensing solvent extraction technology, with the objective of proving the technology for commercial deployment. The Nsolv™ process uses the horizontal well technology developed for SAGD, but does not use any water. Instead, Nsolv uses vapourized propane or butane to provide heat the way steam does. But because this solvent also dilutes and mobilizes the bitumen, reservoir temperatures do not need to be raised above 60°C, requiring up to 80% less energy. This potential energy reduction could have a significant impact on greenhouse gas emissions.

The Nsolv technology offers potential economic and environmental benefits. Like ESEIEH, the process produces lighter, de-asphalted, and higher-value oil. Commercially, capital and operating costs could be reduced by removing the water treatment plant and steam boilers; instead, a relatively smaller solvent recovery and solvent vapourization plant is required, which will also reduce the land footprint of the facility. Due to the low temperature and low pressure required for its operation, Nsolv may also allow us to efficiently extract shallow in situ resources which are currently inaccessible.

The Nsolv pilot is the result of collaboration between Nsolv Corporation and Suncor, with support from Sustainable Development Technology Canada and Alberta's Climate Change and Emissions Management Corporation. Suncor is actively advancing this promising technology for the development of a larger-scale commercial prototype plant.

Visit these websites for more details:

- Nsolv Corporation
- Sustainable Development Technology Canada
- Climate Change and Emissions Management Corporation

'SAGD LITE' and surfactants program: small technology, big benefits

Our SAGD LITE (Less Intensive Technically Enhanced) program refers to technology development where we aim to lower our steam-to-oil ratio (SOR) through the use of surfactants, solvents or non-condensable gas co-injection.

The advantage of our surfactants and solvents program is that it holds the promise of immediate benefits — more efficient oil recovery while using less energy and water — with minimal associated costs or environmental footprint at our existing facilities.

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. During the producing life of an oil reservoir, different techniques can be applied to optimize oil production and recovery. Potentially, a reduction of steam-to-oil ratio in excess of 15% will enable more oil production with less steam production and fluid handling requirements.

In 2015, we successfully executed pilot projects testing surfactant technology — one at MacKay River and one at Firebag. One program at MacKay River has been extended to a larger technology demonstration in 2016.

Non-condensable gas co-injection technology

Later in life, mature in situ reservoirs exhibit declining production and increasing SOR. Based on continuous improvement, Suncor uses non-condensable gas co-injection with steam for our wind-down process to divert steam from aging wells to new, more profitable wells with lower SOR. This technology, injects methane to reduce the SOR while maintaining production and pressure, reduces energy intensity and CO_2 emissions. The pilot projects at Firebag and MacKay River have shown encouraging results and are being expanded in 2016.

Direct Contact Steam Generation (DCSG)

We continue to lead a project investigating the potential benefits of using Direct Contact Steam Generation (DCSG) as an alternative to the existing once-through steam generators (OTSGs) used in steam assisted gravity drainage (SAGD). This technology, if proven viable, will lower GHG emissions, water and land intensity while improving the economics of in situ projects.

In current SAGD operations, a well is drilled and steam produced from large OTSGs is injected down the well to heat the bitumen until it becomes warm enough to flow. The bitumen and steam now cooled and turned back into water, are brought to the surface through a second well, and then separated so the water can be used again. Carbon dioxide (CO_2) from combustion is conventionally released from the OTSGs' exhaust stacks.

Using the DCSG process, the direct contact between water and hot combustion products produces a steam and CO_2 mixture that is then pumped underground. The process has the potential to reduce GHG emissions because thermal efficiency is higher than OTSGs and a significant portion of the CO_2 may be sequestered underground in the SAGD reservoir. The CO_2 can also act as a replacement for valuable methane in late life non-condensable gas co-injection.

DCSG technology also has potential water and land management benefits. The system captures the water from combustion, augmenting conventional recycling of about 90% of the water, and reduces additional water required to replenish the system. If taken from existing tailings water, tailings pond water could be consumed with this technology. Further, DCSGs produce the same amount of steam as a large OTSG, but in a vessel that would fit in a typical office meeting room, opening up the potential for distributed steam generation with a far smaller footprint than our current large central OTSG facilities and much less heat lost in distribution of the steam.

Suncor is progressing two areas of DCSG technology development. A six month pilot project at MacKay River will co-inject CO_2 with steam into one well pair to assess the potential impacts to reservoir performance, determine if production is maintained, achieve a lower SOR and confirm CO_2 sequestration potential. Start-up of the field pilot will begin in the second quarter of 2016 and is scheduled to last until the end of the year, with results available in early 2017.

A second project in collaboration with CanmetEnergy, which began in 2015, will construct a fit-for-purpose lab pilot in Ottawa with testing scheduled to being in 2017. The testing will focus on potential corrosion and its mitigation, fuel efficiency, and optimization of burner designer. The lab will enable a long-term controlled testing environment in support of the field demonstration and commercial implementation.

Suncor is also working with CanmetENERGY and other vendors to design the field demonstration of Direct Contact Steam Generation scheduled to begin at

Firebag in late 2017. Using produced water from Firebag operations and existing power and fuel sources, this demonstration is intended to finalize the technical viability of DCSG, while injecting CO_2 and steam, sequestering most of the CO_2 underground and potentially resulting in less GHG emissions, less water use and reduction in land footprint with a vessel smaller than current OTSGs.

Steam Assisted Gravity Drainage (SAGD) Produced Water Treatment pilot project

During 2014-2015, Suncor hosted a pilot project with GE Canada, Alberta Innovates - Energy and Environment Solutions, ConocoPhillips Canada and Devon to test new technologies to reduce greenhouse gas (GHG) emissions and water usage in the oil sands. SAGD operators reuse water as much as possible to create steam, but the water pumped to the surface in the extraction process must be separated from the bitumen prior to being run through a steam-generator. In 2014, the project tested de-oiling technologies, while in 2015 water treatment membranes were tested at our MacKay River facility. Further testing is scheduled to occur in late 2016.

These technologies could enable treating and reusing the water more consistently which means being more operationally efficient and requiring less energy. In spring 2015, Suncor signed an additional agreement with GE Canada and Devon for the next phase of work to further develop technologies to improve environmental performance in areas of GHG reductions and advances in water treatment technologies.

CO2 capture from hydrogen plants

Capturing, transporting and storing CO_2 underground are already being used as key long-term tools for reducing large-scale industrial emissions. But current technology remains too expensive for industry to implement on a broad scale. COSIA's Greenhouse Gas Environmental Priority Area conducted a carbon capture technology scan to identify early-stage promising technologies with the potential to capture carbon at significantly lower costs compared to the current state-of-the-art technologies.

Several promising technologies were identified for carbon capture from hydrogen plants (located at upgraders and refineries) through a Suncor-led COSIA Joint Industry Project with Canadian Natural Resources Limited. Further development is underway on a short list of the most promising opportunities. If successful, the technologies could result in significant GHG emission reductions at a much lower cost and environmental footprint.

Decarbonization

Suncor is committed to developing technologies that will allow us to produce crude oil from our oil sands resources at a supply cost and environmental footprint of 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 bitumen.

What does this mean?

Decarbonization will prioritize the removal of complex, heavy hydrocarbon content in our bitumen as close to source as possible versus processing it at final processing facilities such as refineries; the result could be crude oil delivered at a lower cost with a lower environmental impact from wells to wheels.

Rejecting the portions of heavy hydrocarbon closer to source is expected to reduce diluent required for transportation and the downstream processing hydrogen and energy requirements, resulting in lower greenhouse emissions. Rejecting heavy fractions also would result in an oil that is easier to refine, in turn lowering downstream carbon emissions and costs. Decarbonization will focus on generating full value from our crude oils with a reduced environmental footprint instead of operating simply to maximize product recovery.

Decarbonization, through the combination of more simple, lower energy intensity processing, could result in the same or higher revenue from oil sands at lower cost and lower environmental impact.

Advancing surface mining technology

Expand all | Collapse all

Less aqueous extraction

Through industry partnerships with GE Global Research and Alberta Innovates — Technology Futures, we are pursuing new technologies in surface mining and extraction that could reduce the need for water in the extraction of bitumen. Hot water is used in the extraction process to separate the bitumen from the sands. If we can reduce the need for water and replace it with an alternative solvent, we may reduce water usage, the need for tailings ponds and potentially our greenhouse gas footprint by reducing our operating temperature and simplifying our overall process.

Paraffinic Froth Treatment (PFT)

We will be using a process called Paraffinic Froth Treatment (PFT) at our Fort Hills mine. 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. This means we avoid the production and release of CO_2 from this marginal part of the barrel. Additionally, the higher quality bitumen we are getting from this process is expected to result in lower emissions intensity on a full life cycle basis as less energy is required to refine it and get it to market.

Froth Treatment Tails

From smart phones to hybrid vehicles, many of these devices we use on a daily basis are made with rare earth metals. These rare earth metals are currently mined from resource deposits in China — the world's largest exporter of rare earth metals. Suncor is researching with a U.S.-based company, the potential opportunity to turn existing oil sands tailing deposits, which house some of these rare earth metals, into a strategic resource for the 21st century.

Autonomous haulage systems

Autonomous haulage systems (AHS) use GPS and perception technologies to allow mine haul trucks to navigate terrain. While operators are not required, these vehicles can be operated in a manual mode. This proven technology is being used in Australia and Chile for hard-rock mining operations.

Following successful preliminary trials in 2013-14, Suncor is currently doing a commercial scale evaluation of AHS. This will continue until 2017 in a tightly controlled area of the existing mine.

As we progress, we will continue to evaluate the technology's performance in our operating conditions and during all seasons to determine the potential commercial and environmental improvements. If we decide to proceed with the technology, progressive implementation may begin in 2017.

AHS technology offers several advantages over existing truck haul operations which could lead to efficiencies and lower operating costs. These advantages include:

- enhanced safety performance
- decreased equipment stoppages
- reduced maintenance requirements
- reduced environmental impact through better fuel efficiency

From an environmental perspective, the continuous manner in which autonomous trucks operate can reduce fuel consumption. This would be expected to result in lower GHG emissions.

We recognize that any new technology means changes to the required skill sets for workers. At the same time, finding skilled labour continues to be a challenge in the Regional Municipality of Wood Buffalo. If adopted, AHS technology could create different kinds of employment opportunities. It is something we will work through with our employees if and when we decide to implement this technology.

Permanent Aquatic Storage Solution (PASS)

The Permanent Aquatic Storage Structure (PASS) is a Suncor-led research and technology development project focused on an accelerated dewatering process and treatment of fluid fine tails prior to placement, in a way that would result in creating a PASS lake shortly after the end of mine life that can support a viable freshwater ecosystem. As we progress this technology, we are leveraging our knowledge from our Tailings Reduction Operation (TRO), consolidated tailings (CT), waste water treatment, and through shared knowledge at COSIA. Several elements are progressing in 2016 with an aim to deploy a commercially-ready technology in the field by 2018 and to share the research results with COSIA member companies.

Read more about oil sands tailings technology

Advancing Land Reclamation

Nikanotee fen

In 2013, Suncor became one of the first companies in the world to complete reconstruction of this type of wetland in co-operation with numerous university researchers and consultants across the continent. Research is showing that the fen is remaining wet through the seasonal weather cycles, water quality is good and plants are growing and spreading naturally.

Read more about the Nikanotee fen and other reclamation activities

Technology in our lubricants business

Expand all | Collapse all

Lubricants technology: the CIVITAS™ example

Our technology story isn't all about oil sands exploration and production. We produce more than 350 lubricating oil-based stocks and other products that are sold in more than 70 countries. Among them are the CIVITAS line of products which are marketed by Intelligro, the lawn and agriculture operating brand of Suncor. CIVITAS TURF DEFENSE is a cutting-edge white mineral oil plant protection product for use on golf courses and sports fields. This environmentally responsible product works to improve plant health by enabling the plant to better withstand the impacts of stress, including the ability to tolerate limited water conditions and provide a more durable playing surface while controlling disease.the lawn and agriculture operating brand of Suncor. CIVITAS TURF DEFENSE is a cutting-edge white mineral oil plant protection product for use on golf courses and sports fields. This environmentally responsible product works to improve plant health by enabling the plant to better withstand the impacts of stress, including the ability to tolerate limited water conditions and provide a more durable playing surface while controlling disease.

As we continue to market CIVITAS and other products, we are beginning to learn about other potential benefits and applications. We will continue to research and develop these environmentally responsible products to ensure we maximize potential value.

CIVITAS WEEDfree BRAND Concentrate

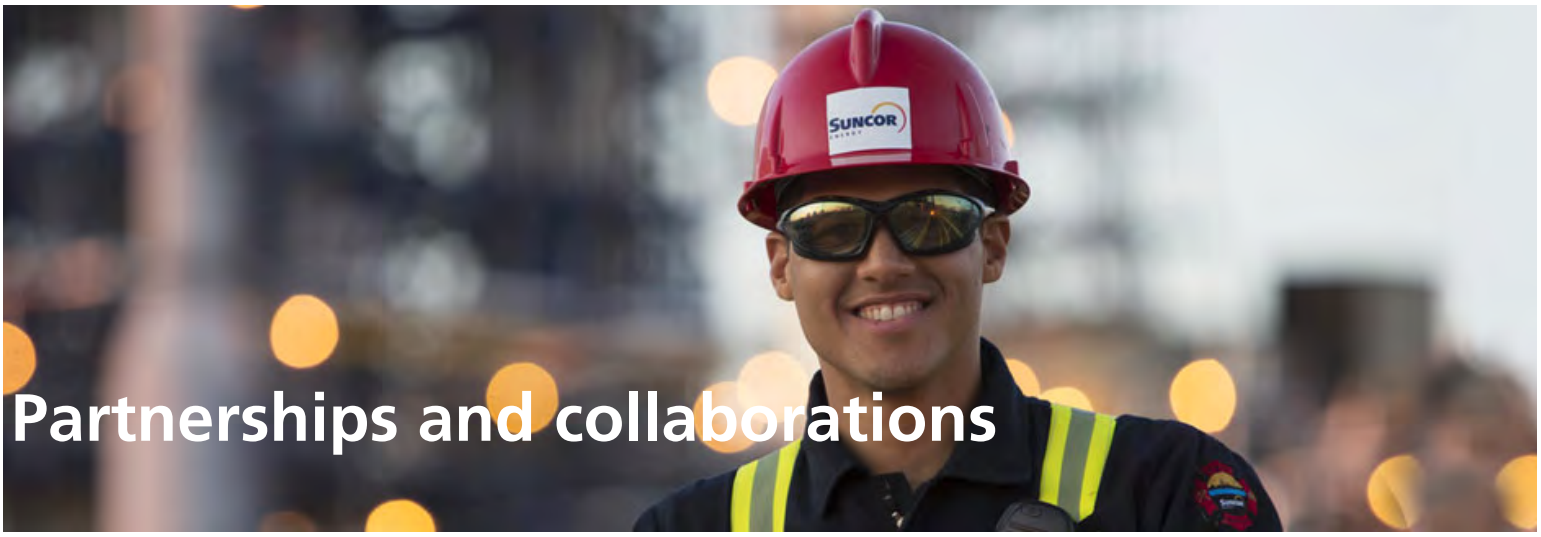
CIVITAS WEEDfree BRAND Concentrate is a revolutionary approach to broadleaf weed control. The innovative microtechnology enables the product to penetrate more effectively into broadleaf weeds, resulting in no offensive odour and significantly less active ingredients (less than 70% compared to other leading herbicide products) required to control weeds right down to the root. This hybrid selective herbicide provides effective, resourceful weed control.

CIVITAS WEEDfree BRAND Concentrate selective herbicide is available to professional lawn and landscape companies across the U.S. and Western Canada. It's also available to golf courses across Canada (pending municipal restrictions).

Learn more about Intelligro products

Learn more about CIVITAS WEEDfree BRAND Concentrate

Read more about COSIA's environmental priority areas on its website



Partnerships and collaborations

On this page:

> Conversations that will lead us to better, more responsible solutions means working with stakeholders, governments and industry partners. And while we might not always agree on everything, we do have a common goal — create energy to improve quality of life and do so in a sustainable way.

Environmental non-government organizations (ENGO) partnerships

It strikes some observers as curious that we seek out relationships with groups and individuals who are openly critical of oil sands development. The fact is ENGOs, like the companies they monitor, are not all the same.

Finding common ground

ENGOs are involved in a variety of activities on a wide range of issues. We may have disagreements on some issues and find common ground and mutual benefit by working together on other issues.

We work hard to understand and learn from ENGOs because we value their knowledge, insights and diverse perspectives.

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:

Expand all | Collapse all

The Pembina Institute

The Pembina Institute is an Alberta-based ENGO dedicated to seeking sustainable energy solutions through innovation, research, education, consulting and advocacy. Pembina has worked with us on a number of initiatives, including carbon capture and storage and life cycle value assessments for our renewable energy sector. Additionally, we consulted Pembina on the issue of low carbon fuel standards.

In 2014, the Pembina Institute facilitated and co-convened an expert panel to review and comment on Suncor's water management practices, with a specific emphasis on the Athabasca River watershed. In early 2015, Suncor and Pembina reviewed the recommendations for the expert panel.

Suncor and Pembina also worked very closely to develop the Terms of Reference for the multi-stakeholder group who were formed to review the Tailings Management Framework which is intended to manage and decrease liability and environmental risk resulting from the accumulation of fluid tailings on the landscape.

Learn more at pembina.org

Alberta Conservation Association (ACA)

The ACA delivers a wide range of projects, programs and services aimed at protecting Alberta's wildlife, fish and habitat. In 2003, the Suncor Energy Foundation entered into a unique partnership with the ACA to conserve habitat in the boreal region of northern Alberta. The initiative is designed to find sustainable ways to offset the land disturbed by our operations. Some of the conserved land will be transferred to the Alberta park system. The Suncor Energy Foundation's current commitment to ACA extends to 2016.

Learn more at ab-conservation.com

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. We have been a Ceres member company since 2007. We work 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.

Learn more at ceres.org

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.

In 2014, Suncor sponsored a BLC project to review tools, data, practices and governance structures used by Aboriginal Peoples for action planning, including Indigenous knowledge, identifying habitat, and monitoring populations and other aspects of caribou conservation.

The project goals were to:

- document existing or developing approaches to Aboriginal-led caribou action planning
- raise awareness of how Aboriginal Peoples protect caribou in Canada's Boreal region and facilitate information sharing between groups

In 2015, the BLC released its second report on Free Prior and Informed Consent (FPIC) which explored recent developments and effective roles for government, industry and Indigenous communities.

The BLC also hosted a workshop in 2015 with government, First Nations, conservation groups and industry on Regional Development and Conservation Planning. The purpose was to explore better ways and tools for achieving balanced, integrated regional solutions. The participants identified specific obstacles to the uptake of regional strategic environmental assessments as well as current opportunities in key regions of Canada's Boreal Forest.

Learn more at the Boreal Leadership Council website

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 (SEF), we have been partners with Pollution Probe since 2001, most recently supporting Energy Exchange – an entity aimed at taking the national dialogue on Canada's energy future to the next level. Pollution Probe publishes the *Energy Exchange* Magazine twice per year which promotes a systems-based understanding of energy issues among its readers. The second edition of the Energy Primer is expected to be published in spring 2016.

Learn more at pollutionprobe.org

Learn more at energy-exchange.net

Quality Urban Energy Systems of Tomorrow (QUEST)

As another SEF supported organization, QUEST is a collaborative network of stakeholders working to make Canada a leader in the design, development and implementation of integrated community energy solutions. These solutions create smart energy communities by linking energy across land use, buildings, transportation and other related infrastructure. Their Community Energy Implementation Framework is in development and will be prototyped in three test communities in Canada.

Learn more at questcanada.org

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:

Expand all | Collapse all

Wood Buffalo Environmental Association (WBEA)

WBEA is a collaboration of communities, environmental groups, industry, governments and Aboriginal stakeholders. 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.

Read more about Wood Buffalo Environmental Association

Cumulative Environmental Management Association (CEMA)

CEMA is a multi-stakeholder group that was originally created to study the cumulative environmental effects of industrial development in the Wood Buffalo region and produce guidelines and management frameworks. CEMA has developed a number of environmental management frameworks (air, land and water) that have helped to quantify environmental capacity limits.

In 2015, it was recognized that a large portion of CEMA's original mandate had been met. Industry partners were no longer obliged to participate in CEMA. In early 2016, CEMA began a strategic review.

Read more about Cumulative Environmental Management Association

Alberta Environmental Monitoring (AEMERA)

We support monitoring programs overseen by the Alberta Environmental Monitoring, Evaluation and Reporting Agency (AEMERA). AEMERA was accountable for environmental monitoring throughout Alberta and since April 2014, AEMERA had provincial responsibility for the Joint Canada-Alberta Implementation Plan for Oil Sands Monitoring.

In April 2016, the Alberta government announced that AEMERA will be disbanded. The province will retain AEMERA's independent scientific review panel, but that panel, now headed by a chief scientist, will report directly to the Alberta Environment and Parks ministry.

Read more about AEMERA

Industry collaborations

We also participate in industry organizations that work to improve the industry's environmental, social and economic performance. These organizations include:

Expand all | Collapse all

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's 13 member companies, representing 90% of oil sands production in Canada, focus on four environmental priority areas:

- tailings
- water
- land
- greenhouse gases

Additionally, monitoring was established as a fifth working group.

COSIA is taking innovation and environmental performance to the next level through a continued focus on collaboration and transparent exchange.

Learn more at cosia.ca

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 oil sands region communities 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.

Learn more at oscaalberta.ca

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 two multi-stakeholder coalitions to encourage broad dialogue on energy and resource development in Canada. Through these partnerships, we hope to encourage Canadians to learn more about the value the resource sector brings to their daily lives and the Canadian economy.

Learn more at:

- powerofcanada.ca
- resourceworks.com

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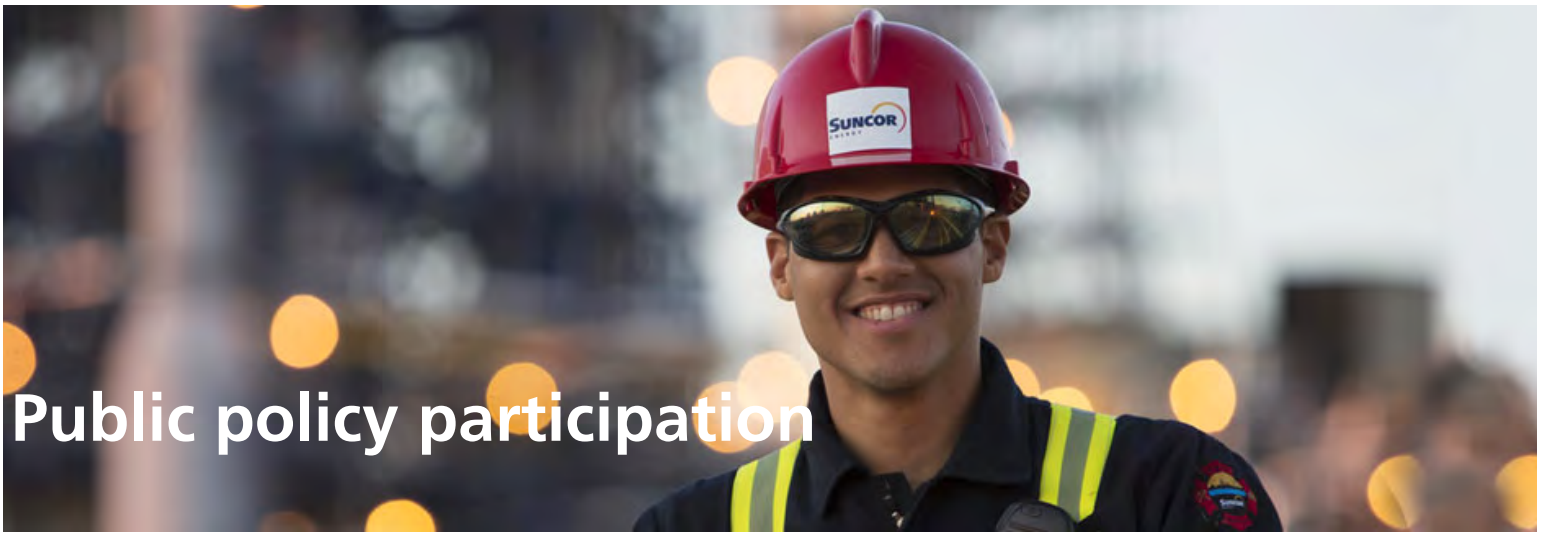

Public policy participation

On this page:

We participate in public policy discussions on energy and the environment, and regularly communicate with governments in jurisdictions where we operate. In doing so, we ensure that we comply with all political contributions and lobbying regulations, and report government interactions consistent with the law and company policies. This year, Suncor is expanding its disclosure by publishing its policy on lobbying and political donations, and listing trade associations that lobby government to which Suncor pays membership dues of greater than $50,000 and $100,000 per year.

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

Education and development of solutions are critical in our interaction with government. These activities promote responsible development of existing and new energy sources. We aim to decrease the probability of ad hoc or reactive policy development by working to reduce polarized dialogue.

Our communication with governments includes:

- applying a broad-based economy-wide carbon price
- encouraging a healthy debate about energy solutions
- understanding role of advancements in research 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

A snapshot of some of our thoughts and opinions follows:

Expand all | Collapse all

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 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 recent and proposed policy changes. The study findings are used to inform our approach to the energy systems dialogue. They also help us reflect on opportunities holistically so we can fully consider policy benefits and focus on how to incent constructive outcomes.

Market access

There are several proposals for new or expanded pipelines across the country and into the United States to take oil sands supply to markets. They face significant public scrutiny with concerns being raised about pipeline and marine safety, First Nations rights and their strong relationships to local ecosystems, and broader objections about enabling the North American economy's reliance on fossil fuels. 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, we support Environment and Climate Change Canada's (ECCC) proposed methodology for assessing the upstream greenhouse gas (GHG) emissions from projects undergoing federal environmental assessment. We believe that 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. We further believe that ECCC's proposed process is a necessary component towards advancing a credible climate and energy systems framework for integrating emissions reduction from Canada's energy developments as our industry contributes toward a lower carbon future through our continued commitment to invest in research, innovation and technology.

Read more about market access on Suncor.com

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 — such as the MacDonald Island Park expansion and the 2015 Western Canada Summer Games — continue to be an important component of our work in the region. We also participate in the Athabasca Oil Sands Area Transportation Coordinating Committee, where infrastructure needs, funding and financing options are discussed and prioritized.

Read more about community investment

Read more about Aboriginal relations

Environment policy

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. Under the Framework, seven regional plans were to be developed. The first regional plan, the LARP, was completed in 2012.

The LARP is designed to allow appropriate economic growth (primarily of oil sands) while ensuring appropriate social and environmental goals are met. The LARP includes management frameworks for:

- Air (SO_2 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. A Biodiversity Management Framework and Landscape Management Plan are under development.

LARP also includes:

- six new conservation areas increasing the total amount of conserved land in the region to two million hectares, or 22% of the region
- a plan to address infrastructure challenges around Fort McMurray
- nine new provincial recreation areas
- a commitment to engage and work with Aboriginal communities
- support for diversification of the regional economy including tourism and recreational opportunities and future development of energy, minerals, coal, surface materials, and forestry resources

The LARP provides certainty for industry for the development of the oil sands and will shape the development of the Lower Athabasca Region for many years to come.

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

Read more about water quality monitoring

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.

Part of being a sustainable energy company is recognizing that climate change is a real global challenge and that our operations have an environmental impact. We are a strong voice in the call for credible 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 spoken publicly in support of a broad based economy-wide carbon price. 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
- provides for multi-jurisdictional compliance pathways

Read more about our GHG performance

Alberta's Climate Leadership Plan

In November 2015, the Government of Alberta introduced a new carbon pricing regime as part of its Climate Leadership Plan (CLP). The CLP is informed by an independent Climate Change Advisory Panel (CCAP) formed by the government. The CLP includes a broad based economy-wide carbon price with a legislated cap on oilsands emissions of 100 MT per year. The government is expected to introduce a Carbon Competitiveness Regulation (CCR), replacing the current Specified Gas Emitters Regulation (SGER) with carbon pricing that applies to all industries announced to come into effect on January 1, 2017, at a price of $20 per tonne of carbon dioxide equivalent (tCO_2e). The price will increase to $30 per tonne in 2018. These measures are expected to cover an estimated 78-90% of the province's carbon emissions.

Suncor is proud to have worked with leading environmental organizations to better understand each other's views and recommend solutions for the oil and natural gas industry that helped inform the CLP. We believe that the CLP will provide predictability and certainty and will help ensure that producers can responsibly develop and grow Canada's oil sands resource while also addressing global concerns about climate change.

Under the CCR, large industrial emitters, like Suncor, will be required to either:

- meet performance standards that have yet to be set;
- purchase Alberta-based offset credits or;
- contribute to Alberta's Climate Change and Emissions Management Fund (CCEMF) for all emissions that exceed the performance standards

Money collected through the CCEMF is managed by the Climate Change and Emissions Management Corporation, an independent not-for-profit organization with a mandate to establish or participate in funding initiatives that reduce greenhouse gas emissions and improve Alberta's ability to adapt to climate change. In addition to the SGER, Alberta introduced a fuel tax of 0.04 cents per litre of fuel.

We believe it is important for government to link progressive carbon markets in a way that balances environmental performance, energy development and the economy.

Quebec – Cap and Trade

Quebec, with annual average GHG emissions of about 80 million tonnes, has its own target to cut emissions by 20% below 1990 levels by 2020. The Quebec cap and trade guidelines are based on those guiding the Western Climate Initiative (WCI), an economy-wide emissions trading system. The WCI partners (which also include Ontario, Manitoba, British Columbia and California) have agreed to cut GHG emissions by at least 15% below 2005 levels by 2020.

Our Montreal refinery is required to purchase carbon allowances to cover transportation emissions (the tailpipe emissions from vehicles) along with its stationary emissions under the Quebec Cap and Trade program. 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.

British Columbia – Carbon Tax

In 2008, B.C. implemented a carbon tax that covers most types of fuel use and carbon emissions. It started out with a price of $10 per tonne of carbon dioxide and has risen to $30 per tonne, which works out to about 0.07 cents per litre of fuel. The B.C. carbon tax is revenue-neutral in that the monies collected from the tax are put back into the economy through equivalent cuts to other taxes.

Ontario – Proposed Cap and Trade

The Ontario government plans to achieve their 2020 environmental goal of reducing GHG emissions to 15% below 1990 levels by limiting GHG emissions through a cap and trade system. Ontario is currently working to design and implement the WCI system currently used by Quebec and California which is expected to take effect on January 1, 2017.

We have experience in working with all forms of carbon regimes and will collaborate with the Ontario Government as it designs its cap and trade regulatory framework.

Low carbon fuel standards

We continue to monitor initiatives to establish low carbon fuel standards (LCFS), like those in California, and are involved in reporting and compliance in British Columbia.

An LCFS is designed to reduce the GHG intensity associated with the production, transport and combustion of transportation fuels. An LCFS regulation requires a percentage reduction in the intensity of GHGs emitted from the production and use of transportation fuels relative to a baseline fuel (i.e. gasoline and diesel).

What distinguishes a low carbon fuel standard from other regulations is the requirement that regulated entities conduct a full life cycle accounting (LCA) of

GHG emissions for fuels regulated under the program. Exploration, refining and distribution of transportation fuels (well-to-tank) account for approximately 20% of the total life cycle GHG emissions. The combustion of transportation fuels (tank-to-wheel) accounts for approximately 80% of total life cycle GHG emissions.

Our view is that LCA is a useful and appropriate tool for policy development and evaluating carbon reduction decisions, as well as measuring progress over time. However, when LCA is used as a basis for regulation, the need to simplify an extremely complex analysis that is specific to boundaries, assumptions, site and inherent processes diminishes its relevance and accuracy.

We advocate that the most effective place to regulate well-to-tank emissions is in the jurisdiction in which they occur. In addition, we advocate for a comprehensive transportation sector strategy that addresses each of the three areas of transportation sector emissions – vehicle efficiency, vehicle miles travelled and the carbon intensity of fuels.

Renewable energy

Renewable power policy activity

We continue to progress wind energy policy discussions. Current activities are focused on supporting efforts through the Canadian Wind Energy Association (CanWEA) and through the Independent Power Producers Association of Alberta.

In Alberta, the CLP accelerates 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 with natural gas such as from Suncor's cogeneration facilities used throughout our operations to provide reliability firm base load electricity. Renewable energy sources are proposed to comprise up to 30% of Alberta's total electricity.

Biofuel policy advocacy

Canada's renewable biofuels industry is quickly maturing and is working to improve its long-term viability as current government support programs directed at first generation biofuels decline. As opportunities arise, we will consider investing in advanced renewable energy technologies to complement the existing biofuel industry.

Read more about our renewable energy projects

National sustainable energy strategy

We continue to be a strong advocate of a national sustainable energy strategy for Canada.

Our vision of a sustainable energy future is about harnessing existing strengths, while preparing the way for new opportunities. The future is not about limiting choices; it is about expanding them. The oil sands industry can help to achieve the objectives of a national plan. The industry can mobilize capital and technical expertise, and generate the wealth needed to enable a necessary transition in our energy system.

We continue to support framing a strategy as a process rather than a prescriptive end product. There will be significant energy infrastructure development and replacement needs over the next few decades. There is a critical role for an advisory agency — perhaps similar to Canada's EcoFiscal Commission — to play in bringing deep expertise and consensus-building capability for Canada to successfully navigate the complexities of transitioning our energy system.

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Lobbying and disclosure

Membership Disclosures Proposed List (listed alphabetically)

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 benefitting shareholders, as well as all other stakeholders. Through the company's engagement activities, Suncor aims to decrease the probability of ad hoc or reactive policy development by working to achieve a balanced approach.

Suncor believes that communications with government officials (otherwise known as lobbying) Improves government decision-making through open dialogue between 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, 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 Suncor, its shareholders and other stakeholders. However, Suncor's participation as a member of these organizations comes with the understanding that Suncor 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 practice, Suncor does not engage third party (consultant) lobbyists.

As part of its commitment to enhanced transparency, Suncor is expanding its disclosure by publishing its policy on lobbying and political donations, and providing a list of organizations and trade associations that may lobby government, to which Suncor pays membership dues of greater than $50,000 and $100,000 per year.

Suncor has 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 its strong focus on sustainability, reflects its 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 Suncor is a member that may engage in lobbying of governments.

$50K - $100K

1. Canadian Chambers of Commerce
2. Canadian Council of Chief Executives (now known as the Business Council of Canada)
3. Ceres
4. Colorado Petroleum Association
5. Industrial Gas Users Association
6. International Association of Oil and Gas Producers
7. Oil Spill Response Limited
8. One Ocean
9. The Sulphur Institute
10. Resource Works

>$100K

1. American Fuel and Petrochemical Manufactures
2. Canada's Oil Sands Innovation Alliance
3. Canadian Association of Petroleum Producers (CAPP)
4. Canadian Fuels Association
5. Canadian Propane Association
6. Colorado Asphalt Pavement Association
7. Mining Association of Canada
8. Norwegian Oil and Gas Association
9. Oil Sands Safety Association
10. Sarnia & Lambton Environmental Association
11. Strathcona Industrial Association
12. World Economic Forum

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

In past years, Suncor has made minimal political donations in areas where we operate, where permitted by law. Contributions since 2011 can be found in the table below.

2011	2012	2013	2014	2015
$58,300	$80,100	$73,448	$95,595	$14,630

Effective 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.

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Market access

Canada's oil sands can make a positive contribution to meeting global energy demands and Canada's economy benefits from exports. As Canada's largest energy company and the largest producer in Alberta's oil sands, we support the development of infrastructure that opens access to new markets, including expanded connectivity to the United States.

We have an interest in all the major pipelines that are currently proposed (Energy East, Keystone XL, Northern Gateway, and TransMountain), but no single pipeline will affect Suncor's ability to execute our growth plans for the future. And because pipeline projects take several years to develop, approve and construct, it also makes sense for us to tap into rail and marine networks to transport our products.

Key 2015 highlights include:

- Enbridge's line 9 reversal was commissioned during 2015 with the first delivery of crude to Suncor's Montreal refinery in December. The reversal provides us with the flexibility to supply our Montreal refinery with a full slate of inland priced crudes.
- Suncor continues to support the Northern Gateway project, whereby 31 Aboriginal equity partnerships have been formed to date.
- Optimization of Suncor's midstream assets added approximately $2 per barrel in value to our oil sands production.
- On July 17, 2015, the Canadian premiers released the Canadian Energy Strategy. While it's not a license to build pipelines, market access received support in three of the ten focus areas of the strategy. By linking hydrocarbon pipelines with electricity transmission lines, the document contains strong support for market access, regulatory efficiency and the construction of new hydrocarbon transmission infrastructure.

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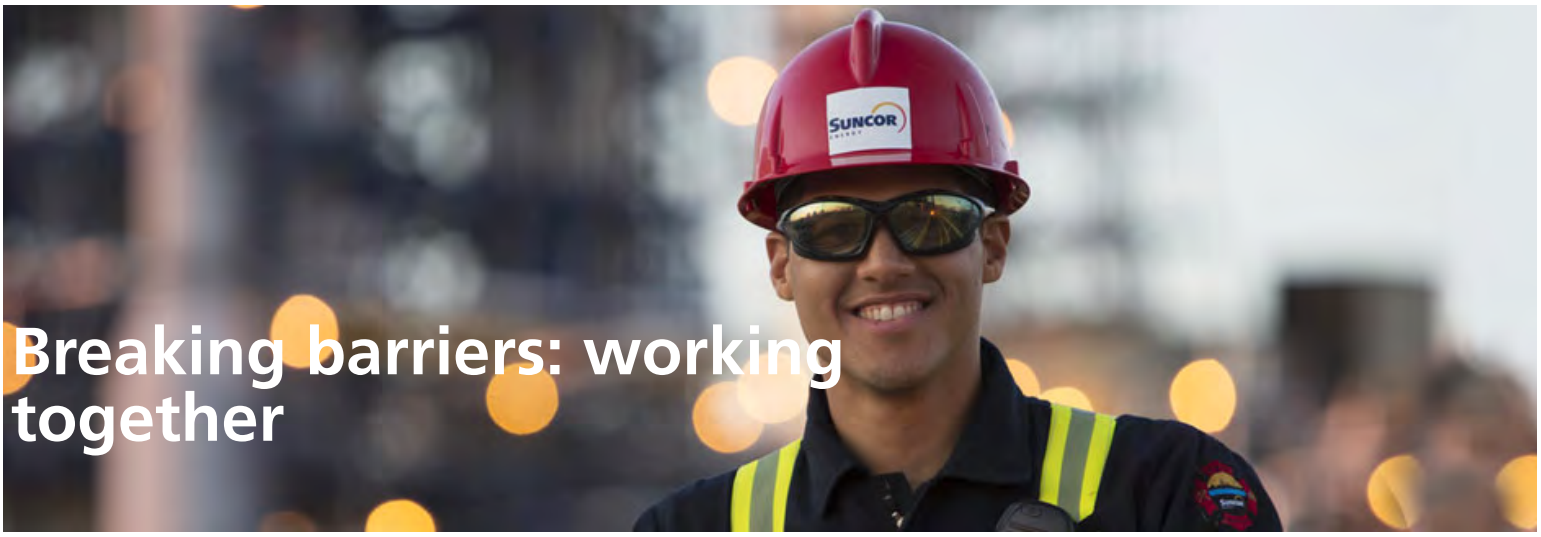

Breaking barriers: working together

Breaking barriers: how energy CEOs and environmental leaders worked together to support an historic climate change policy plan

A conversation with Arlene Strom, vice president, sustainability & communications, and Ed Whittingham, executive director, Pembina Institute

On November 22, 2015, the Alberta government announced a Climate Leadership Plan that included an economy-wide carbon pricing system and a cap on greenhouse gas (GHG) emissions from the oil sands industry. In the months leading up to that announcement, a group of energy executives and environmental activists held a series of unprecedented discussions aimed at finding common ground on addressing the climate change challenge. The consensus that emerged helped inform the government's Leadership Plan, a series of initiatives that promises to make Alberta a global leader in climate policy.

Arlene Strom and Ed Whittingham were closely involved in these discussions. We asked them to describe how the talks came about, how the participants resolved their significant differences — and how they hope to build on this momentum going forward.

Expand all | Collapse all

Where did the impetus for these discussions come from?

Ed: Think of where we were at the time. We were in a hyper-polarized environment. Polarized and paralyzed. Industry wasn't getting the progress it sought and neither were climate activists. We'd all been butting heads for years and nothing was getting done. We thought if we could get energy CEOs and environmental leaders into the same room, we might just have a chance at breaking this impasse.

Arlene: One thing that was clearly different about these discussions is that the CEOs and top executives of five major companies [Canadian Natural Resources Limited, Cenovus, ConocoPhillips, Shell and Suncor] were involved from start to finish. They operated from a position of leadership and were determined to have a different kind of conversation.

Ed: That's why I was willing to invest time and resources on these discussions. By my count, I've been part of 14 different "peace-in-our-time" dialogues on climate and energy policy related to the oil sands. This is the only one that had CEO representation. I knew I could make decisions on behalf of Pembina and that someone like [Suncor CEO] Steve Williams could do the same. So maybe there was a way to break the logjam.

What were those initial discussions like?

Arlene: The mood was surprisingly positive, but it really was a journey of exploration. We were trying to understand each other a little better. And we discovered we did have things in common. We all wanted a better future for our kids. We all knew climate change had to be addressed. We had to start with the basics.

Ed: The first meeting took place over dinner at an Italian restaurant. With these first conversations, it was about earning the right to have another conversation. I had the benefit of meeting most, if not all, of those CEOs before. Some of my colleagues [other initial participants included ForestEthics and Environmental Defence] had not. So part of it is just a case of demystification. Who are these oil and gas executives? Do they sit around a big oak table as arch-capitalists and talk about their cabal? Well, no; they are real human beings. Moreover, they exceeded expectations in terms of progressive positions on climate change. They didn't see it as a hoax, but as a real issue. So with that first meeting, and every subsequent one, a certain level of trust began to build. And that was absolutely critical, especially when we got to the 11th hour of our discussions.

When did you start to realize you could find common ground?

Ed: I remember saying early on that, while we had a lot of issues regarding the oil sands, the crux of these talks had to be about the industry's overall GHG footprint—and that meant putting a cap on emissions. I put that on the table and was surprised I wasn't laughed out of the room. I began to realize that the notion of dealing with the overall GHG footprint was not beyond the realm of possibility.

Arlene: That really was a breakthrough. It started to become clear that, if we were going to agree on a carbon pricing framework, we'd have to address emissions. And I admit my initial gut reaction was there was no way could ever accept putting limits on our resource basin. But as you peel back the layers, you start to realize that, if we are truly going to address climate change, we have to contain emissions growth and, at some point, our absolute emissions need to start bending downward. And that a limit on emissions is an expression of our faith in technology and innovation.

What were some other turning points?

Ed: We made a lot of important progress on methane emissions. About 25% of global warming is due to methane and so we made it clear any pact had to include a methane reduction target. And after much back and forth, what we achieved was a very ambitious target. This set the template for what the Alberta government adopted in November, targeting a 45% reduction in methane emissions by 2025. This, in turn, became the template for action plans by the British Columbia, Canadian and United States governments. You can trace a direct line back to the conversations we had in 2015 for what is now Canada/U.S. policy and what could soon be continental policy if Mexico comes onboard. So full kudos to industry for taking this one on.

Arlene: The discussion over methane is a really good example of the give-and-take that had to occur just on the industry side during these talks. As polarized as things were between industry and environmentalists, there were a lot of competing interests within industry. We also had to learn to trust each other and we had some very difficult conversations to get to alignment. On methane, we had to be sensitive to the concerns of those on the conventional energy side who would be affected by methane reduction targets much more than Suncor. But it was a real opportunity and a very important issue for Ed and his colleagues.

While these talks proceeded, Alberta's newly elected NDP government was developing its own climate change strategy through a public consultation process led by University of Alberta economist Andrew Leach. At what point did the two processes intersect?

Arlene: What's important to understand is that none of this took place in a vacuum. Our discussions began even before the May 2015 provincial election. But the momentum intensified with the election of new governments in Alberta and federally, both with declared ambitions in this area. And then there was the prospect of the U.N. climate change summit in Paris in December. There were a lot of things happening that created an opportunity for this discussion at that particular time. And there was a real sense of seizing the moment.

Ed: In terms of the Leach panel, environmental groups and individual companies made their own separate public submissions. But there was a point where we quietly let the Alberta government and Dr. Leach know about the kind of discussions we were having and, especially during the important last couple of weeks, they sought us out. It's clear our discussions had a significant impact on the policies announced, particularly on the GHG emissions cap and the methane reduction targets.

On November 22, 2015 a lot of observers were surprised to see Premier Rachel Notley announce a bold climate change strategy and to be flanked on stage not only by environmental leaders but four energy company CEOs. How did each of you feel that day?

Ed: It really was a historic tableau. What you had was a major energy producing jurisdiction announcing world-leading climate change policies and doing so with the backing of both industry and environmental leaders. It was unprecedented.

Arlene: It really was an amazing day. I was standing to the left of the stage, about three metres from Premier Notley. I grew up in Alberta and for me it was an emotional moment to think of what had been accomplished by working together towards a shared vision. I will not soon forget that day.

Some environmentalists were critical that, under the Leadership Plan, absolute GHG emissions from the oil sands will continue to rise for several years. Meanwhile, some industry people accused the companies of doing an end run. How do you each...

...respond to those criticisms?

Arlene: The emissions limit represented a compromise on all sides and you saw that play out after the Leadership Plan announcement. Some of our colleagues thought the limit was unnecessary and inappropriate. At the same time, some of Ed's colleagues said it allowed for too much growth. Was it perfect that we didn't hold these discussions with 15 or 25 companies at the table? Probably not. But if we were actually going to achieve a breakthrough, we knew we had to take some risk and create a safe space where we could have candid conversations, build trust and resolve longstanding disagreements. And, by definition, that can't be done with 50 people in the room.

Ed: It was interesting to get back together in a room a few months later and compare scars. We both got called traitors. The fact both communities came back with those kinds of accusations says to me we got it right. For those detractors, especially on the environmental side, I would say this: show me another example globally where you've got a major pool of carbon (oil, gas and coal) and there is now this level of certainty on upstream emissions and we have a path towards reducing emissions on an absolute basis. It doesn't exist anywhere else.

What are the biggest lessons each of you took from this experience?

Ed: The importance of trust. Also, the importance of having a catalyst, which was this policy window we knew would only be open for a certain time before slamming shut again. And the great Canadian tradition of being willing to try to see it from the other person's side and engage in constructive "no regrets" discussions. Finally, there was the willingness to commit to a process without knowing what the outcome would be. There were times when I thought we

were going to lose faith. But I know now that, if you fully commit to a process, you can end up with some great results.

Arlene: I totally agree with that. When it was darkest and you thought we'd never agree on what good climate policy looks like, the answer was to go back to the table and try again. Peel back another layer and throw out potential solutions, even if you don't know if they will work. Also, I learned about the importance of directional leadership, which was demonstrated by all the CEOs and the environmental leaders. They showed sometimes you have to take risks and that doing nothing is not an option.

How do you see building on the momentum generated by this unique collaboration?

Ed: We still have years of work ahead of us to take the policy that was announced in November 2015 and turn it into regulations that work. So we are continuing to work amongst ourselves and with government to take this really ambitious package and implement it. I also think we've already served as a positive example for other jurisdictions and there are lots of opportunities to have a multiplier effect well beyond Alberta's borders.

Arlene: I think we've achieved something really remarkable, but Ed is right: there's a lot of work on the path forward. One of the things that gives me optimism is the trust that's been built and the muscle memory we can now apply to the next set of problems. We have seen a shift in the energy and climate debate, but there's still a lot to do to minimize the level of polarization and conflict. I think we are up for it. So stay tuned.

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Goals and progress

On this page:

> Seven years ago, we set an industry precedent by adopting a series of strategic environmental performance goals on water consumption, reclamation of disturbed lands, energy efficiency and air emissions. These goals, which had a baseline year of 2007, matured at the end of 2015.

We are excited to say that we met environmental performance goals on reducing water use and air emissions, increasing reclamation and came very close to meeting our goal on energy efficiency. To ensure we continue to improve on our sustainability performance, we've set two new goals: one focused on climate change and, for the first time, a social goal focused on strengthening our relationships with Canada's Aboriginal Peoples. We are working towards setting a new long-term goal to extend our commitment to water conservation.

Expand all | Collapse all

Environmental Performance Goal: Reduce fresh water consumption by 12% by 2015*

Results: we reduced our fresh water consumption by 27%

Fresh water is a key resource for our business and it is also of critical importance to our stakeholders, communities and employees. Our biggest draw on fresh water resources is our oil sands operations so we set an oil sands water strategy to reduce water use by using less water, recycling wastewater and returning clean water to the environment.

We are pleased to report that we exceeded our water goal. Our water consumption (the amount of fresh water withdrawn minus the amount of water returned to the environment) is 27% lower than our 2007 usage. The goal was to lower the water consumption by 12%. This was achieved while pursuing our growth strategy which saw our production significantly increase over the same time period.

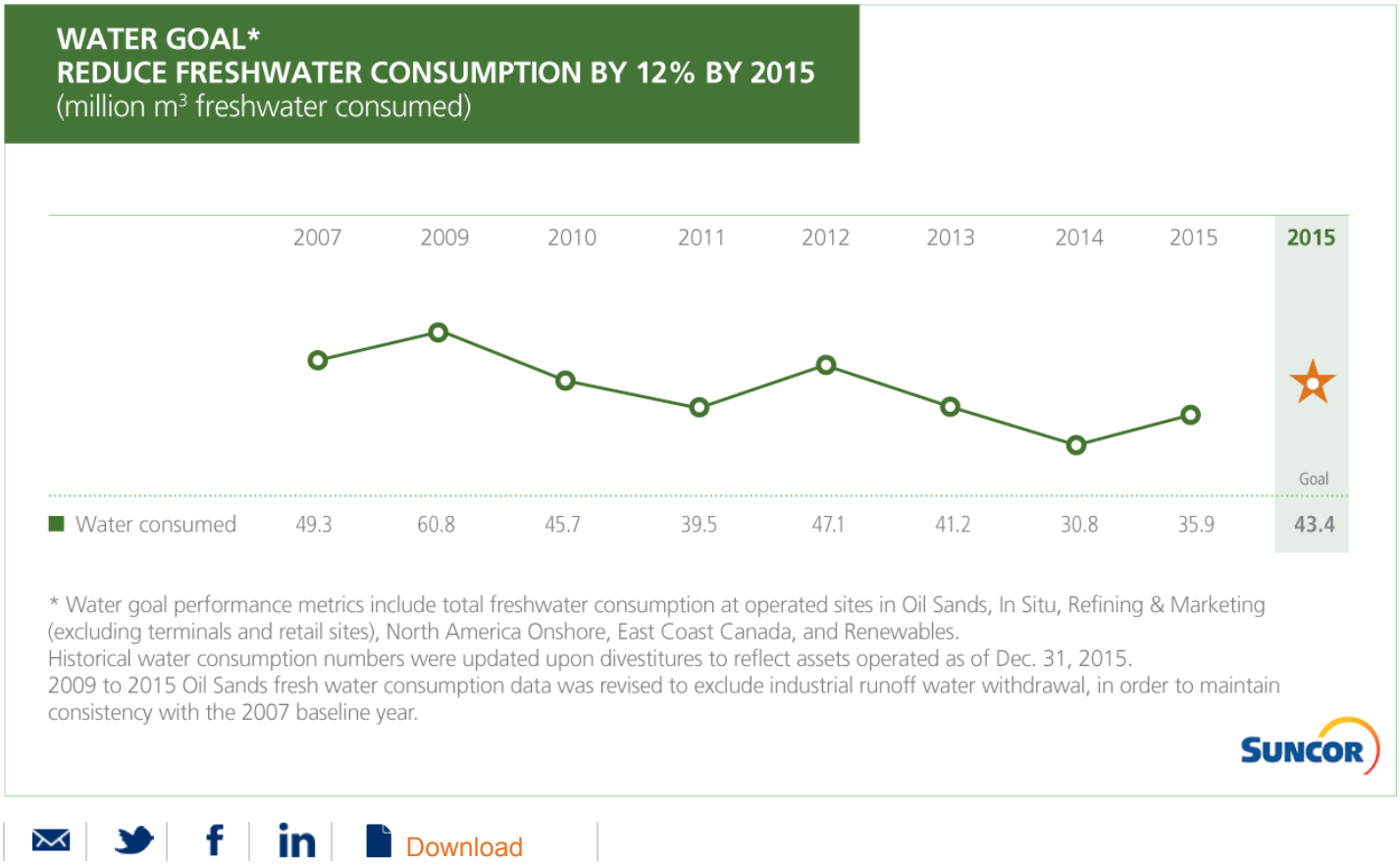
A number of initiatives progressed during the lifetime of this environmental performance goal leading to reduced fresh water consumption including:

- Starting in 2013, we began sending tailings water from base plant to Firebag as well as to other oil sands producers for in situ make up water
- In 2014, the $190 million oil sands waste water treatment facility became operational recycling more than 22,550 litres of water per minute.

We are proud of this achievement but it's important for us to continuously develop more effective and efficient uses and recycling initiatives across our operations, particularly with Fort Hills becoming operational in late 2017. We also see opportunities to focus our efforts on water management practices across our downstream businesses.

As we continue to advance our water management strategy, Suncor will share the lessons learned with our industry peers through Canada's Oil Sands Innovation Alliance (COSIA). Additionally, we will continue to collaborate with, and learn from, our industry peers. By doing so, we are confident we can help reduce the regional net effect of water use throughout the oil sands region and our downstream operations.

Find out more about our efforts to reduce fresh water consumption in our operations



* The base year for the planned improvements was 2007. The goals were established in 2009.

Read more about water

Environmental Performance Goal: Increase reclamation of disturbed land

area by 100% by 2015*

Results: we increased reclamation of disturbed land by 176%

Wherever our developments disturb land we pursue progressive reclamation efforts, including reclaiming tailings ponds. Our largest land impacts are in our oil sands operations so our efforts focused there.

Land reclamation takes place once the disturbed land is no longer part of active operations. We targeted a 100% increase in land area reclaimed* by 2015 (as compared to 2007), but surpassed our target by reclaiming 3730 ha of oil sands in situ and mine disturbed lands or achieving a 176% increase relative to the 2007 baseline.

This was accomplished by developing and executing new technologies and more aggressive reclamation plans, including;

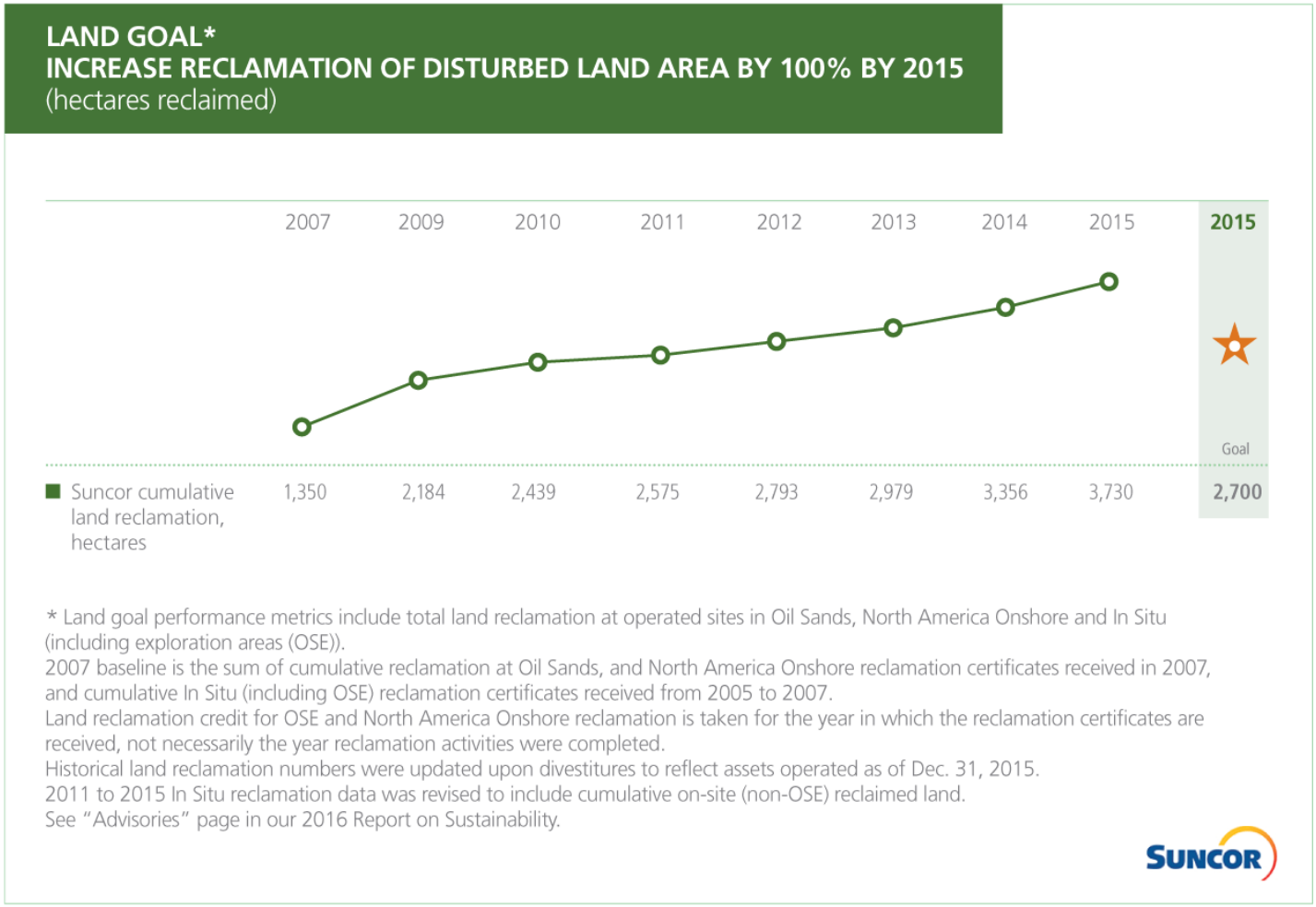
- Focused reclamation of historical oil sands (in-situ) exploration footprint
- In 2010, Suncor became the first oil sands company to reclaim a tailings pond supporting a mixed wood forest, a network of streams and a marsh wetland;
- In 2013, Suncor became one of the first companies in the world to complete reconstruction of a fen peatland watershed.
- From start of our oil sands mining operations to the end of 2015, Suncor had planted more than 7.9 million trees, shrubs and aquatic plants on our oil sands site – including 692,808 trees in the previous year alone.

Read more about our oil sands reclamation efforts

While Suncor continues to be focused on accelerating reclamation pace, biodiversity conservation also remained top of mind. We also worked with Aboriginal communities to incorporate culturally-significant plants and species into our reclamation plans.

As Suncor strives to be a trusted steward of natural resources, we continue working to conserve biodiversity and to accelerate the rate at which we reclaim lands disturbed by our operations.

Read more about our biodiversity plans here



* The base year for the planned improvements was 2007. The goals were established in 2009.

Environmental Performance Goal: Improve energy efficiency by 10% by 2015*

Results: we improved our energy efficiency by 9%

Suncor is committed to energy management and continuously improving greenhouse gas (GHG) emissions reductions as part of everyday operational excellence.

We set an ambitious goal of achieving a 10% improvement in energy efficiency by 2015. This target required each of our business units to reduce their energy intensity by approximately 10% as compared to their energy intensity in the 2007 baseline year.

Since that time, our growth strategy has introduced additional in situ projects with higher energy intensities relative to the rest of our business. The energy intensity of our operations varies significantly according to asset mix, extraction technology and product portfolio. The 2009 merger with Petro-Canada also introduced a broader base of assets, including offshore production, into our portfolio. Offshore production has relatively low energy intensity at peak production but our assets have seen an increase in energy intensity as our wells mature and reach depletion which requires more energy for extraction.

These changes added to the challenge in achieving the energy efficiency goal. To reflect this reality, we developed a complementary longer-term energy intensity goal during the course of our environmental performance goal. The 2015 energy efficiency environmental performance goal refers to operating our existing assets as efficiently as possible. The longer-term energy intensity goal reflects a desire to reduce the inherent amount of energy needed to produce our resources, regardless of the type of resource being developed. What we learned from both these short and long-term efficiency goals will be applied to our new GHG goal.

As shown in the graph below, we came within 1% of achieving our 2015 energy efficiency target reaching an overall company-wide energy intensity of 5.06 GJ/m^3 against our 2015 target of 5.01 GJ/m^3. The progress made in reducing the energy intensity of each business unit is reflected in the historical data trends where we have been able to reduce our company-wide energy intensity close to 2011 levels despite adding a significant amount of higher intensity oil sands and in situ operations since then.

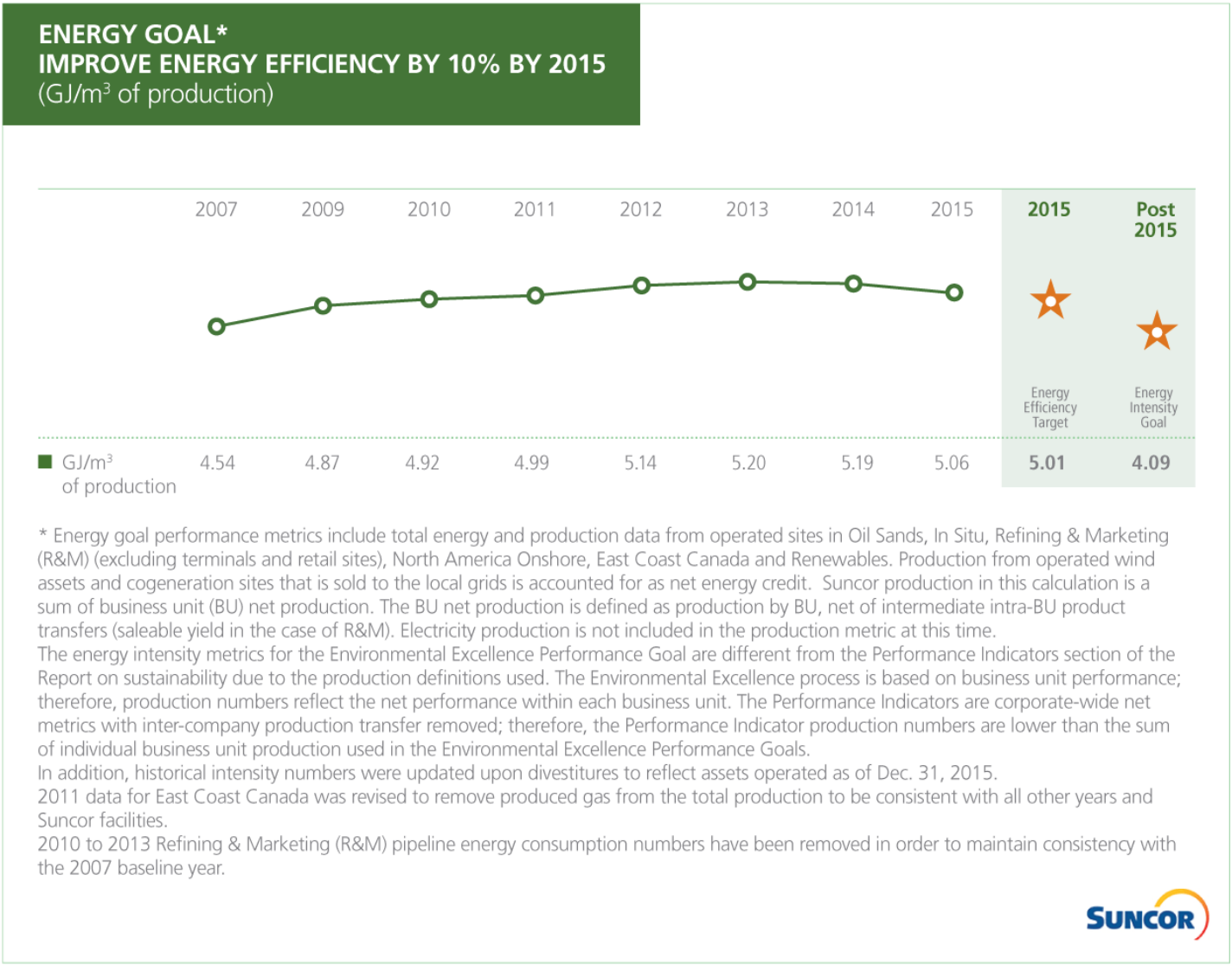
A number of initiatives progressed during the lifetime of this environmental performance goal leading to improved energy efficiencies including:

- Our in situ assets, Firebag and MacKay River, have continually shown decreases in energy intensity since 2012, which was the beginning of Firebag's expansion phases 3 and 4. As these operations have matured, Firebag has been able to realize lower steam-to-oil levels as a result of optimized reservoir strategies and strong infill well performance.
- Greening the electricity grid with power generated by our cogeneration facilities (a highly efficient technology used to generate electricity from what would otherwise be waste heat). We use this power for our own operations and sell excess electricity to the grid, lowering provincial emissions.
- Increased reliability and utilization in our oil sands operations over the last three years.
- Implementation of Suncor's Energy Management System (EMS) at our refineries, lubricants and oil sands facilities have resulted in energy savings between 2% and 3% energy savings. The energy management teams formed to support the EMS work also help identify and execute cost-effective energy efficiency project opportunities, resulting in an additional energy savings in the range of 3% to 5%.

The progress made over the last seven years is significant, despite being within 1% of achieving the goal, and has now become an interim step for delivering measurable progress toward our ultimate goal of reducing our overall company-wide energy intensity.

Read more about our future sustainability goals and our new GHG goal here

Please note: The energy intensity metrics used to support this environmental performance goal are different from those found in the Performance Indicators section of this report due to the production definitions used. The environmental performance goal process is based on business unit performance; therefore, the production numbers reflect the net performance within each business unit. The performance indicators are corporate-wide net metrics; therefore, the performance indicator net production numbers are lower than the sum of individual business unit production used in the environmental performance goals due to intra-business unit.



* The base year for the planned improvements was 2007. The goals were established in 2009.

Environmental Performance Goal: Reduce air emissions by 10% by 2015*

Results: We reduced our air emissions by 36%

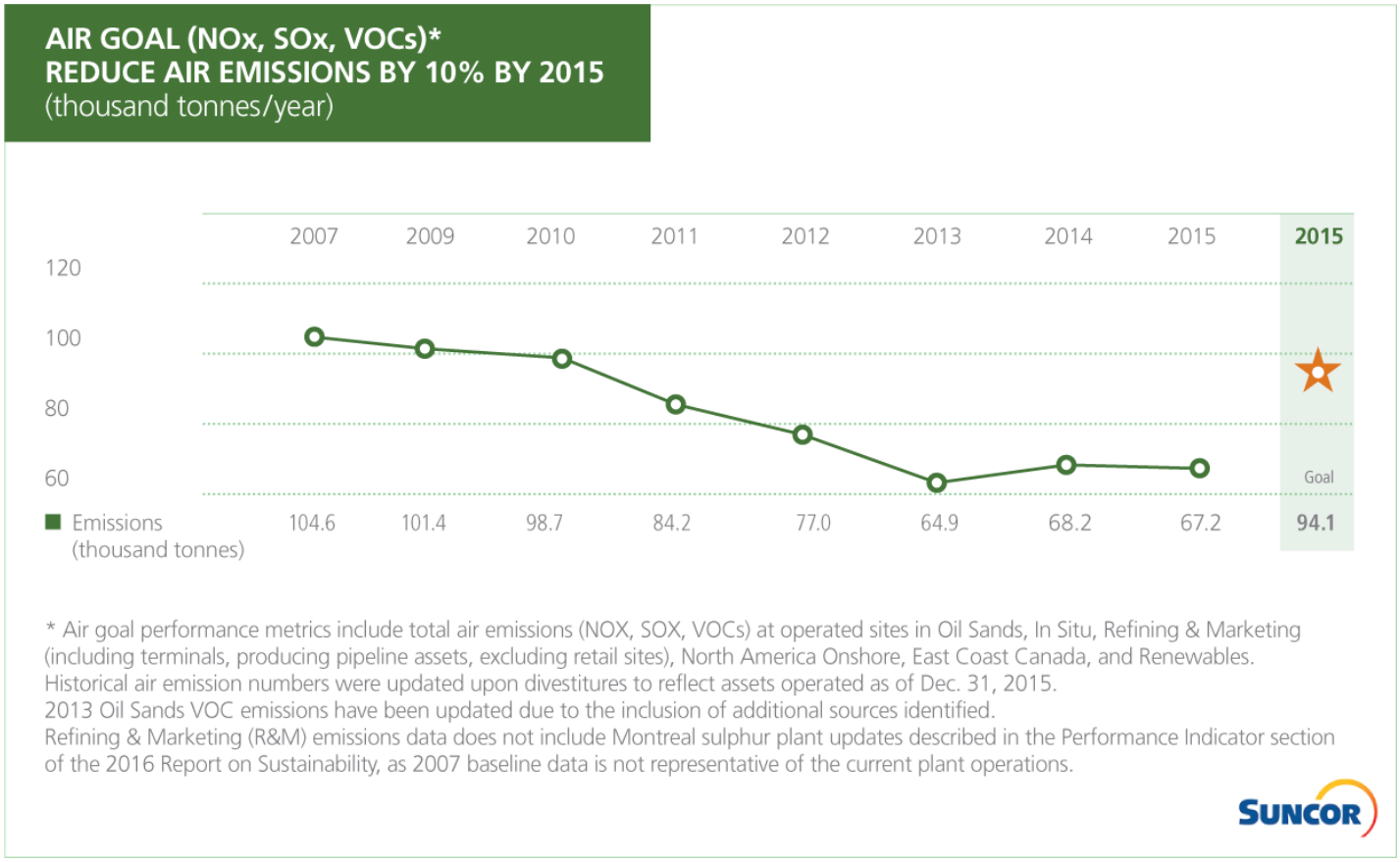
We are committed to maintaining and improving air quality near our operations and preserving healthy ecosystems through investments in technology and promoting continuous improvement of our operations.

In 2009, we established a very challenging goal to reduce our absolute air emissions (nitrogen oxides, sulphur dioxide and volatile organic compounds) by 10% while growing our oil sands mining and in situ assets. This target required each of our business areas to focus on reducing air emissions through improved reliability of our operations and equipment upgrades while maintaining our growth strategy. An increase in production typically means higher air emissions, making absolute reductions more difficult with growth plans.

We are pleased to report that we achieved an overall reduction of total air emissions of 36% compared to our baseline from 2007.

Through a number of operational improvements during the lifetime of our environmental performance goal, we were successful at exceeding our target and significantly reducing air emissions at most of our facilities including the following initiatives:

- Installation of the hydrocarbon blanket gas and recovery system on Terra Nova resulted in a 95% reduction in volatie organic compounds (VOCs) and an overall 70% reduction in total air emissions
- Our refineries saw a 26% overall reduction in air emissions including significant reductions in nitrogen oxides ($NO_{x)}$, sulphur dioxide ($SO_{2)}$ and VOC reductions at our Montreal and Commerce City refineries
- Nearly 50% reductions of SO_2 emissions at our oil sands Base Plant due to improved reliability, decreased flaring, and completion of the Millennium Naptha Unit hydro treated make-up diluent project



* The base year for the planned improvements was 2007. The goals were established in 2009.

Learn more about air

Our new sustainability goals

Energy is fundamental to every aspect of our lives; we use it to move, to grow food, to heat, to manufacture, to illuminate. But along with energy creation comes the real and serious threat of climate change, the impacts on our environment, global economy, and local communities. These require pragmatic and practical approaches and the need for innovation and ingenuity beyond anything we know today.

Suncor's new sustainability goals respond to these needs and acknowledge that we need to continue to evolve and manage our business for the long term by continually improving our environmental, social and economic performance. They focus on strengthening our relationships with the Aboriginal Peoples of Canada, reducing our greenhouse gas (GHG) emissions intensity, and conserving water.

The goals, which have a baseline year of 2014, provide us with guide posts to drive performance improvement far beyond our current capabilities so we can contribute as constructively as possible to the world we all share.

2016 is a planning year for our businesses to develop plans to progress the goals in their areas. We will begin reporting on our progress towards achieving these goals in our 2017 Report on Sustainability.

Strengthening our relationships with the Aboriginal Peoples of Canada

We know Aboriginal Peoples want to play a larger role in how energy is developed – right from the project concept through to reclaiming the land back to its original state. Our long-term social goal (to 2025 and beyond) recognizes this, and focuses on strengthening our relationships with Aboriginal Peoples in Canada. It reflects our commitment to change the way we think and act, and outlines four areas where we can work together to advance greater involvement:

- Strengthening relationships between Aboriginal Peoples and all Canadians, starting within Suncor.
- Partnering with Aboriginal youth to develop their leadership potential through meaningful connections within and outside of Suncor.
- Significantly improving our Aboriginal workforce development at Suncor through focused efforts on hiring, retention and advancement of Aboriginal employees across our business.
- And, increasing revenues to Aboriginal businesses and communities through mutually beneficial marketing arrangements and procurements of materials and services.

Reducing our GHG intensity

> We share in the global challenge to tackle climate change head on by reducing emissions, while providing energy the world needs. 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 emission intensity of the production of our oil and petroleum products by 30% by 2030, through focused efforts in these areas:

- Continue to drive energy efficiency at all of our facilities, and switching to lower-carbon fuels, such as natural gas.
- Develop and pilot technology to fundamentally change how we extract bitumen and optimize downstream processing.
- Participate in greening the electricity grid towards a lower-carbon future by investing in cogeneration at our facilities and renewable energy. Our goal will also drive us to seek and evaluate new business opportunities in the evolving future energy system.

Suncor's vision to *create energy for a better world* demands that we play our part in tackling this challenge. As a contributor to climate change, we must go beyond today's capabilities and technologies, so we can make a real difference for our future.

Looking ahead: Water conservation

Responsible energy development means balancing our environmental impact with our growth strategy. Based on what we learned from our 2015 water goal and building on the success of our water management strategy, we will be developing a new long term water goal. This goal will reflect our water requirements with the need to maintain a clean, safe and plentiful supply of this important natural resource for current and future generations.

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Operational issues 2015 – 2016

On this page:

> Safe, reliable, environmentally and socially responsible operations are integral to our success. The following are brief descriptions of incidents that occurred between June 2015 and June 2016.

Incidents impacting operations

Temporary production shutdowns at Terra Nova

On August 7, 2015 we completed a precautionary controlled manual shutdown of the offshore Terra Nova facility following a loss of communication between the electronic control system screens, which monitor valves between the subsea equipment and the swivel.

On October 2, 2015 we initiated a controlled and voluntary shutdown of the offshore Terra Nova facility to more fully complete an investigation into operational issues. Operational issues included a methanol release, hydrocarbon gas release, a hydraulic issue and a flame onboard the floating production storage and offloading (FPSO). Each of these issues was reported to the appropriate regulatory authorities.

Regional Municipality of Wood Buffalo (RMWB) Forest Fires

Early in May 2016, as a result of the forest fires in the RMWB area, Suncor safely moved over 10,000 people, including employees, their families and Fort McMurray residents, out of the RMWB region; shut down its RMWB operations in a controlled manner and worked with government to enhance fire protection measures.

On June 6, 2016 Suncor confirmed it was ramping up production in a staged manner to bring oil sands production back to normal rates. There was no damage to Suncor's assets as a result of the fires. Working with government and the region Suncor safely returned thousands of people to work and

restarted operations in a safe manner.

Third-party incidents impacting operations

Worker injuries during construction of Cedar Point II Wind Farm

On both July 21, 2015 and August 28, 2015, our contractor AMEC regretfully reported employee injuries during the construction of the Cedar Point II wind farm in Forest, Ont. In each instance, the Ministry of Labour was contacted and completed an investigation.

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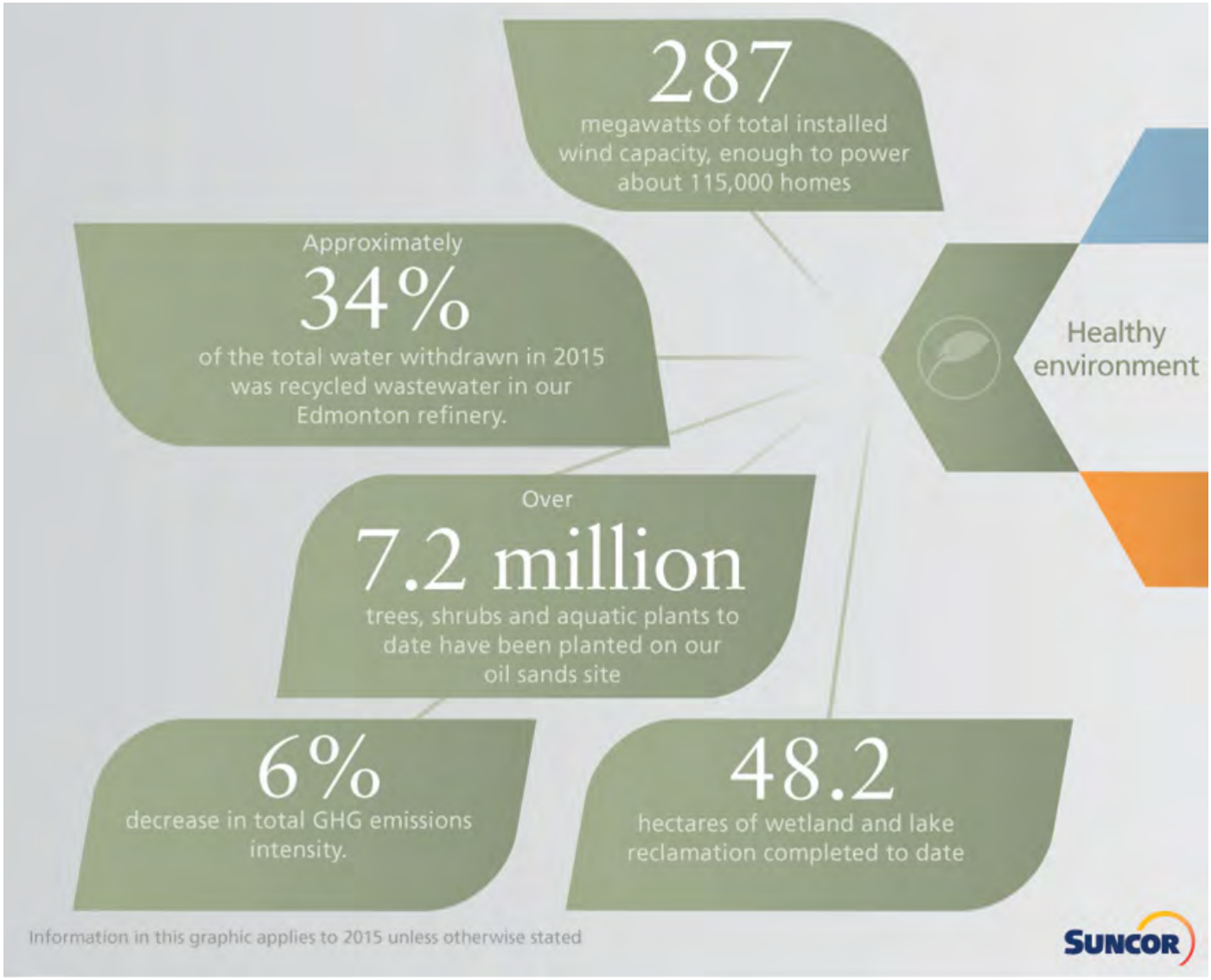
Environment



Download

We know that energy development has an impact. And as we work to responsibly develop the energy the world needs, we have to think about:

- air quality
- how much water we're using
- our energy efficiency and how we can reduce greenhouse gas emissions
- the land we leave behind when we're done

To preserve a healthy environment, it's crucial we find balance and a better way to get things done. What follows is a snapshot of our management approach to the environmental issues we face, at both the global and local level.

Expand all | Collapse all

Our strategy

At the core, our corporate mission 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.

One of the pillars of our corporate strategy is to be an industry leader in sustainable development by continued performance improvements in air emissions, water withdrawals, land reclamation and energy efficiency.

Read more about our vision and strategy

Through a bold pursuit of technology, innovation and operational excellence, we work to achieve or exceed performance levels governed by legislation and by evolving environmental, social and economic expectations of our stakeholders.

We use our Operational Excellence Management System (OEMS) to consistently and effectively identify, avoid and/or mitigate operational risks, environmental impacts, and regulatory non-compliance to deliver safe and reliable operations.

Read more about our Operational Excellence Management System

Policy

Supporting our mission and strategy is our Environment, Health & Safety (EHS) policy, which is built on our values and underpins our commitment to environment, health and safety.

Our EHS policy statement is: We are committed to a culture of operational discipline which is foundational in achieving safety, environmental and health and wellness excellence.

We believe that:

- all incidents can be prevented
- to work here, you must be committed to working safely
- environmentally responsible operations are essential for our success
- leadership is accountable for EHS performance
- we deliver on our commitments
- our Operational Excellence Management System (OEMS) enables EHS excellence

The vice president of environment, health and safety is responsible for integrating EHS components of our OEMS and EHS performance measures across our operation.

The business and functional unit senior vice presidents and vice presidents are directly responsible for implementation of policies and practices.

Regulations and policies regarding energy and emissions

We are active participants in public policy discussions on energy and the environment, and regularly communicate with governments in the jurisdictions where we operate. We operate in many jurisdictions that have regulated or have proposed to regulate energy, greenhouse gas (GHG) emissions, water, land and biodiversity.

Read more about our public policy participation and specific regulations and policies on energy and emissions

We assess the ecosystems services and biodiversity as part of regulatory applications and approval conditions, as required. Biodiversity baseline surveys and protection measures are incorporated into management and operating procedures for exploration and new development throughout the project lifecycle. Risks from indirect impacts on biodiversity are addressed before starting new operations or changing existing ones. We have used conservation offsets for both regulatory and voluntary purposes in a number of jurisdictions.

Read more about biodiversity and offsets

Commitments

Our Environment, Health & Safety (EHS) policy recognizes that environmentally responsible operations are essential to our success and serves as our statement of intent for managing and minimizing all impacts on the environment.

Download our EHS Policy Statement (PDF, 1 pp. 157 KB)

Goals, targets and actions

Six years ago, Suncor stepped out of the industry pack by setting four ambitious environmental goals for our organization. We did not know how we were going to achieve those goals, but simply setting them put us on the path towards environmental excellence. Today, we are working towards a systematic process to continually challenge ourselves to do better and to demonstrate our environmental leadership.

Each goal relates to a significant aspect of our environmental performance and was identified as a priority measure to address:

- business and environmental risk
- concerns expressed by stakeholders
- a means to further our commitment to environmental sustainability

To ensure appropriate stewardship of these goals, we developed an Environmental Excellence Plan (EEP). EEP is a business planning process that aligns environmental initiatives to the corporate goals with the aim of accelerating the company's environmental performance over time.

The EEP process involves collaboration between a corporate environmental excellence (EE) team, the business units, and internal leadership teams to enable the development and implementation of environmental initiatives across the company.

Enacted annually, the EEP is an integral part of the business planning cycle reinforcing the principle of integrated environmental progress and business performance that underpins Suncor's environmental sustainability strategy.

Each of the business units develops and submits an environmental plan to the corporate EE team, which lists capital projects and operational initiatives that support the strategic environmental goals and projections of performance in each of the goal areas.

The corporate EE team consolidates and prioritizes company-wide environmental projects and initiatives. This stage of the process is, in many respects, the heart of EEP. It provides a broad and transparent view of the company's projected performance against its environmental goals, and insight into the impact and relative value of the possible projects and initiatives aligned with those goals.

With this information, insights can be developed about where resources should be focused, which initiatives should be highlighted as being particularly impactful, and where there are opportunities for leverage or synergies across business units.

We also have an internal corporate environmental excellence fund that provides seed funding to the business units to encourage development of initial scoping studies of environmental ideas and initiatives.

In 2015, the focus of EEP was to complete the project development to meet our environmental performance goals. We are excited to say that we met environmental performance goals on reducing water use and air emissions, increasing reclamation and came very close to meeting our goal on energy efficiency.

Read more about our progress to our current goals and future goals

Responsibilities, resources and training

The Environment, Health, Safety and Sustainable Development Committee of the Board of Directors meets quarterly to review our effectiveness in meeting our environmental obligations. They also review our effectiveness in establishing appropriate EHS policies.

Download our Environment, Health, Safety and Sustainable Development Committee Mandate (PDF, 3 pp., 31 KB)

Our leadership is ultimately accountable for our environmental performance, and responsible for ensuring employees under their direction have the competencies, knowledge, tools, and resources to work in an environmentally responsible manner. We also conduct workshops and training sessions throughout the year as warranted.

Resources which help us execute our management strategies span several internal centres of expertise including:

- **Environment, Health, Safety (EHS)** — integrates EHS components of our Operational Excellence Management Systems (OEMS) and EHS performance measures for our operations. The business and functional unit senior vice presidents and vice presidents are directly responsible for policies and practices implementation. Environment, health and safety professionals directly support all parts of the business to implement EHS policies and practices and ensure learnings and best practices are shared across the business and functional units.
- **Sustainability** — identifies risks and opportunities to our social licence to operate and grow our business and develop a sustainability strategy. This includes:
    - developing corporate sustainability goals and stewarding their performance with the business units and stakeholders
    - non-government organizations outreach and engagement
    - advocating for sound energy and environmental policy
    - developing and stewarding Suncor's community investment strategy
- **Enterprise Technical Services** — drives operational and environmental business performance improvement across the enterprise.
- **Government Relations** — promotes and enhances strategic relations with all levels of government and informs government about industry and Suncor-specific energy development challenges.

Evaluation

Monitoring

We conduct Operational Excellence Management System (OEMS) and compliance self-assessments annually to assess our internal management approach. We participate in external benchmarks and performance ratings to compare our approach to our peers and we seek out diverse opinions that are different from us to change our thinking.

Read more about external benchmarks and performance ratings

Conversations that will lead us to better, more responsible solutions mean working with stakeholders, governments and industry partners. And while we might not always agree on everything, we do have a common goal – create energy to improve quality of life and do so sustainably.

We seek direct feedback from our external stakeholders and incorporate any findings into our management plans.

Read more about partnerships and collaborations

Results

Our environmental performance for 2015 is reported in the performance data section and year-over-year trends are provided, where possible.

Read more about our progress toward 2015 environmental performance targets

What are we doing differently

We're working hard to address global and local environmental issues. We've made strides in:

- reducing and reusing water at our operations
- reducing our air emissions
- improving overall energy efficiency
- reclaiming disturbed lands to restore natural landscapes

We're also investing in new environmental technologies and continuing to develop our renewable energy portfolio.

We absolutely believe an energy company can be environmentally responsible. In fact, to stay in business over the long term, we have to be.

Climate change

"We are part of the problem when it comes to climate change. But we also believe we can be part of the solution."

A conversation with Fiona Jones, general manager, sustainability

Suncor recently adopted a new sustainability performance goal aimed at significantly reducing the carbon intensity of its operations. The goal is to reduce the overall greenhouse gas (GHG) emissions intensity by 30% by 2030. That target is ambitious. But even more significant is the aspiration behind this performance goal — to harness technology and innovation in ways that position the oil sands to become carbon competitive in an increasingly carbon-constrained energy future.

Suncor's Fiona Jones, general manager, sustainability, discusses the thinking behind the new goal and how the company intends to address the challenges ahead.

Expand all | Collapse all

Why did Suncor decide to adopt this GHG performance goal — and why now?

It really has to do with addressing two pressing and parallel realities. The first is that global energy demand continues to rise and, for the foreseeable future, oil will remain an important part of meeting that demand. The second is that climate change is a real and growing global challenge and that human activity, including the burning of fossil fuels, is contributing to adverse changes in the global climate. As Canada's largest integrated energy company, we recognize

we are part of the problem when it comes to climate change. But we also believe we can be part of the solution.

To succeed going forward, we have to be cost-competitive and carbon-competitive with other oil basins in the world. Our aspiration is to produce some of the lowest carbon-intensity crude oils and petroleum products. To get there, we need to go beyond today's capabilities and technologies. That's why we've designed a performance goal ambitious enough to drive the innovation required to realize our aspiration.

So exactly how ambitious is this goal?

It depends on your perspective. There will undoubtedly be critics who'll say it's too little over too long a timeframe — and that our goal should be to get off hydrocarbons entirely. But if you accept the premise that there will continue to be a need for responsibly developed oil, I think you would acknowledge that this is a sincere attempt to respond to that need.

And it's definitely what I would call a "stretch goal," in the sense that we will have to stretch ourselves in new directions to achieve it. In the case of new projects, with new technologies, significant emissions reductions are more easily achieved. But we also have a lot of existing assets where opportunities for reductions are much more difficult to realize. So with this goal, I think we've really upped the ante in terms of how we integrate GHG emission mitigation efforts across our business.

This isn't just another performance indicator; it's an aspiration statement that drives us to rethink our processes and business opportunities - and to fundamentally change our GHG intensity.

What are some of the major avenues for pursuing this goal?

Technology, of many kinds, is clearly the biggest lever. That's why, even in the current low-price commodity environment, Suncor continues to spend about $200 million annually on a suite of research and development projects.

In particular, we are investigating potentially game-changing advances in both in situ and mining processes that could allow us to leave far more of the heavy hydrocarbon chain in the ground. If successful, these technologies would not only dramatically reduce GHG emissions at the extraction phase, they would do the same at the refining and upgrading stages. That's because we'd be delivering bitumen that required a lot less processing to transform it into lighter petroleum products.

In addition to the R&D work Suncor is doing internally, we are collaborating on multiple fronts with others in our industry and across the broader society to develop potential carbon solutions. Among the organizations we work with are Canada's Oil Sands Innovation Alliance (COSIA), Carbon Management Canada (CMC) and the Climate Change and Emissions Management Corporation (CCEMC).

We also recognize there are technologies that haven't even been thought of yet that could play a part in reaching our performance goal. An exciting development in this regard is Evok Innovations, which is a unique partnership between Cenovus Energy, Suncor and the BC Cleantech CEO Alliance. Evok is an entrepreneur-led capital fund that's designed to find, finance and accelerate next-generation technologies to meet the challenges facing Canada's energy industry.

As part of COSIA, Suncor is also helping to sponsor a $20 million NRG COSIA Carbon XPRIZE contest that will encourage innovators to come up with new ideas to take carbon dioxide emissions from coal and gas plants and transform them from an environmental liability into useable products, such as building materials or consumer goods. The potential technology solutions could also have application to our own operations.

Beyond the development of new technologies, what are some of the other ways Suncor could meet its performance goal?

There could be significant opportunities to transition to using low carbon fuels in some of our operations as well as harnessing further advances in renewable energy and cogeneration. For example, we could start using a biofuel-based diluent instead of a naptha-based one for thinning bitumen that's shipped by pipeline. Or we could retrofit the roofs of our Petro Canada service stations — and perhaps even use that solar energy to power electric charging stations. Whether or not we adopt these or other means, will depend on weighing the costs and benefits of each.

Again, the point is that there are certain business investments and opportunities that today are just not feasible for us to undertake, but could become so

depending on how things evolve in the coming years.

So it really comes back to something we've been saying at Suncor for a long time now: just because things have been done one way in the past doesn't mean they'll be done the same way in the future — and we should never simply settle for the status quo.

The oil and gas sector has struggled lately with a low-price environment. Doesn't that make investments in technology and innovation a harder sell?

Actually, a low-price environment in many ways encourages innovation. We know as a company that we need to be aggressive on both cost-efficiency and emissions. There is a direct link between the two, because energy represents such a large cost for our business. We have more incentive than ever to reduce our own energy use which, in turn, reduces our emissions.

The new emissions goal is targeted over 15 years. Why such a long timeframe? And are you concerned that your stakeholders will want to see results sooner than that?

That's obviously a concern, because we're all eager to get results as soon as possible. But when you are talking about the kinds of technologies and innovation we'll need to achieve our goal, it takes a long time to identify, develop and implement them. Our goal is designed to help drive advances as quickly as possible. But it's not something that can happen overnight.

Suncor's GHG goal deals with reductions in emission intensity. That's not the same as absolute emissions, which will continue to grow as production rates increase. Isn't that concerning?

We believe the progress we make on the intensity front can help us ultimately bend the curve on absolute emissions as well. In Suncor's case, we are currently emitting a total of some 21 megatonnes of GHG annually. With the growth projects we now have on deck, we would expect that to increase to perhaps 26 or 27 megatonnes per year. If we could achieve a 30% reduction in our current emissions intensity, that would eliminate over six megatonnes of emissions annually. So we would have increased production substantially, but held our emissions more or less flat. If you keep that trend up, you start making reductions in absolute emissions as well.

What is the rationale for continuing to expand production if it also means growth in absolute GHG emissions?

I think it goes full circle to those parallel realities I talked about at the outset. Global demand for oil continues to grow and it will be supplied, one way or another. By adapting to a carbon-constrained era, we believe the oil sands industry can produce a carbon competitive barrel and be a responsible and sustainable supplier-of-choice — one that makes a positive economic contribution while also addressing the very real challenge of climate change.

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2015 GHG performance

On this page:

> Our Report on Sustainability provides an annual accounting of our greenhouse gas (GHG) emissions, both in terms of absolute emissions and emissions intensity. The latter is calculated by using full-year net production and the carbon dioxide equivalent (CO_2e) volumes emitted from Suncor-operated facilities.

Production

Production numbers in our 2015 Annual Report are for upstream volumes only, and include our net share of production from non-operated assets as well as operated assets. This differs from production numbers used in our Report on Sustainability to calculate intensity metrics, which includes 100% of the production at Suncor-operated facilities upstream only, and also includes downstream throughput volumes of saleable refined products from our Suncor-operated refineries and lubricants plant. For the purposes of our Report on Sustainability, net corporate production in 2015 was approximately 48.2 million cubic metres (m^3), compared to 45.4 million m^3 in 2014. The increase in 2015 production reflects increased production from our in situ and oil sands facilities, as 2015 saw an increase in Firebag's nameplate capacity to 203,000 barrels per day (bbls/d) due to debottlenecking activities, and realizing upgrader utilization of over 90%.

Please note: the sum of the individual facilities production volumes will not equal the reported net corporate production. Inter- and intra-business-unit product transfers (hydrocarbon streams that pass through more than one facility) are removed from the corporate and business unit totals to give the net production. This is done to prevent double-counting of hydrocarbon streams sent for further processing within the company.

- Individual facility intensities are calculated based on net facility production not including internally produced fuels and consumed volumes.
- Business unit intensities are calculated using business unit net production. Business unit net production is based on the sum of net facility production from individual facilities within the same business unit minus intra-business-unit intermediate product transfers.
- Corporate GHG intensity is calculated based on the sum of business unit net production minus inter business unit product transfers.

As reported in our 2015 Annual Report, total upstream production averaged 577,800 barrels of oil equivalent per day (boe/d) through the course of 2015, compared to 534,900 boe/d in 2014. Oil sands production (excluding Syncrude) averaged 433,600 barrels per day (bbls/d) in 2015, compared to 390,900 bbls/d in 2014.

Read the 2015 Annual Report

Our oil sands base business delivered another record-setting year in 2015, resulting in a 10.5% increase in annual production at oil sands base operations and record synthetic crude oil (SCO) production. These results were achieved primarily due to reliable operations across all oil sands assets, more specifically an upgrader utilization of 91%.

In 2015 the nameplate capacity for Firebag was increased from 180,000 bbls/d to 203,000 bbls/d as a result of cost-effective debottlenecking activities and record Firebag production. A record low steam-to-oil ratio (SOR) of 2.6 was achieved at Firebag in 2015 primarily due to optimized reservoir management strategies and strong infill well performance.

Overall absolute emissions and emissions intensity

Absolute full-year GHG emissions in 2015 totaled 20.5 million tonnes, compared to 20.5 million tonnes in 2014. GHG emissions remained flat in 2015 as compared to 2014, while production increased by 7%. As a result, using internationally accepted Global Reporting Initiative protocols, our 2015 corporate GHG emissions intensity decreased by 6% as our current operations realized energy efficiency opportunities, record setting production (in oil sands facilities) and increased reliability.

Using internationally accepted Global Reporting Initiative protocols, our 2015 corporate GHG emissions intensity decreased by 6% as our current operations realized energy efficiency opportunities, record setting production (in oil sands facilities) and increased reliability.

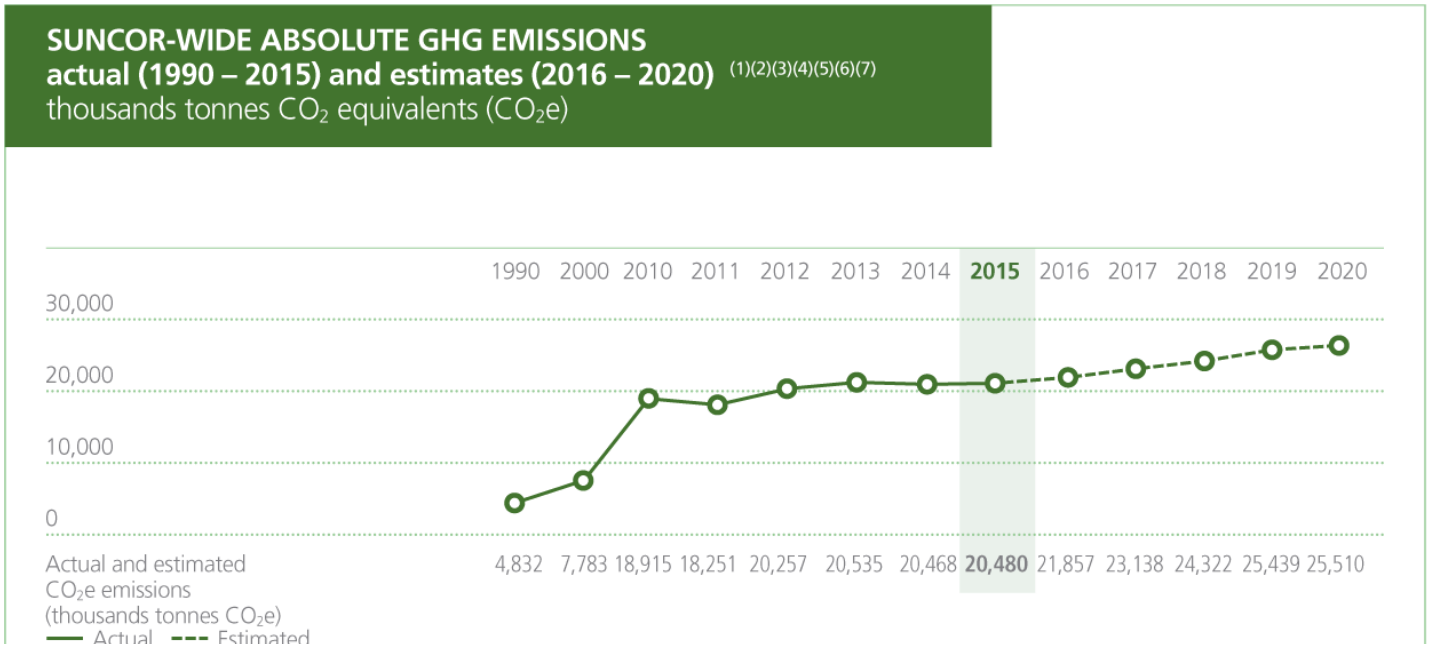
Upstream intensity decreases were realized primarily at our Firebag in situ facility and oil sands base operations due to increased Firebag production and sustained low SOR as well as increased upgrader utilization.

Downstream, intensity decreases were largely due to improved performance at our Sarnia, Montreal and Commerce City refineries as well as the Mississauga Lubricants plant. This performance was slightly offset by an intensity increase at our Edmonton refinery due to planned maintenance activities in 2015.

Read about the emission factors that went into calculating our 2015 GHG performance

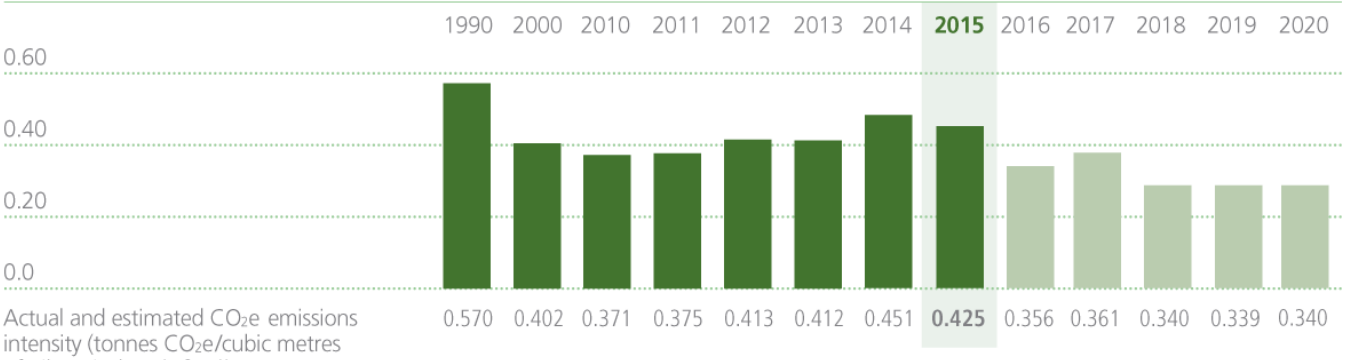
Please note: All numbers included are for large operated facilities and properties only and represent 100% of the direct and indirect emissions at these facilities. Data is not broken down by working interest and does not include non-operated facilities.

GHG emissions (absolute and intensity)



Oil Sands	3,631	5,564	8,801	8,524	9,204	8,417	8,542	**8,685**	9,855	9,989	9,714	10,209	10,192
Fort Hills	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**N/A**	N/A	973	2,421	3,008	3,075
In Situ:	–	–	2,247	2,608	4,079	5,390	5,610	**5,620**	5,640	5,719	5,824	5,801	5,833
Firebag	–	–	1,568	2,001	3,471	4,703	4,903	**4,991**	4,857	5,039	5,172	5,095	5,116
MacKay River	–	–	679	607	608	687	707	**628**	783	680	653	706	718
Exploration & Production:	233	531	2,307	1,637	1,387	1,152	685	**569**	598	603	611	620	575
North America Onshore	233	531	1,703	1,035	995	630	42	**20**	19	15	15	14	12
East Coast Canada	0	0	604	602	391	522	642	**548**	579	588	596	605	563
Refining & Marketing:	968	1,687	5,472	5,323	5,420	5,406	5,467	**5,438**	5,631	5,702	5,600	5,650	5,683
Commerce City	–	–	1,160	1,011	1,145	1,205	1,183	**1,101**	1,150	1,178	1,182	1,182	1,181
Edmonton	–	–	1,775	1,766	1,742	1,677	1,694	**1,734**	1,765	1,723	1,674	1,722	1,765
Lubes	–	–	393	421	417	399	426	**386**	419	420	423	427	430
Montreal	–	–	1,161	1,123	1,137	1,172	1,160	**1,204**	1,277	1,345	1,309	1,309	1,280
Sarnia	–	–	934	948	919	889	918	**918**	899	942	917	916	933
Other (including Burrard terminal, Montreal Sulphur Plant and Pipelines)	–	–	50	54	60	64	86	**95**	95	95	95	95	95
Renewables			89	159	167	170	165	**169**	160	151	151	152	152

SUNCOR-WIDE GHG EMISSIONS INTENSITY
actual (1990 – 2015) and estimates (2016 – 2020) (1)(2)(3)(4)(5)(6)(7)(8)(9)
tonnes CO_2e/cubic metres of oil equivalent (m^3OE)



	1990	2000	2010	2011	2012	2013	2014	**2015**	2016	2017	2018	2019	2020
Actual and estimated CO_2e emissions intensity (tonnes CO_2e/cubic metres of oil equivalent (m^3OE))	0.570	0.402	0.371	0.375	0.413	0.412	0.451	**0.425**	0.356	0.361	0.340	0.339	0.340

■ Actual ■ Estimated

Oil Sands	1.196	0.817	0.587	0.510	0.561	0.503	0.497	**0.456**	0.541	0.518	0.526	0.523	0.537
Fort Hills	–	–	–	–	–	–	–	**–**	–	4.438	0.303	0.295	0.294
In Situ	–	–	0.455	0.502	0.535	0.540	0.484	**0.445**	0.465	0.451	0.456	0.468	0.432
Exploration & Production			0.174	0.170	0.157	0.154	0.238	**0.251**	0.326	0.253	0.220	0.190	0.224
Refining & Marketing	0.225	0.193	0.208	0.202	0.199	0.200	0.203	**0.199**	0.193	0.195	0.190	0.192	0.194
Renewables	–	–	0.712	0.684	0.662	0.668	0.654	**0.662**	0.640	0.598	0.598	0.600	0.600

(1) Estimates are based on current production forecasts and methodologies. The tables contain forward-looking estimates and users of this information are cautioned that the actual GHG emissions and emission intensity may vary materially from the estimates contained in the table. Please see Advisories.
(2) Data from 1990 and 2000 do not include Suncor's U.S. operations, and only include business areas in operation during these years. These data points have been provided for historical comparability, consistent with previous sustainability reports.
(3) Data here includes both direct and indirect CO_2e emissions, whereas the data included in the Alberta SGER reports and other regulatory reports are direct emissions only. No credit is taken for GHG reductions due to cogen export or purchased offsets. Emissions have been calculated using facility-specific methodologies; various reference methodologies accepted by jurisdictions where each facility is required to report GHG emissions. Where a jurisdiction has a prescribed methodology, it is followed and if none exists, the most applicable and accurate methods available are used to quantify each emission source. Beginning with 2013 data, the latest global warming potentials issued by the

Intergovernmental Panel on Climate Change in their 2007 or Fourth Assessment report have been used to calculate CO_2e. Historical data has not been updated to reflect this change as it does not impact corporate-wide emissions materially.
(4) Beginning in 2013 Oil Sands methodology changed to reflect the inclusion of biomass, a methodology change in the calculation of fugitive emissions using flux chamber data, and revisions to emissions factors and calculations based upon AESRD's (now Alberta Environment and Parks) request. These changes are also consistent with the methodology used for SGER Bill 3 reporting. Additionally, also beginning in 2013, MacKay River implemented a revised scope 2 emission calculation methodology which has been implemented to the reported data. Also, reported Refining & Marketing emission values reflect classifying purchased hydrogen emissions and sold CO_2 as an indirect scope 3 instead of an indirect scope 2.
(5) Data for 2009 and future years include the full-year emissions for all Petro-Canada operated properties acquired in the 2009 merger, even though the merger did not close until Aug. 1, 2009. This is to allow for a consistent comparison to past and future years.
(For certain business units, combined Suncor / Petro-Canada data is provided for some years prior to 2009 but this is not reflected in the Suncor-wide rollup reported here.
(6) The Suncor-wide emissions intensity uses Net Production, which is the sum of Net Facility Production minus all internal intra- and inter-BU product transfers, to remove any double counting. The sum of the BU intensities will therefore not equal the Suncor-wide intensity.
Forecasted emission intensities do not subtract product transfers because the data depends on commercial and markets conditions and is therefore not available for forecasted trends.
(7) Refining & Marketing emissions are inclusive of emissions from the pipeline from Oil Sands to the Edmonton refinery, Firebag to Oil Sands and Fort Hills to Oil Sands), which are included in the Pipelines entity within R&M. The emission total for this source for 2014 was 59,149 tonnes CO_2e. Beginning in 2014, R&M emissions are also inclusive of the Montreal Sulphur Plant, purchased in July 2014. Data for this site has been reported based on the date of the sale and will therefore not be representative of a full year's operations. Forecasted data reflects full year operations.
(8) The Other category includes Burrard terminal in all reported years, Pipelines starting in 2010 and Montreal Sulphur Plant starting in 2014. The Montreal Sulphur Plant's 2014 data has been adjusted to reflect the portion of the year that it was owned and operated by Suncor (July-Dec). Starting with 2015 the Sulphur Plant's full year data is included (and for forecasted years as well).
(9) Wind, Terminals, Pipelines and the Montreal Sulphur Plant do not contribute to R&M production or Suncor Wide production (denominator for GHG intensity), only absolute GHG emissions (numerator for GHG intensity) due to the definition of the corporate wide production metric.
Definitions:
Direct GHG emissions: Emissions from sources that are owned or controlled by the reporting company.
Indirect GHG emissions: Energy-related emissions that are a consequence of the operations of the reporting company, but occur at sources owned or controlled by another company (e.g., purchased electricity or steam).
Absolute (total) emissions: The sum of direct and indirect emissions) of a facility or reporting company.
Emission intensity: Ratio that expresses GHG emissions per unit of physical activity or unit of economic value (e.g., here it is total tonnes of

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Overall energy use and energy intensity

GHG emissions are closely linked to energy use with approximately 90% of direct GHG 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.

In 2015, we continued to work towards our environmental performance goal for energy efficiency that we established seven years ago to achieve a 10% improvement in energy efficiency by the end of 2015. Each of our business units worked to improve their energy efficiency over the course of 2015. Some of the highlights from this past year included:

- Increased reliability and utilization of our oil sands base plant operations
- Increase in Firebag's nameplate capacity due to facility debottlenecking and sustained low steam oil ratio from infill well performance and optimized reservoir management
- Operational improvements and implementation of various energy efficiency projects at our refineries

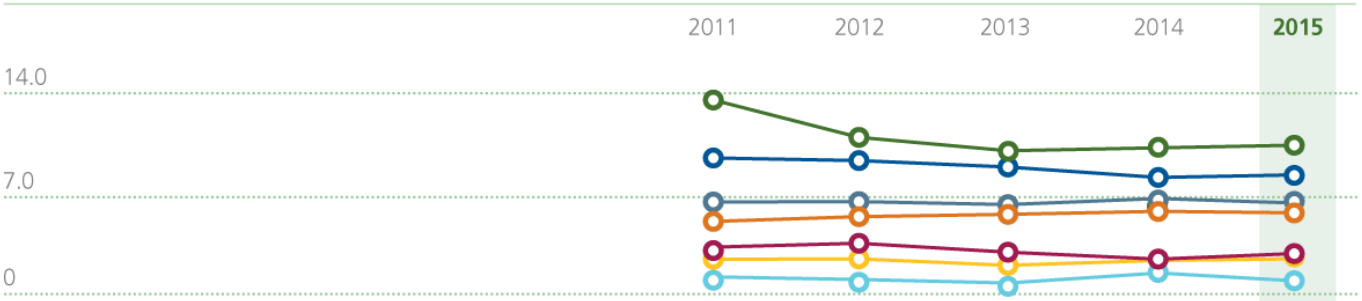
Further details on our performance can be found below;

The following energy use and energy intensity graphs show similar year over year trends to the GHG emissions and GHG emissions intensity graphs shown above. One of the key differences, however, is how energy generated as electrical power is treated.

Power generated by our cogeneration facilities (a highly efficient technology used to generate electricity from what would otherwise be waste heat) and wind farms is sold to provincial grids in the regions where facilities are located. This power is converted to an equivalent amount of energy and is deducted from our total energy use since it is sold as a product. Associated GHG emissions reductions are not currently deducted from our total GHG footprint. However, by producing this less GHG intensive electricity and selling to the grid, we are offsetting other forms of power generations (such as coal-fired) and reducing overall provincial GHG emissions associated with power generation.

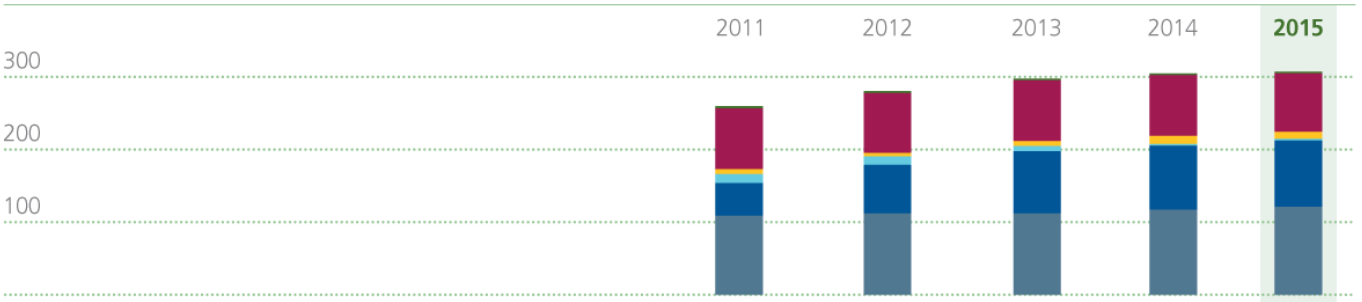
Please note: All numbers included are for operated facilities and properties only. They represent 100% of the direct and indirect energy use at these facilities. Data is not broken down by working interest and does not include non-operated facilities.

ENERGY INTENSITY
(GJ/m^3 of production)



	2011	2012	2013	2014	**2015**
Oil Sands	6.71	6.86	6.73	6.83	**6.30**
In Situ[1]	8.75	8.83	8.60	7.73	**7.39**
North America Onshore	1.71	1.58	1.44	2.35	**1.63**
East Coast Canada[2]	2.57	3.56	2.95	3.19	**3.29**
Refining & Marketing[3]	3.20	3.06	3.11	3.20	**3.22**
Renewables[4][5]	13.89	9.92	8.93	9.11	**9.45**
Suncor Energy	5.34	5.75	6.01	6.70	**6.43**

ENERGY USE
(millions of gigajoules)



	2011	2012	2013	2014	**2015**
Oil Sands	109.43	112.54	112.72	117.30	**119.47**
In Situ[1]	45.46	67.26	85.93	89.46	**93.27**
North America Onshore	12.19	11.78	7.59	0.50	**0.30**
East Coast Canada[2]	6.88	4.80	6.46	8.49	**6.87**
Refining & Marketing[3]	84.24	83.23	84.37	86.19	**88.08**
Renewables[4][5]	3.22	2.51	2.27	2.30	**2.42**
Suncor Energy	261.03	282.40	299.33	304.25	**310.40**

(1) In Situ data includes Firebag and MacKay River operations.
(2) East Coast Canada data only includes energy use and production from the Terra Nova FPSO vessel.
(3) Refining & Marketing business unit is inclusive of the energy use associated with pipeline stations located on the pipeline from Oil Sands to Edmonton and the pipelines from Firebag to Oil Sands and Fort Hills to Oil Sands. The R&M business unit also includes energy use from the Burrard terminal and the Montreal Sulphur plant (prorated in 2014 based on partial ownership from July-Dec 2014).
(4) Renewables business unit is inclusive of the St. Clair ethanol plant and Suncor-operated wind farms starting in 2012. No adjustment is made for financial control, operated assets are 100% included.
(5) Electricity that is produced and sold to provincial grids by oil sands and in situ cogens and operated wind farms is converted to an equivalent amount in GJs and deducted from the total energy.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Performance highlights

What follows are highlights and explanations describing the most noteworthy emissions variances at some of our operations. Where emissions were relatively flat or stable, no commentary is offered.

Emissions totals and variances for all operated facilities are available in the performance data section of this report

Expand all | Collapse all

Oil Sands

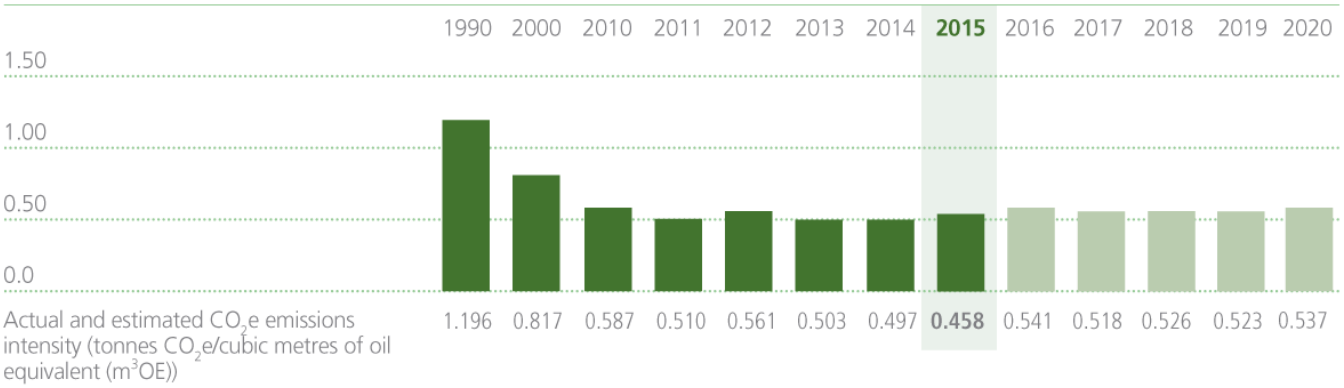
Absolute emissions from our mine and upgrading operations increased slightly by 1.7% in 2015 as compared to 2014 due primarily to increased production, but were slightly offset by lower fugitive emissions measurements.

Emissions intensity decreased by 8% over the same period. The decrease can largely be attributed to improved reliability as well as higher upgrader throughput related to increased supply from Firebag.

Oil Sands GHG emissions absolute and intensity

OIL SANDS ABSOLUTE GHG EMISSIONS
actual (1990 – 2015) and estimates (2016 – 2020) [1][2][3][4][5]
thousands tonnes CO_2 equivalents (CO_2e)

OIL SANDS GHG EMISSIONS INTENSITY
actual (1990 – 2015) and estimates (2016– 2020) [1][2][3][4][5]
tonnes CO_2e/cubic metres of oil equivalent (m^3OE)



■ Actual ■ Estimated

(1) Estimates are based on current production forecast and methodologies. The tables contain forward-looking estimates and users of this information are cautioned that the actual GHG emissions and emission intensity may vary materially from the estimates contained in the table. Please see Advisories.
(2) Data here includes both direct and indirect CO_2e emissions for Oil Sands Base Plant operations and Poplar Creek cogeneration, whereas the data included in the Alberta SGER report is direct only. No credit is taken for GHG reductions due to cogen or purchased offsets.
(3) Beginning in 2013 Oil Sands methodology changed to reflect the inclusion of biomass, a methodology change in the calculation of fugitive emissions using flux chamber data in 2012, and revisions to emission factors and calculation methodologies based upon AESRD's request. These changes are also consistent with the methodology used for SGER Bill 3 reporting.
(4) Historical environment data for Oil Sands from 2005 to 2008 includes our Firebag in situ operation, where appropriate, as well as our mining and upgrading operations. In 2009 In Situ (Firebag and MacKay River) began reporting as its own business unit. Data for 2009 and forward includes only Oil Sands base plant mining / extraction / upgrading and Poplar Creek cogen operations. As of September 2015, the Poplar Creek cogen is owned and operated by Suncor and is and is included in Oil Sands total direct emissions.
(5) The GHG volumes from 2009 have been restated due to a change in hydrogen plant allocation and diesel emission methodology.

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Fort Hills

Sanctioned in 2013, the Fort Hills mining project is expected to have a production capacity of 180,000 bbls/day of bitumen. We expect this to add over 3 million tonnes of CO_2e to our operated GHG emission profile once it reaches full nameplate capacity. First oil from the project is expected in the fourth quarter of 2017 and 90% of its planned capacity is expected to be reached within 12 months thereafter.

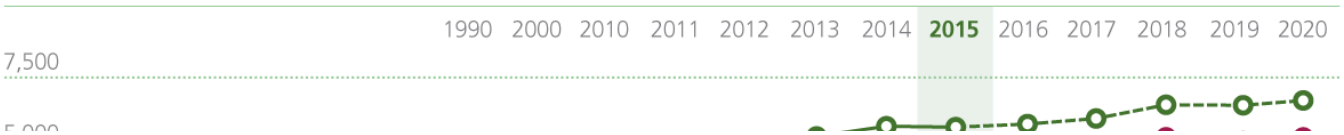
To determine how a change to Alberta's current greenhouse gas regulation could impact this project, we applied our shadow carbon price. That means, in addition to using the existing penalty of $15/tonne CO_2e on 12% of emissions, we also explored various regulatory scenarios. Expected impacts range from $0.10 to $0.50 / bbl for our modeled scenarios, based on our internal shadow carbon price and various levels of stringency / coverage

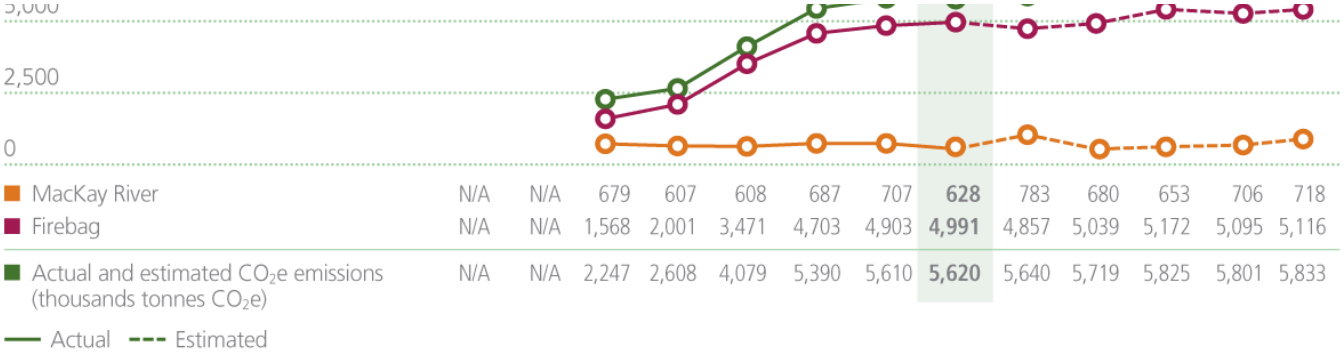
The impact of higher carbon penalties is just one of many risks that are evaluated as part of project economics.

In Situ

The overall absolute emissions at our in situ operations were relatively flat in 2015 compared to 2014. The reason emissions remained flat was due primarily to an increase in Firebag's production which was achieved with a record low SOR. As a result, this increase in production only slightly increased overall in situ emissions. In addition, MacKay River's emissions decreased slightly due to a change in methodology for scope 2 indirect emissions to align with regulatory reporting for scope 1 direct emissions. Emission intensity for in situ in 2015 decreased substantially (10%) mainly due to sustained low SORs at Firebag resulting from optimized reservoir management strategies and strong infill well performance.

IN SITU ABSOLUTE GHG EMISSIONS
actual (1990 – 2015) and estimates (2016 – 2020) (1)(2)(3)(4)(5)
thousands tonnes CO_2 equivalents (CO_2e)





MacKay River	N/A	N/A	679	607	608	687	707	**628**	783	680	653	706	718
Firebag	N/A	N/A	1,568	2,001	3,471	4,703	4,903	**4,991**	4,857	5,039	5,172	5,095	5,116
Actual and estimated CO_2e emissions (thousands tonnes CO_2e)	N/A	N/A	2,247	2,608	4,079	5,390	5,610	**5,620**	5,640	5,719	5,825	5,801	5,833

Actual --- Estimated

IN SITU GHG EMISSIONS INTENSITY
actual (1990 – 2015) and estimates (2016 – 2020) (1)(2)(3)(4)(5)
tonnes CO_2e/cubic metres of oil equivalent (m^3OE)

	1990	2000	2010	2011	2012	2013	2014	**2015**	2016	2017	2018	2019	2020
Actual and estimated CO_2e emissions intensity (tonnes CO_2e/cubic metres of oil equivalent (m^3OE))	N/A	N/A	0.455	0.502	0.535	0.540	0.485	**0.445**	0.465	0.451	0.456	0.468	0.432

Actual Estimated

(1) Estimates are based on current production forecast and methodologies. The tables contain forward-looking estimates and users of this information are cautioned that the actual GHG emissions and emission intensity may vary materially from the estimates contained in the table. Please see Advisories.
(2) Data here includes both direct and indirect CO_2e emissions, whereas the data included in the Alberta SGER report is direct only. No credit is taken for GHG reductions due to cogen export or purchased offsets.
(3) For MacKay River, indirect emissions include electricity purchased from the grid, electricity purchased from the third party MacKay River cogen and purchased steam also purchased from the third party MacKay River cogen.. Starting in 2013 MacKay River implemented a new methodology for calculating indirect emissions associated with energy streams purchased from the third party MacKay River cogen to remain consistent with the third party cogen that is the source of these energy streams. This change is reflected in the 2014 data and forecasted future years. Firebag cogens are owned and operated by Suncor and therefore all cogen emissions count toward Firebag's total direct emissions including emissions associated with generating electricity that is sold to the AB grid.
(4) Historically, Firebag was reported as part of Oil Sands up to and including 2008. The 2008 Firebag data has already been reported as part of the Oil Sands trend, but has been included again here so that a valid year-over-year comparison can be made. Readers are cautioned that this is 'double-counting' and therefore all the numbers for 2008 will add up to more than the total 2008 Suncor-wide total; this is intentional and is for comparison purposes only.
(5) Values from 2007 and earlier include legacy Suncor facilities only. For comparison, values from 2008 (the year preceding the merger) include both legacy Suncor and Petro-Canada facilities. Data for 2009 includes the full-year emissions for all Suncor and Petro-Canada facilities acquired in the 2009 merger, even though the merger did not close until Aug. 1, 2009. This is to allow for a consistent comparison to past and future years. For historical Petro-Canada emissions please see the Report to the Community at suncor.com.

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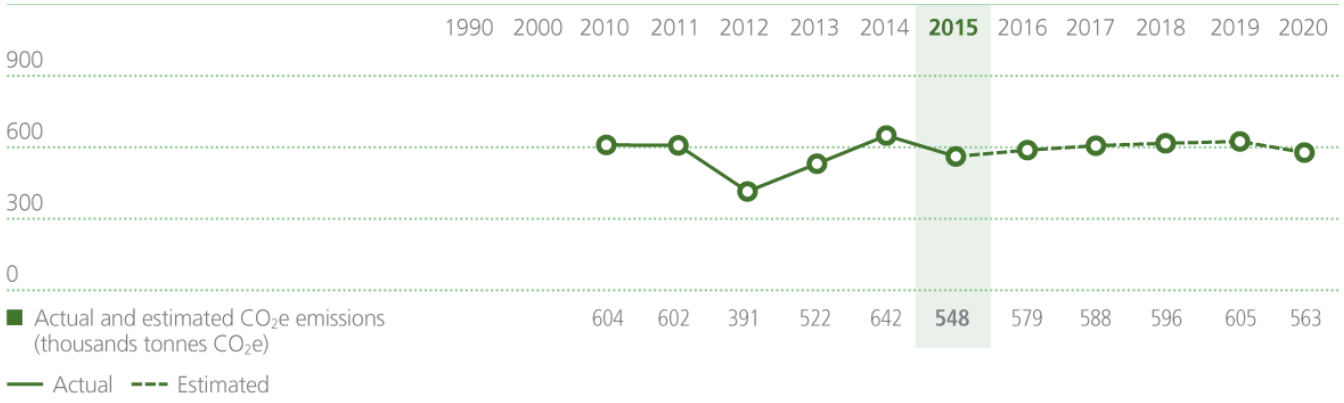
Exploration & Production

East Coast Canada

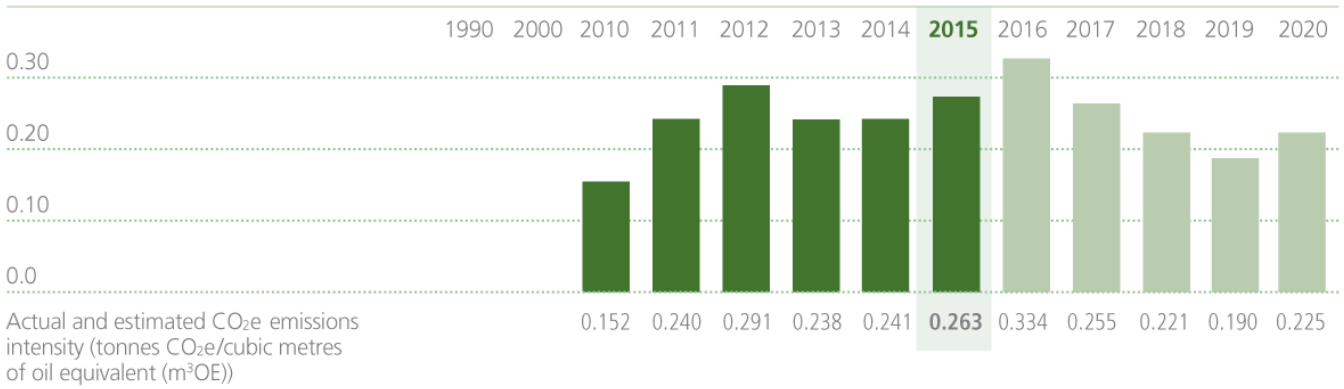
Terra Nova emissions decreased by 15% over 2014 and production in 2015 was 22% lower than in 2014. Production from Terra Nova decreased in 2015 due primarily to higher unplanned maintenance activity in 2015 compared to 2014 as well as natural production declines as the asset matures.

Currently, 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. These joint venture operations are not included in this report.

EAST COAST CANADA* ABSOLUTE GHG EMISSIONS
actual (1990 – 2015) and estimates (2016 – 2020) (1)(2)(3)(4)(5)
thousands tonnes CO_2 equivalents (CO_2e)



EAST COAST CANADA GHG EMISSIONS INTENSITY
actual (1990 – 2015) and estimates (2016 – 2020) (1)(2)(3)(4)(5)
tonnes CO_2e/cubic metres of oil equivalent (m^3OE)



Actual Estimated

* East Coast Canada was historically referenced as International & Offshore, but since 2010 when Netherlands properties (Hanze and De Ruyter) were sold, data has only included Suncor's Terra Nova offshore facility in eastern Canada. Historical data prior to 2010 references performance data from international operated facilities as well as the Terra Nova facility.
(1) Estimates are based on current production forecast and methodologies. The tables contain forward-looking estimates and users of this information are cautioned that the actual GHG emissions and emission intensity may vary materially from the estimates contained in the table. Please see Advisories.
(2) I&O properties were obtained with the Petro-Canada merger in August 2009. For historical Petro-Canada emissions please see the Report to the Community at suncor.com/.
(3) Data here includes both direct and indirect CO_2e emissions. No credit is taken for GHG reductions due to offsets.
(4) Data is presented for Suncor operated facilities only, and does not include our interests in non-operated joint ventures. Operated facilities are shown as 100%, not adjusted for Suncor's ownership share.
(5) Terra Nova production historically only included oil sales and not flaring and internally produced fuel. In 2011 these additional production volumes were included; however, to be consistent with other major facilities the production metric has been readjusted to only include oil sales.

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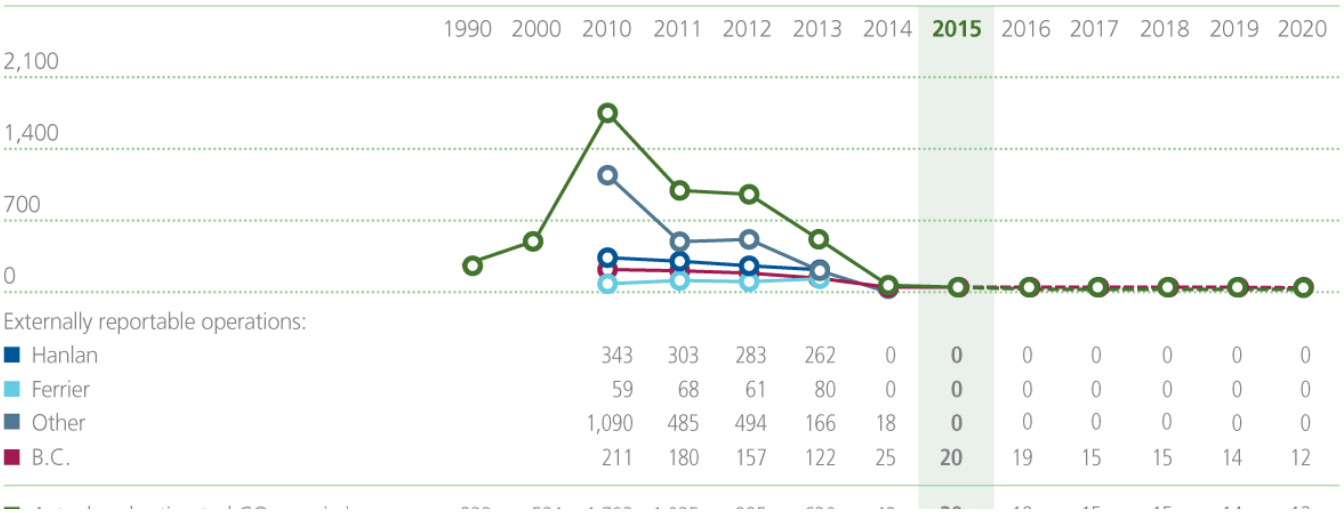
North American Onshore

North America Onshore (NAO) emissions decreased by 53% in 2015 and production decreased by 15% as 2015 was the first full year to report on only Northeast British Columbia operations. Suncor completed the sale of our Wilson Creek natural gas plant and field in Alberta late in 2014.

Reported numbers for NAO reflect assets owned in 2015. In previous years where NAO experienced divestments, the emissions of divested assets have been included up to their date of sale. Therefore, in 2014 Wilson Creek emissions are included up to its date of sale in late 2014 while emissions from the remaining B.C. operations are included for all of 2015.

NORTH AMERICA ONSHORE ABSOLUTE GHG EMISSIONS actual (1990 – 2015) and estimates (2016 – 2020) (1)(2)(3)
thousands tonnes CO_2 equivalents (CO_2e)



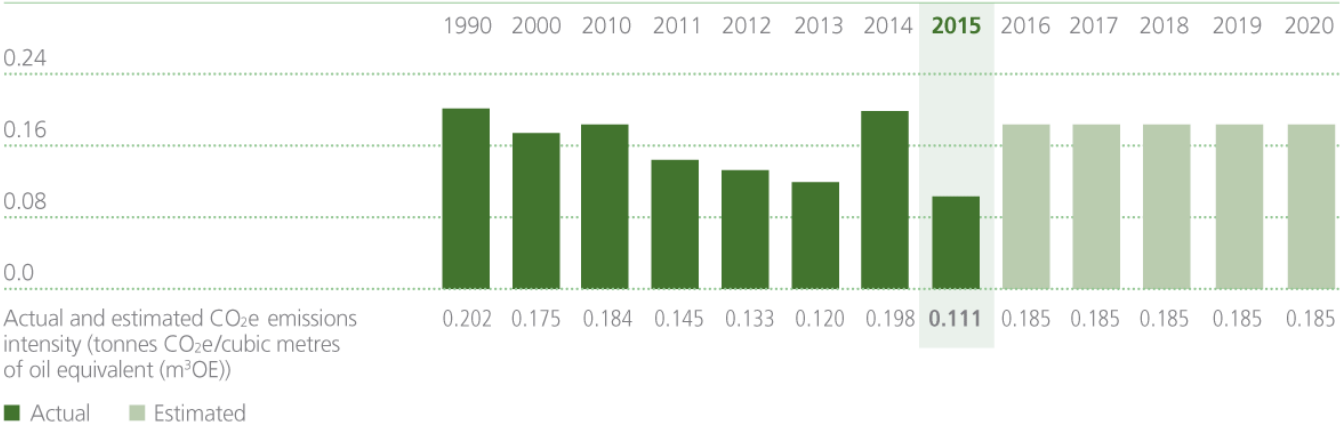
Externally reportable operations:	1990	2000	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Hanlan			343	303	283	262	0	0	0	0	0	0	0
Ferrier			59	68	61	80	0	0	0	0	0	0	0
Other			1,090	485	494	166	18	0	0	0	0	0	0
B.C.			211	180	157	122	25	20	19	15	15	14	12

Actual and estimated CO_2e emissions (thousands tonnes CO_2e)	233	531	1,703	1,035	995	630	42	20	19	15	15	14	12

Actual --- Estimated

NORTH AMERICA ONSHORE GHG EMISSIONS INTENSITY actual (1990 – 2015) and estimates (2016 – 2020) (1)(2)(3)

tonnes CO_2e/cubic metres of oil equivalent (m^3OE)



(1) Estimates are based on current production forecast and methodologies. The tables contain forward-looking estimates and users of this information are cautioned that the actual GHG emissions and emission intensity may vary materially from the estimates contained in the table due to growth, development and/or dispositions. Please see Advisories.
(2) Data here includes both direct and indirect CO_2e emissions, whereas the data included in the Alberta SGER report or other regulatory reports are direct emissions only.
(3) Suncor merged with Petro-Canada in 2009; data prior to 2009 is for legacy Suncor properties only and does not include any Petro-Canada facilities.
(4) The decreases shown from 2013-2015 reflect divestments of NAO assets, divested assets are reported up until the date of their sale.

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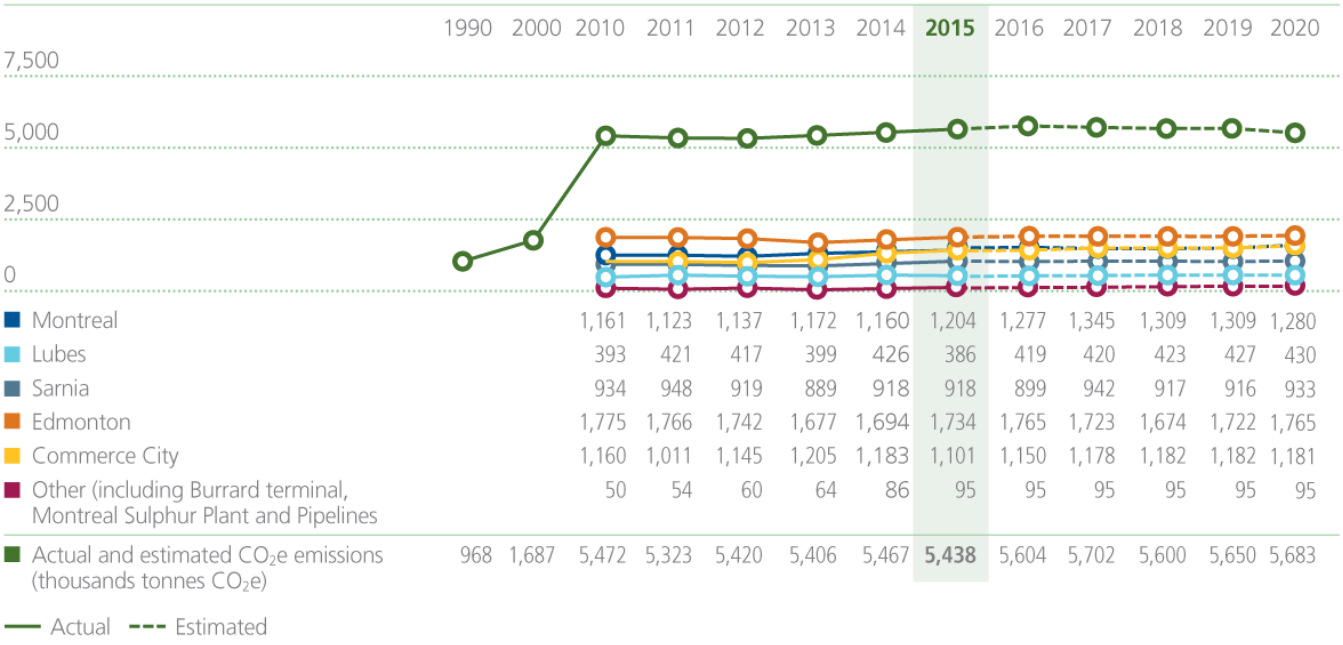
Refining and Marketing

In 2015, GHG emissions and emissions intensity at our downstream facilities decreased primarily due to strong refinery utilization. Compared to 2014, emissions experienced a slight decrease of 0.5% and emission intensity decreased by 2.2%.

COMBINED CANADA AND USA REFINING & MARKETING ABSOLUTE GHG EMISSIONS actual (1990 – 2015) and estimates (2016 – 2020) (1)(2)(3)(4)(5)(6)(7)(8)(9)(10)

thousands tonnes CO_2 equivalents (CO_2e)



	1990	2000	2010	2011	2012	2013	2014	**2015**	2016	2017	2018	2019	2020
Montreal			1,161	1,123	1,137	1,172	1,160	1,204	1,277	1,345	1,309	1,309	1,280
Lubes			393	421	417	399	426	386	419	420	423	427	430
Sarnia			934	948	919	889	918	918	899	942	917	916	933
Edmonton			1,775	1,766	1,742	1,677	1,694	1,734	1,765	1,723	1,674	1,722	1,765
Commerce City			1,160	1,011	1,145	1,205	1,183	1,101	1,150	1,178	1,182	1,182	1,181
Other (including Burrard terminal, Montreal Sulphur Plant and Pipelines			50	54	60	64	86	95	95	95	95	95	95
Actual and estimated CO_2e emissions (thousands tonnes CO_2e)	968	1,687	5,472	5,323	5,420	5,406	5,467	**5,438**	5,604	5,702	5,600	5,650	5,683

Actual --- Estimated

COMBINED CANADA AND USA REFINING & MARKETING GHG EMISSIONS INTENSITY actual (1990 – 2015) and estimates (2016– 2020) (1)(2)(3)(4)(5)(6)(7)(8)(9)(10)(11)

tonnes CO_2e/cubic metres of oil equivalent (m^3OE)

	1990	2000	2010	2011	2012	2013	2014	**2015**	2016	2017	2018	2019	2020
Actual and estimated CO_2e emissions intensity (tonnes CO_2e/cubic metres of oil equivalent (m^3OE))	0.225	0.193	0.208	0.202	0.199	0.200	0.203	**0.199**	0.193	0.195	0.190	0.192	0.194

Actual Estimated

(1) Estimates are based on current production forecast and methodologies. The tables contain forward-looking estimates and users of this information are cautioned that the actual GHG emissions and emissions intensity may vary materially from the estimates contained in the table. Please see Advisories.
(2) Data here includes both direct and indirect CO_2e emissions, whereas the data included in the Alberta SGER report and other regulatory reports are direct only.
(3) Historical data and estimates for 2007 until 2008 previously included the St. Clair ethanol plant. The ethanol plant data has been removed from the historical data and has been included in the historical data for the Renewables business unit.
(4) The numbers are gross operated volumes and do not include reductions from ethanol, internally generated emission performance credits or purchased offsets.
(5) Values from 2007 and earlier include legacy Suncor facilities only. For comparison, values from 2008 (the year preceding the merger) include both legacy Suncor and Petro-Canada facilities. Data for 2009 includes the full-year emissions for all Suncor and Petro-Canada facilities acquired in the 2009 merger, even though the merger did not close until Aug. 1, 2009. This is to allow for a consistent comparison to past and future years. For historical Petro-Canada emissions please see the Report to the Community at suncor.com.
(6) R&M emissions from purchased third-party merchant hydrogen plants have not been included in the total GHG emissions (direct + indirect) as these emissions do not meet the definition for an indirect scope 2 emission source. These emissions are included in the indirect scope 3 emissions section of this report.

(7) R&M direct emissions do not include CO_2 transfers to third parties such as the food and beverage industries as they do not meet the definition for "CO_2 releases". For the purposes of this report, CO_2 volumes sold to third parties are considered to be indirect scope 3 emissions from products, consistent with provincial government reporting requirements in Ontario and Quebec.
(8) Re-reported emissions for previous years include subtracting the indirect emissions from purchased hydrogen and CO_2 sales volumes. Forecasted years also recognize this classification of purchased hydrogen and CO_2 sales emission sources as indirect scope 3 emissions.
(9) Sarnia's 2010 emissions were revised upon further review by third-party assurance.
(10) The Other category includes Burrard terminal in all reported years, Pipelines starting in 2010 and Montreal Sulphur Plant starting in 2014. The Montreal Sulphur Plant's 2014 data has been adjusted to reflect the portion of the year that it was owned and operated by Suncor (July-Dec). Starting with 2015 the Sulphur Plant's full year data is included (and for forecasted years as well). Pipelines include pipeline stations on the Oil Sands to Edmonton refinery pipeline as well as the pipeline from Firebag to Oil Sands and Fort Hills to Oil Sands.
(11) Terminals, Pipelines and the Montreal Sulphur Plant do not contribute to R&M production (denominator for GHG intensity), only absolute GHG emissions (numerator for GHG intensity) due to the definition of the corporate wide production metric.

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Renewables

St. Clair ethanol plant

We've been blending ethanol in our retail fuels since 1992. We opened the St. Clair ethanol plant in Mooretown, Ont. 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.

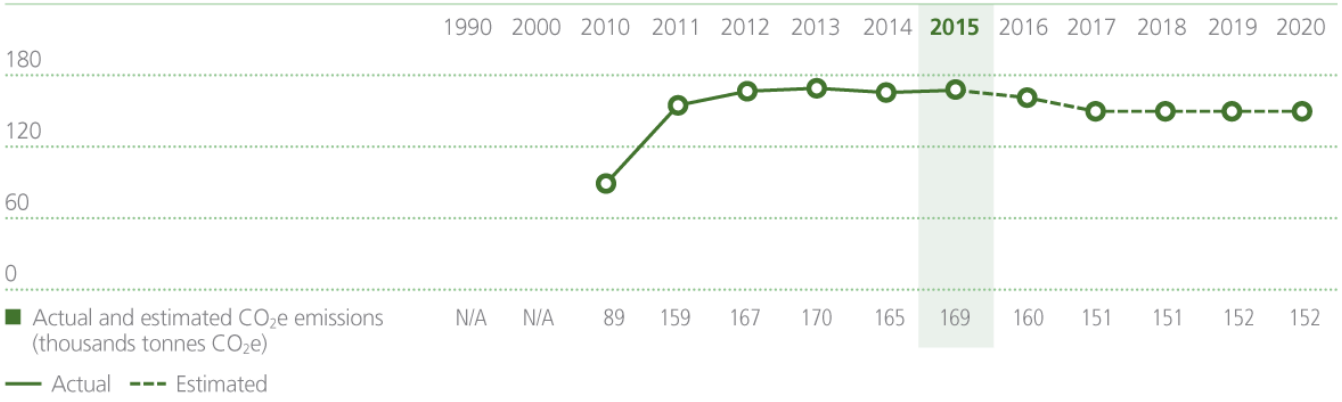
Absolute emissions and emissions intensity from the St. Clair ethanol plant slightly increased from 2014 to 2015 with increases of 2.5% and 1.2% respectively.

Wind power

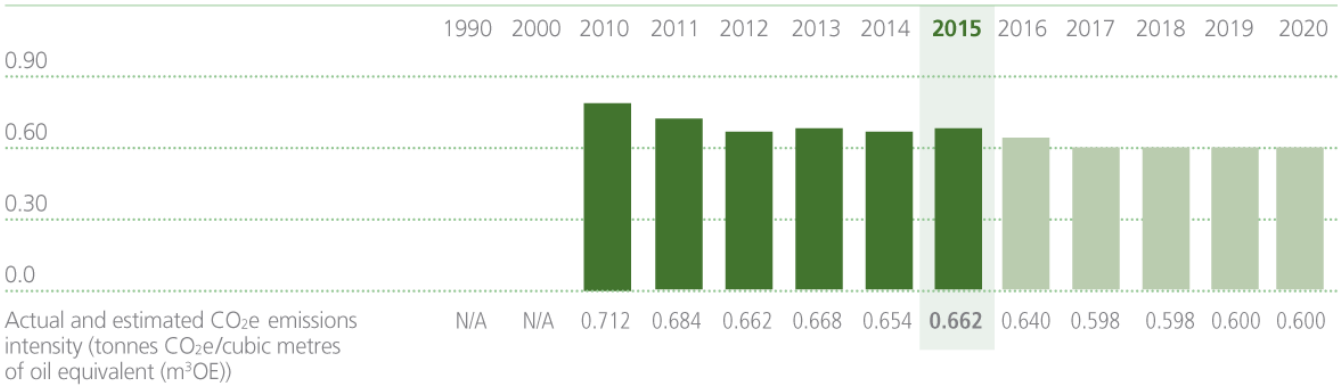
Suncor and our partners are involved in six operational wind power facilities with a generating capacity totaling 287 megawatts (MW), enough to power about 110,000 Canadian homes. Performance data is reported 100% for operated wind farms only and is not adjusted to reflect ownership share.

In Q4 2015, Suncor commenced operations at our Cedar Point wind power facility located in southwestern Ontario. In 2015 Suncor entered into an asset swap agreement with TransAlta Corporation to exchange our 20 MW Kent Breeze facility in Ontario and our share of the 88 MW Wintering Hills facility in Alberta for TransAlta's Poplar Creek co-generation facilities along with some key transmission and distribution infrastructure. Information reported in this year's Report on Sustainability is included for Wintering Hills and Kent Breeze up to the date of their sale and for the full year of production from Adelaide. In 2015, our wind farms emitted less than 400 metric tonnes CO_2e and produced over 310,000 MWh. For reference, an equivalent size natural gas power plant producing a comparable amount of electricity would emit over 116,000 tonnes CO_2e annually. That's almost 300 times more emissions than our wind farms.

RENEWABLES ABSOLUTE GHG EMISSIONS
actual (1990 – 2015) and estimates (2016 – 2020) (1)(2)(3)(4)(5)(6)(7)
thousands tonnes CO_2 equivalents (CO_2e)



RENEWABLES GHG EMISSIONS INTENSITY
actual (1990 – 2015) and estimates (2016 – 2020) (1)(2)(3)(4)(5)(6)(7)
tonnes CO_2e/cubic metres of oil equivalent (m^3OE)



■ Actual ■ Estimated

(1) Estimates are based on current production forecast and methodologies. The tables contain forward-looking estimates and users of this information are cautioned that the actual GHG emissions and emission intensity may vary materially from the estimates contained in the table. Please see Advisories.
(2) Data here includes both direct and indirect CO_2e emission. No credit is taken for GHG reductions due to ethanol lifecycle GHG reductions or wind generated offsets.
(3) Historically, ethanol numbers for 2007 until 2008 were reported in R&M Canada. Those numbers have been backed out of R&M and placed here.
(4) The GHG and production numbers for the ethanol plant are constant from year to year as the plant runs at ~100% essentially all the time. Production is dependent on how much corn we can purchase and how much ethanol we can sell, which are predictable and mainly within our control.
(5) The capacity of the ethanol plant was doubled in 2011 to 400 million litres of ethanol per year.
(6) Beginning in 2012, Renewables includes total emissions (direct and indirect) from operated wind farms and the St. Clair ethanol plant. No credit is taken for generated wind offsets and generated electricity is not reflected as production in the intensity metric.
(7) In 2015 Suncor divested the Kent Breeze and Wintering Hills wind farms as part of an asset swap with TransAlta Corporation. These assets are included in the 2015 data up until the point of their sale and have been removed for 2016-2020 data shown.

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2015 Emissions factors

Measuring GHG emissions is complex, and it's important we do so in a transparent, consistent, verifiable and regulatory-compliant manner. Emissions factors, which allow us to estimate GHG emissions from a unit of available activity data (i.e., quantity of fuel consumed, quantity of product produced), help us achieve this.

Metric for reporting GHG emissions

The metric for reporting GHG emissions that is used in the Report on Sustainability is metric tonnes of carbon dioxide equivalent (CO_2e). This unit, which is commonly used for reporting GHGs, represents volumes of gases that have been studied to have an impact on the global atmosphere. CO_2e means that individual GHGs have been multiplied by their assessed global warming potential (GWP) compared to carbon dioxide (CO_2). This report uses the 100-year GWPs issued by the Intergovernmental Panel on Climate Change's (IPCC) fourth assessment report, which aligns to several jurisdictions of GHG reporting including Environment Canada and the U.S. Environmental Protection Agency (EPA). This is consistent with our 2014 and 2015 Reports on Sustainability; however sustainability reports prior to 2014 used the IPCC's third assessment report.

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.

Measuring potential 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 — either 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 over 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.

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 2015 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 2015 reporting year at a reasonable level of assurance.

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
- Alberta Environment and Sustainable Resource Development Specified Gas Emitters Regulation Technical Guidance Documents
- 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 (PDF 33 pp., 634.43 KB)

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Renewables

On this page:

Why renewable energy?

Renewable energy will be an increasingly important part of the global energy mix as we work toward a sustainable energy future. We were an early entrant into Canada's renewable energy industry. Our investments to date have been focused on wind power and biofuels but we continue to evaluate opportunities in other renewable technologies, including solar.

Developing renewable energy is a key component of Suncor's climate change action plan. In 2015, our combined renewable energy portfolio displaced about one million tonnes of carbon dioxide (CO_2) per year – the equivalent of the annual tailpipe emissions of about 255,000 typical cars.

Advancing different forms of energy also makes good business sense. Renewable power (wind and solar) and biofuels are some of the future's energy sources – and we want to be among the providers of multiple energy solutions through what we believe are strategic, and relatively low-risk, investments.

Renewable power development

Suncor and its partners are involved in six operational wind power facilities in Canada, the first of which opened in 2002. These wind power facilities have a generating capacity of 287 megawatts (MW), enough to power about 110,000 Canadian homes. This power generation avoids approximately 255,000 tonnes of carbon dioxide each year. Suncor's six operational wind facilities are located in Alberta, Saskatchewan and Ontario.

In late 2015, our Cedar Point wind power project became operational. This project is a 100 MW facility and is located in southwestern Ontario. Also located in southwestern Ontario, our 40 MW Adelaide Wind Power facility is a notable project in our portfolio as it includes a 25% equity partnership with the Aamjiwnaang First Nation.

"This partnership is an opportunity for us to continue to work together with the Aamjiwnaang First Nation on our shared energy future," said Jim Provias, vice president, Renewable Energy, Suncor. "Suncor is committed to working closely with the Aamjiwnaang community and we look forward to building on this relationship over the lifespan of our project."

In 2015, Suncor entered into an asset swap agreement with TransAlta Corporation to exchange our 20 MW Kent Breeze facility in Ontario and our share of the 88 MW Wintering Hills facility in Alberta for TransAlta's Poplar Creek co-generation facilities along with some key transmission and distribution infrastructure.

Wind energy continues to be a key component of our commitment to advancing different forms of energy. We believe wind power is a safe and reliable energy source. Producing wind energy is efficient and the fuel input is not only free, but emissions-free. Recent studies have shown that wind, along with natural gas (especially when the latter is paired with cogeneration, as it is at our oil sands facilities), are two of the lowest-cost options for building new power plants today.

As an integrated energy company, Suncor is committed to developing and supplying energy options that meet the needs of both today and tomorrow. While wind has been the focus of our investment in renewable energy to date, we have also been looking for the right opportunity to branch into solar power development. The dramatic decrease in the cost of solar equipment along with increasing government incentives to produce renewable power is now allowing us to pursue that objective. We are in the early stages of advancing potential solar sites in Alberta and have made transmission access applications to ensure future electricity grid connection. In addition, we are evaluating other solar opportunities in Ontario and Saskatchewan to complement our portfolio.

Renewable energy projects generate clean electricity, new jobs and economic development opportunities in communities across the country. We recognize that support for wind and solar energy development is not unanimous; however, we endeavour to work in an open, respectful and transparent way, engaging with communities early to alleviate and resolve issues wherever possible and reach mutually acceptable solutions. Our wind projects strive to meet or exceed all regulations. For example, our project design philosophy aims to minimize visual impact, reduce turbine density and maximize setbacks wherever practical.

We are committed to the health and safety of everyone near our operations, including landowners, neighbours and employees. Suncor welcomes a fact-based debate about energy choices and continues to look to accredited studies with scientific evidence.

Biofuels

We also operate Canada's largest ethanol production plant, near Sarnia, Ont. The St. Clair ethanol facility has a production capacity of 400 million litres per year.

Virtually all the ethanol produced at the St. Clair plant is blended into Petro-Canada gasoline.

"Since it is a requirement for various biofuels mandates across the country, we can either purchase the product or we can produce it," says Jim Provias, vice president renewable energy. "By operating the St. Clair plant, we are better able to control cost and quality, further reinforcing the value of Suncor's integrated operating model."

In 2014 Suncor made an investment in a biodiesel technology commercialization company. Along with this investment, we are participating in our first commercial-scale biodiesel plant currently under construction in Nebraska; the plant is expected to be operational in 2016.

Our investment in ethanol

We have been blending ethanol in our retail fuels since 1992. The St. Clair ethanol plant opened in Mooretown, Ont., in 2006 and we doubled the plant's production capacity to 400 million litres of corn-based ethanol annually in 2011.

The ethanol produced at the St. Clair plant is blended into our Petro-Canada branded gasoline, providing a lower environmental impact than non-ethanolized

gasoline and ensuring we meet government-mandated blending standards.

In Canada, the Federal Renewable Fuel Regulations requires an average of 5% renewable ethanol content in gasoline across Canada.

Some provinces have their own mandates for biofuel blending requirements, which means we need to purchase product from third parties to complement our supply from our St. Clair ethanol plant in Ontario.

There is growing evidence that biofuels such as ethanol are proven energy sources with demonstrable benefits.

The Conference Board of Canada concluded in a report titled Ethanol's Potential Contribution to Canada's Transportation Sector that:

- ethanol reduces greenhouse gas emissions (GHG) relative to gasoline by between 40% and 62% depending on agricultural and production practices
- improved farming techniques have significantly increased the average bushels of corn produced per acre, positively impacting water and fertilizer efficiency
- today's corn production is also more energy efficient

Although 10% ethanol-blended gasoline contains about 3% less energy than pure gasoline, it is an oxygenated fuel that has the ability to improve combustion efficiency in many vehicles. For most vehicles, this increased efficiency helps to offset the slightly lower energy content in the ethanol-blended gasoline.

Life cycle assessments

We believe it is appropriate to look at the full life cycle of ethanol production when discussing environmental benefits.

Before building our ethanol plant, we asked the Alberta-based Pembina Institute to conduct two life cycle assessments, which looked at all of the energy inputs from the corn field to the gas pump. Once the first phase of our facility was operational, we asked Pembina to revisit the study to ensure both the latest scientific methodology, along with actual operating data, was used.

Visit the Pembina Institute website to learn more

From its assessment, which was independently verified by the U.S. government's Argonne National Laboratory, Pembina estimated that overall CO_2 emissions could be reduced by up to 300,000 tonnes per year by blending all of the ethanol from the original St. Clair plant into gasoline. With the expansion of the plant, that environmental benefit has increased to 464,000 tonnes per year. St. Clair's ethanol provides about a 52% reduction in GHG emissions compared to gasoline. These estimates were more recently reconfirmed by internal calculations.

Alternative land uses and crops

Much of the agricultural land used to produce ethanol today was previously used to grow tobacco. With the demand for tobacco on the decline, corn ethanol is providing a sustainable alternative crop for farmers.

The type of corn used as feedstock at the St. Clair plant has traditionally been used to feed livestock. Once the sugars and starches are extracted from the corn to make ethanol, the remaining elements are used to make premium cattle feed, which is then sold back to local livestock operators.

In sum, many parties benefit:

- farmers have an alternative crop to market
- livestock producers still get the feed they need for their cattle
- we are able to produce a fuel additive that boosts combustion efficiency and reduces the environmental impact of transportation fuels

We believe the biofuels industry is here to stay and we are committed to best-in-class production practices at our St. Clair plant.

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Climate change action plan

On this page:

We recognized early on that climate change would be an important issue for our company and our stakeholders. That's why we introduced a seven-point action plan in 1997.

Guided by this plan, we have made substantial progress in reducing the overall carbon intensity of our operations (i.e. the amount of carbon emitted for each barrel or cubic metre (m^3) of oil produced or refined).

While much has changed over the years, our climate change strategy remains a reliable guide for an era when there is increased focus on the need for collaboration, investment in emissions-reducing technologies and constructive public policy development.

Read more about our public policy participation

Seven-point action plan

Below is a summary of actions we continued to take in 2015 on our seven-point action plan to better manage our greenhouse gas (GHG) emissions and constructively address the climate change challenge.

Expand all | Collapse all

1. Manage our own emissions

- Absolute emissions remained flat while emissions intensity decreased. GHG Emissions remained relatively flat in 2015 as compared to 2014 due to no significant changes to our portfolio. Current operations realized increased efficiencies and improved reliability which is shown in the decrease to

corporate wide GHG emissions intensity.

- Our most effective near-term opportunity for reducing our GHG emissions and emissions intensity is through improved energy efficiency and plant reliability. We continue to invest in longer-term technologies that hold the potential of significantly reducing emissions intensity and ultimately bending the curve on absolute emissions growth.
- In 2015, we are focused on sustainment and continuous improvement of our comprehensive Energy Management System (EMS) across all of our onshore operated facilities. While much progress has been made, we now expect to complete this by the end of 2016.
- EMS is one enabler for us to achieve our company-wide 10% improvement in energy efficiency target by 2015 (as compared to 2007). EMS involves the implementation and sustainment of a comprehensive system that monitors, benchmarks and improves the energy efficiency of our facilities through operational discipline and targeted projects.

2. Develop renewable sources of energy

- We operate Canada's largest ethanol production plant, and are currently involved in six wind farms, totaling 287 megawatts (MW) of capacity.
- The 100 MW Cedar Point II wind farm is now operational. Currently, our combined renewable energy developments displace about one million tonnes of carbon dioxide (CO_2) per year — the equivalent of the annual tailpipe emissions of about 255,000 typical cars.

Read more about renewable energy

3. Invest in technology and innovation

- We continued to play a leading role in 2015 in developing long-term alternative bitumen extraction technologies that could result in significantly reducing the GHG emissions intensity of oil sands production.
- Among initiatives, we are leading a research and development project that would see implementation of autonomous haulage systems in our mines, a first in North America. See technology development for further details.
- Suncor is examining novel methods of using steam, solvents and electromagnetics to produce in-situ bitumen. If successful, these efforts could potentially reduce GHG intensity by over 50%. See technology development for further details.
- We also formed Evok Innovations, which is a unique partnership between Cenovus Energy, Suncor and the BC Cleantech CEO Alliance. Evok is an entrepreneur-led capital fund that's designed to find, finance and accelerate next-generation technologies to meet the challenges facing Canada's energy industry.
- In 2012, we co-founded Canada's Oil Sands Innovation Alliance (COSIA), an alliance of 13 companies representing 90% of Canadian oil sands production.

    - COSIA is committed to collaborative action to accelerate improvements in environmental performance in four key areas, including GHGs.
    - COSIA will build on the work of other collaborative networks to share knowledge and expertise about new technologies and innovation.
    - In terms of developing potential high-impact emissions-reducing solutions, COSIA is bringing together a broader range of ideas and resources and an increased capacity for implementing new approaches in a structured and disciplined way.

    As part of COSIA, Suncor is also helping to sponsor a $20 million XPrize contest that will encourage innovators to come up with new ideas to take carbon dioxide emissions from coal and gas plants and transform them from an environmental liability into useable products.
    Visit the COSIA website for details
- To achieve further carbon intensity reductions and advance potential long-term climate change solutions, including energy efficiency, low-intensity bitumen extraction, or carbon capture and storage (CCS), we continued to work through organizations like:

    - Climate Change and Emissions Management Corporation (CCEMC)
    - Carbon Management Canada
    - CO_2 Capture Project
    - Alberta Innovates – Energy and Environment Solutions
    - Alberta Innovates – Tech Futures
    - University of Alberta – Industrial Research Chair on Energy Systems

4. Use domestic and international offsets

- Our operating wind farms continued to generate GHG offset credits. In Alberta, our offset credits accrue based on the Wind-Powered Electricity Systems Offset Protocol in the Offset Credit System. In other jurisdictions where we operate, the credits or environmental attributes accrue to the Crown utilities that purchase power. The offset credits generated at our Alberta wind farms may be used by our oil sands facilities to help comply with the Alberta Specified Gas Emitters Regulation.

  Read more about our wind farms on suncor.com

- We belong to the International Emissions Trading Association (IETA). IETA is dedicated to establishing a functional international framework for trading in GHG emission reductions. Through our affiliation, we participate in various working groups to ensure environmental integrity first and foremost, but also to create flexibility for business solutions that leverage actions and opportunities across the globe and the entire Canadian economy.

  The IETA Canadian Working Group has been effective in:

  - collaborating to help structure dialogue and alignment work related to harmonizing GHG emissions monitoring, reporting, and verification systems
  - compatibility of market infrastructure (i.e., tracking and registries)
  - offset system development and protocol alignment
  - technology fund design
  - informing provincial-federal GHG emission equivalency agreements through regular dialogue between industry, provincial, territorial and federal governments

- We also made a 10-year commitment to the Rio Bravo Carbon Sequestration Project in Belize. The project involves the conservation and sustainable management of more than 51,000 acres of forest in northwest Belize.

  In 2011, part of this project was certified under the Verified Carbon Standard as a United Nations Reducing Emissions from Deforestation and Forest Degradation project. The balance, in which Suncor has an interest, suffered hurricane damage in 2010 and likely will not be certified until an assessment can be made of the long-term impacts.

  The project continues to provide valuable learning to the forestry community, offset developers and policymakers on issues such as permanence and leakage, and demonstrates how saving forests is part of the climate change solution.

5. Collaborate on policy development

We consult with provincial, state and federal governments on energy and climate change policy. We're also working with Canada's Ecofiscal Commission on fiscal policies that will support economic growth and improved environmental performance.

When it comes to climate change regulations, we continue to press for:

- applying a broad-based economy-wide carbon price
- clarity and certainty — our investors want to know what the rules are and be assured of their longevity, given that our major projects require significant capital up front and are operational for decades
- fairness (nationally and internationally) so no one industry or region is unfairly targeted or disadvantaged
- international standards that promote sustainability reporting and transparency
- flexibility in compliance mechanisms, so that companies can take the action that is the most cost-effective and appropriate considering the specifics of their operation
- harmonization that occurs across jurisdictions to avoid overlap and inefficiencies, particularly across the integrated North American energy market
- the technology fund construct as a means to harnessing oil sands wealth in the research and innovation necessary to change the Canadian energy system over the long term and keep Canada a competitive global energy player

We view GHG emissions trading and other carbon pricing mechanisms as useful tools. We also believe that to be effective, climate change policy must encourage consistent and patient investment in new technologies that will transform how we produce and use energy. Strategic technology investments can lead to deep emission reductions, but there needs to be a willingness to direct industry and public funds toward innovation. Cap-and-trade or carbon pricing policies alone will not accomplish this.

Read more about public policy participation

6. Educate employees and the public

Energy literacy is a necessary foundation for truly innovative and practical energy solutions. We continue to work with leading organizations to promote energy literacy and advance thinking around a low carbon energy future.

Through Suncor and the Suncor Energy Foundation, we've invested in:

- The Natural Step's Energy Futures Lab in Alberta, bringing together innovators and influencers to collectively address current and future energy challenges
- Pollution Probe's efforts to advance energy literacy and a systems-based approach to thinking about energy through the Energy Exchange
- Quality Urban Energy Systems of Tomorrow (QUEST), an organization that seeks to foster an integrated, community-based approach to resolving energy and environmental challenges
- the development of a national community of practice for energy literacy through the Canada Science and Technology Museum
- The Walrus Talks Energy speaker series in partnership with The Walrus Foundation highlighting various perspectives on the current and future energy system
- an initiative by The Pembina Institute, called Green Energy Futures, which profiles stories of real people and their experiences with using green energy technologies in their homes and communities through a multi-media platform
- Student Energy and their global activities to educate and connect people and ideas around the future of energy development
- Alberta Council for Environmental Educationand its efforts to develop and introduce environmental and energy literacy into the Alberta education curriculum
- GreenLearning's development and delivery of an educational dialogue for high school students on the sustainable development of Canada's oil sands
- our employees, who continue to take individual accountability for reducing waste and improving energy efficiency as part of our employee engagement initiative. This initiative extends from lunchtime sessions on energy conservation to recognizing employees for energy efficiency and GHG emission reduction projects through our President's Operational Excellence Awards

Read more about community investment on suncor.com

7. Measure and report our progress

- In March 2016, we filed five annual GHG emission compliance reports for our Alberta operations with the Alberta government to the province's Specified Gas Emitters Regulation (SGER).
- We are also in compliance with all applicable requirements of the European Union Emission Trading System.
- We annually report to Environment Canada for all our facilities in Canada that emit over 50,000 tonnes of CO_2 equivalent, to the U.S. Environmental Protection Agency for our Commerce City refinery and to the provincial jurisdictions of Alberta, Ontario, Quebec and British Columbia in compliance with their reporting requirements.
- We report our overall progress on managing GHG emissions to all stakeholders through our Report on Sustainability and CDP Climate Change.

For business planning purposes, we model the emissions associated with all of our future operated production, including growth projects, to assess our risks and identify opportunities associated with existing and anticipated carbon regulatory regimes. Our future carbon price assumption takes into account the best information we have from carbon markets and emerging public policy in the jurisdictions where we have material operations. Our model includes a carbon price that starts at $15 per tonne and rises to about $55 per tonne. Our model assumes the carbon price applies to a gradual increased percentage of our emissions over time. Read our 2016 CDP response.

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Water stewardship

On this page:

Suncor believes that water is a shared and precious resource that must be managed wisely using a balanced, sustainable approach to integrated water management. This holistic approach includes optimizing water withdrawal practices, reuse of water already in our system, and the return of water to the watershed. We continue to invest in research and development to increase information, expertise, technological innovations and practices in an effort to sustainably manage water and reduce overall environmental impacts.

Water principles

We use four principles to guide our integrated water management approach:

1. **Shared value of water**: Water is a valuable natural resource with environmental, social and economic value. All water use must be managed wisely. Responsible energy development means ensuring industry's water use does not compromise the availability of clean, safe and plentiful supply of this important resource for current and future generations. We advocate and support policy development that strives to balance social, environmental and economic considerations.
2. **Watershed management**: Watershed management should be conducted on a regional scale, considering all users and the overall cumulative impact. We believe in the importance of working collaboratively with peers, government and environmental groups as well as affected Aboriginal communities through transparent, informed discussions about water stewardship in the Athabasca watershed.
3. **Reduce-Reuse-Return:** A truly sustainable integrated water management approach must simultaneously balance reduce-reuse and return:
    - **Reduce**: A responsible water footprint means reducing water use must be balanced against the understanding of the overall net environmental effects.
    - **Reuse**: Reusing water to improve efficiency while considering net effects related to safety, reliability, energy use or future reclamation successes.
    - **Return**: A critical component of an integrated water management approach is the ability to safely return water to the watershed. Water Return is required to manage on-site water quantity and quality and is essential to minimize other environmental impacts (i.e. land disturbance, energy intensity/GHG emissions, waste generation).
4. **Integrated options analysis**: This analysis recognizes the integration of water management principles with site specific conditions. Sustainable water management for an individual facility must include the principles of reduce, reuse, and return of water, recognizing that for each facility this will be unique based on a number of factors. All of these factors will lead to the development of options or opportunities in all three areas of water

management (reduce-reuse-return).

Collaboration on regional water stewardship

As the oil sands industry grows, we recognize the need to increasingly focus on the cumulative demands development places on regional water resources over the long term. Understanding that water impacts and challenges extend well beyond our own plant gates, we are also working closely with fellow oil sands operators, regulators and other stakeholders to move beyond just water management to water stewardship in the Athabasca River watershed.

Beginning in 2009, we've worked as part of the Oil Sands Leadership Initiative, now Canada's Oil Sands Innovation Alliance (COSIA), to advance a regional understanding of water. Suncor has either led or collaborated on projects that target three critical areas:

- understanding the watershed (users, flow, water quality and regional stakeholders) now and in the future
- understanding water use on our operational site and opportunities to reduce, reuse and return water in the watershed
- continuing to develop strong environmental monitoring in the watershed

Our regional collaborative work is key to ensure we find the right balance for all water users and the environment.

Through COSIA, Suncor and other member companies have executed more than 17 projects and contributed more than 180 technologies on these three critical areas of water stewardship.

>Read more about our water management strategies

Technology and innovation in water treatment

As part of COSIA, we are working with industry partners to develop the Water Technology Development Centre (WTDC), which will advance new water treatment and recycling technologies for oil sands development. The $165 million WTDC, is scheduled to be open in 2019 and will be attached to our Firebag in situ operations, allowing researchers to test new technologies on 'live' process fluids.

The WTDC will also allow participating companies to test more technologies than could be evaluated by each company individually while collaboratively managing the risks and costs of technology development. It will shorten the time required to field test technologies and move them to commercial application. Other targeted benefits include:

- reducing the cost of water recycling
- increasing steam and bitumen production
- improving the reliability of water recycling technology
- reducing water use and energy efficiency
- developing and applying improved technologies and practices for managing water treatment byproducts

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Water quality monitoring

On this page:

> Suncor recognizes the importance of preserving the health of the Athabasca River. We are working with governments, industry peers and stakeholders to support strengthened aquatic monitoring programs aimed at minimizing the impact of oil sands development on the Athabasca watershed.

Water quality monitoring is an integral component of water stewardship, and there are multiple points where we monitor water quality and then use that information to adapt our water use. Water quality monitoring occurs inside our operations, at the points where we return water and also in the watershed:

- Monitoring water on our site allows us to understand the drivers for managing risks as well as opportunities to reduce, reuse and return water. It also provides us with information on the need to develop new water technologies.
- Monitoring water where it is returned to the river ensures we meet all stringent quality standards. It also helps identify how effectively our treatment systems operate and areas where we need to make improvements.
- Monitoring in the river is the key step to detecting and understanding changes in the river. This information is used to set water use as well as effluent guidelines for all watershed users.

Taken together, these monitoring efforts create an overall water stewardship framework that contributes to preserving the value of water in the watershed.

Ongoing aquatic monitoring

The Athabasca River provides habitat for many fish species and other aquatic organisms, and feeds into Lake Athabasca. It is also a water source for the industry.

To ensure the health of the river is maintained, we analyze our discharges and support ongoing aquatic monitoring of the Athabasca River. In the past,

aquatic monitoring was carried out through the Regional Aquatic Monitoring Program (RAMP). That function is now overseen by the Alberta Government.

The Joint Canada-Alberta Implementation Plan for Oil Sands Monitoring

In 2012, the Government of Canada and the Government of Alberta launched the Joint Canada-Alberta Implementation Plan for Oil Sands Monitoring. The plan was jointly managed by the two governments to strengthen existing environmental monitoring programs for air, water, land and biodiversity in the oil sands region.

The plan was implemented over three years, ending in March 2015. It has resulted in:

- a larger number of sampling sites over a larger area
- a larger number and additional types of parameters being sampled
- a higher frequency of sampling improved methodologies for monitoring both air and water
- an integrated, open data management program

In terms of water monitoring, key features include:

- improved co-ordination of sampling practices to improve the understanding of potential cumulative impacts
- new sediment monitoring throughout the Athabasca River system to establish baseline and downstream conditions of potential contaminant
- new systematic sampling of snow and rainfall to assess the relationship between airborne processes, deposition and surface runoff entering tributaries and moving downstream
- new monitoring techniques for measuring potential ice contaminants, ice processes, the impact of freeze-up and breakup, sediment processes and water measurement under ice
- new integrated and intensive scientific investigations on representative watershed
- new intensive monitoring of sources of potential near-surface groundwater contaminants and pathways

The monitoring program will undergo external expert peer review after the third year of implementation and at five-year intervals thereafter. The data from the monitoring program, and the methodology used to produce it will be made public on an ongoing basis.

We continue to support the Joint Oil Sands monitoring program. We are working with governments, industry peers and other stakeholders to ensure the strengthened monitoring system is implemented effectively and efficiently as we pursue the shared goal of minimizing the impact of oil sands development on the Athabasca watershed.

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Water use

On this page :

Many of our stakeholders remain concerned about the amount of water oil sands producers are allowed to withdraw from the Lower Athabasca River. Industry, First Nations, Aboriginal Peoples, environmental groups and government bodies have discussed the issue at length.

Reducing our water withdrawals

Suncor strives to continuously improve our water performance. We committed to reducing our company-wide freshwater consumption by 12% by 2015 (as compared to 2007). Our company-wide freshwater consumption is now 27% lower than our 2007 usage. We are now working towards a new water goal.

Through better water reuse and recycling in our operations, we have reduced our gross water withdrawal from the Athabasca River by approximately 58% since 2007, when 43.7 million cubic metres (m^3) of fresh water was withdrawn. Our total water withdrawal is now below 1998 levels, even though production has more than tripled since that time.

Read more about our fresh water consumption goal.

Expand all | Collapse all

Mining

Our mining operations mix oil sands with water to separate out the bitumen. 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.

Approximately 85% of the water used by our mining and extraction operations is recycled tailings water. The primary source for the rest of the water is the Athabasca River in one of Alberta's largest river basins.

[Read more about our mining operations on suncor.com]

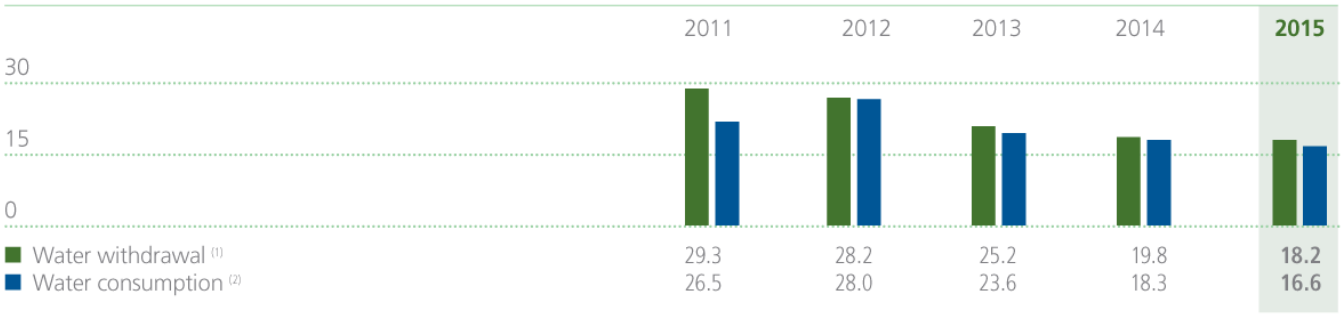
Our oil sands base plant is licensed to withdraw up to 59.8 million m^3 of water annually from the Athabasca — about 0.3% of the river's annual average flow. We continue to operate well below our water license even as production levels increase.

Over the last few years, Suncor executed a water management strategy at our oil sands base plant facilities to reduce the amount of water stored on site in tailings ponds and manage water quality in the system. The strategy contains three phases and more than 15 projects that:

- conserve or eliminate water use
- reuse water where possible
- return clean water to the watershed

The impact of the strategy has resulted in Suncor reducing its water withdrawal rates dramatically since 2007 from the Athabasca River. In 2015, we withdrew 18.16 million m3 of water from the Athabasca, while releasing 1.61 million m3 of treated water back into the river. Our gross fresh water withdrawal from the Athabasca River has declined by 58% since 2007 when 43.7 million m3 of fresh water was withdrawn. Our oil sands mining operation consumed 1.4 cubic metres (m^3) of water to produce one m3 of oil — a 33% reduction in water consumption intensity since 2007.

OIL SANDS FRESH WATER WITHDRAWAL AND CONSUMPTION*
(million m^3)



*The methodology for calculating the water withdrawal metric for Oil Sands includes industrial runoff volumes as described in the Performance Indicators section of our Report on Sustainability. Data and process improvements implemented since 2012 improved the understanding of site conditions.
(1) Water withdrawal can potentially be subject to variances year over year based on environmental factors (e.g., precipitation).
(2) Water consumption is defined as the quantity of water used and not returned to its proximate source or no longer available in its original form.

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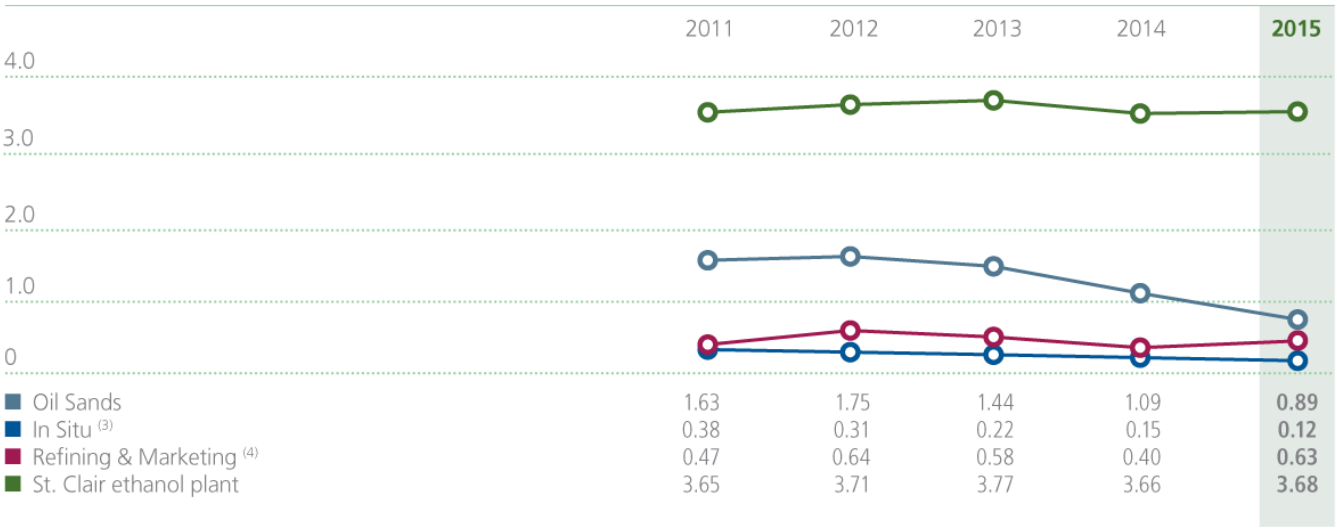
FRESH WATER CONSUMPTION INTENSITY[1][2][3][4]
(m^3/m^3 production)



	2011	2012	2013	2014	2015
Oil Sands	1.63	1.75	1.44	1.09	**0.89**
In Situ [3]	0.38	0.31	0.22	0.15	**0.12**
Refining & Marketing [4]	0.47	0.64	0.58	0.40	**0.63**
St. Clair ethanol plant	3.65	3.71	3.77	3.66	**3.68**

(1) North America Onshore and East Coast Canada are not included as they are not material sources of freshwater consumption for our business.
(2) Water consumption intensity is the volume of water consumed (m^3) per volume of hydrocarbon product produced (m^3).
(3) In Situ data includes Firebag and MacKay River operations.
(4) Refining & Marketing includes four refineries and lubricants facility. Water measurement and estimation methodology of select operations is greater than +/-10% uncertainty

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While a significant amount of the water use reduction is permanent, over the longer term Suncor's water withdrawal from the river will increase and stabilize to maintain a water balance and dissolved ion chemistry to successfully achieve reclamation objectives for mine closure.

Our oil sands water strategy is further presented below

Concept #1: Directly reuse tailings water

The first major phase of our water strategy, formally commissioned in 2013, 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 makeup water supply.

The result is a system designed to allow up to 10,000 cubic metres (m^3) (or four Olympic-sized swimming pools) of tailings water per day to be used as in situ makeup water instead of being stored in tailings ponds.

This project is unique in several respects. Reusing tailings water for makeup water in the in situ extraction process is new not only for us, but for the entire industry.

This initiative was one of three separate projects to be honoured with the President's Award during the Canadian Association of Petroleum Producers (CAPP) Responsible Canadian Energy Awards in 2014.

Concept #2: Recycling 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.

The plant can recycle all of the upgrading wastewater between 22,550 and 43,222 litres of water per minute, depending on the time of year (or 12 to 35 Olympic-sized swimming pools per day) and could offset the need for river water by an equivalent amount.

This project allows Suncor greater flexibility to manage water across the site depending on overall needs and changes to the watershed. With the wastewater treatment plant in operation, Suncor has the potential to reduce our river water withdrawal by about 65% compared to 2007.

The next step: expand initiatives to treat and reuse tailings water and wastewater

The third phase of our strategy will target further water use reductions by designing more systems to reduce and reuse water (tailings or wastewater) from operations for a variety of purposes. These improvements in efficiency will reduce the amount of fresh water we require.

As we continue to lead and innovate, we will share the lessons learned 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.

Fort Hills

Fort Hills, operated by Suncor is scheduled to produce first oil in 2017. The project has started to use river water for drinking water for the construction worker housing facilities, to establish a water cap in the out of pit tailings area and to start filling the on-site water storage.

We have a separate water license allocation of up to 32.3 million m^3 of water annually for the Fort Hills project, which was sanctioned in 2013 and is expected to begin production in late 2017. Taken together, the base plant and Fort Hills allocations represent about 0.47% of the Athabasca River's annual average flow.

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

In situ

Our in situ operations reach oil sands deposits buried too deep to be mined (about 97% of the reserves that underlie the oil sands surface area are in this category). We 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% of the water used at our Firebag in situ sites is recycled which is higher than the provincially regulated directive of 90%. The makeup is drawn from recycled wastewater from our oil sands upgrading and utilities operations, eliminating the need for fresh surface water or potable groundwater.

At our MacKay River in situ facility (where about 98% of the water is recycled), the majority of makeup water comes from groundwater. Most of that water is too high in salt and mineral content to be used for drinking water or agriculture.

Over the last five years, in-situ fresh water use intensity has decreased by over 75% primarily due to tripling our production while not increasing fresh water use and also due to wastewater recycling.

Downstream draw on local fresh water sources

Our refineries and lubricants center use fresh water for heating and cooling. In 2015, the five facilities represented about half our total corporate water use.

While water use has remained relatively flat, there have been local initiatives that have resulted in reduced water use. For example, In the case of our Edmonton refinery, approximately 34% of the total water withdrawn in 2015 was recycled wastewater supplied from the municipal Gold Bar Wastewater

Treatment Plant, significantly reducing the amount of freshwater withdrawn from the North Saskatchewan River.

Suncor completed a comprehensive detailed water risk assessment for all operations in 2013 and also utilized the IPIECA Global Water Tool for Oil & Gas. Suncor has a strategic Issues Management Process (SIMP) that captures and responds to rapid developing water risks.

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, N.L.

Read more about offshore operations on suncor.com

Recommended base flow rate

The Lower Athabasca Regional Plan (LARP) Surface Water Quantity Management Framework's Ecological Base Flow (EBF) for the river is 87 cubic metres per second (m^3/s) — a rate so low that it has never happened since river monitoring began. At that flow, most current and future oil sands mining operators would stop withdrawals from the river and rely entirely on stored water.

The exceptions are Suncor (oil sands base plant) and Syncrude, which due to legacy plant designs are unable to store the water required to completely cease water withdrawals. However, we have both agreed to reduce our withdrawal rate by 50% at the EBF and we are evaluating additional measures to reduce withdrawals even further. At our base plant, we have reduced our water withdrawal by 58% since 2007. Our 2015 water withdrawal was about 30% of our water license of 59.8 Mm^3 annual.

The reason for the exemption for Canada's two oldest oil sands operators is that our licences were granted in the 1960s and 1970s based on the way plants were designed then – without on-site water storage facilities. Our mining operations, as well as Syncrude's, cannot operate without at least some fresh water intake, especially in the winter.

All new oil sands mines, including Suncor's Fort Hills mine scheduled to begin operations in late 2017, have on-site water storage facilities to supply water when withdrawals are not permitted.

The general consensus (including ours) is that, at some extreme low flow, all water withdrawals should cease. We believe further regional monitoring, such as programs previously undertaken by Alberta Environmental Monitoring, Evaluation and Reporting Agency (AEMERA) and now Alberta Environment and Parks (AEP), is required before the appropriate level can be determined. In the meantime, both Suncor and Syncrude have agreed to voluntarily reduce water withdrawals to half the maximum permitted allocation during periods of low flow.

Water storage and land disturbance

For us to build water storage facilities at our existing operations now would require significant land disturbance beyond our existing mining footprint and result in additional energy use and GHG emissions We believe this would have a negative impact on the environment, especially given the rare occurrence of the base flow rates envisioned by the LARP Surface Water Quantity Management Framework.

Read more about our reclamation efforts

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> We are committed to maintain and improve air quality near our operations and to preserve healthy ecosystems through investments in technology and promoting continuous improvement in our operations.

On this page:

In 2009, we established a very challenging goal to reduce our absolute air emissions by 10% while growing our oil sands mining and in situ assets. This target required each of our business areas to focus on reducing air emissions through improved reliability of our operations and equipment upgrades while maintaining our growth strategy. An increase in production typically means higher air emissions, making absolute reductions more difficult with growth plans.

We are pleased to report that not only did we achieve our goal, but we exceeded it by an additional 19% resulting in an overall reduction of total air emissions of 29% when compared to our baseline from 2007. Our results saw significant reductions at our oil sands Base Plant, Terra Nova and some of our refineries.

Air emissions at our in situ facilities increased due to increased production at Firebag and MacKay River. However, our Firebag operations did achieve nearly 50% reduction in SO_2 due to improved reliability resulting in less flaring.

Further information on our performance is below:

Sulphur dioxide (SO_2)

In 2015, company-wide SO_2 emissions and emissions intensity decreased by 20% and 25%, respectively as compared to 2014.

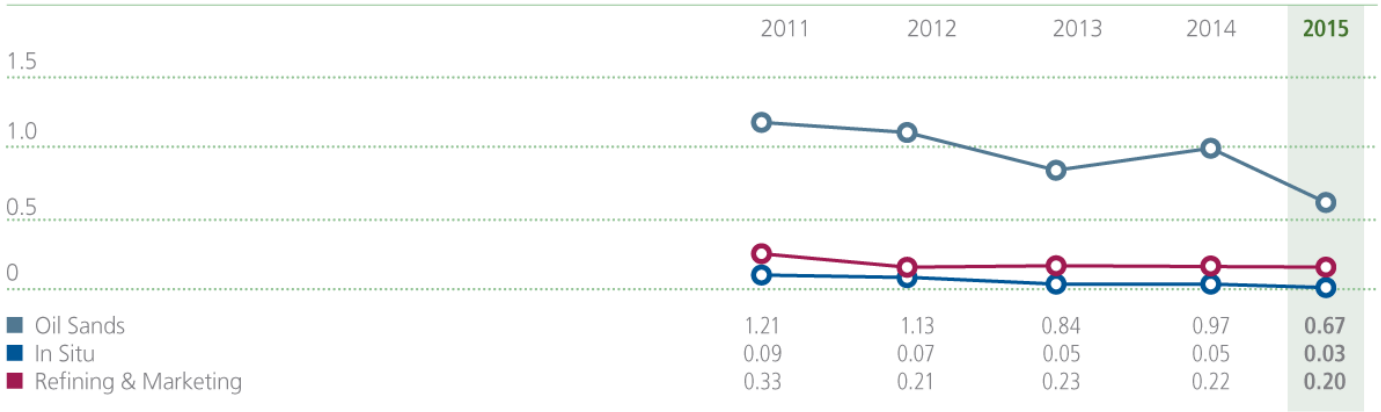
A significant reduction in SO_2 emissions of more than 24% was achieved at our oil sands Base Plant mainly from reduced flaring on site. This decrease in flaring can be primarily attributed to the increased plant reliability achieved in 2015. In addition, efficient management of the coke fired boilers operations

decreased in SO_2 emissions. SO_2 emissions from our in situ facilities also decreased by 32% due to reduced flaring at our Firebag facility.

SO_2 emissions from our downstream operations decreased by 8% in 2015 as compared to 2014. This was slightly offset by an increase in SO_2 emissions at the Montreal sulphur plant mainly due to preventive maintenance of the SO_2 scrubber on site.

SO_2 emissions from Terra Nova and North America Onshore (NAO) facilities decreased by 31% in 2015 when compared to 2014 emissions mainly from reduced combustion emissions. However, performance data has not been included in the chart below as it does not materially impact our business.

SO_2 EMISSIONS INTENSITY
(kg/m^3 production)



(1) North America Onshore, East Coast Canada and the St. Clair ethanol plant are not included as they are not material SO_2 emissions for our business.

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Nitrogen oxides (NO_x)

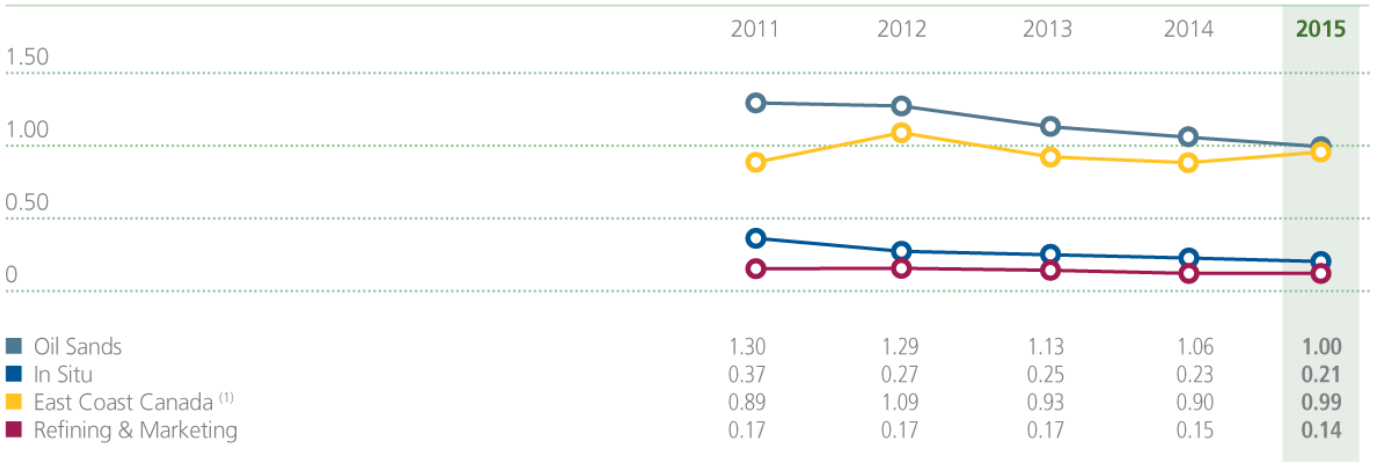
The overall company-wide absolute NO_x emissions were relatively flat in 2015 compared to 2014, and emissions intensity decreased by 5% in 2014.

Absolute NO_x emissions from our oil sands and in situ facilities increased by 4% in 2015 and are mainly from increased production in 2015.

Overall NO_x emissions from our downstream operations decreased by 4%. The decrease in NO_x emissions at our Denver and Edmonton refineries was slightly offset by an increase in emissions at our Sarnia and Montreal refineries as well as from pipeline and terminal operations.

NO_x emissions from Terra Nova also decreased by 18% in 2015 when compared to 2014 emissions and is mainly attributed to a decrease in production. Production from Terra Nova decreased in 2015 mainly due to increased unplanned maintenance activities in 2015 when compared to 2014 as well as declines of natural production as this asset matures. Performance data for NAO and other business units has not been included in the chart below as it does not materially impact our business.

NOx EMISSIONS INTENSITY
(kg/m^3 production)



	2011	2012	2013	2014	2015
Oil Sands	1.30	1.29	1.13	1.06	**1.00**
In Situ	0.37	0.27	0.25	0.23	**0.21**
East Coast Canada [1]	0.89	1.09	0.93	0.90	**0.99**
Refining & Marketing	0.17	0.17	0.17	0.15	**0.14**

(1) Data only includes emissions from the Terra Nova FPSO vessel off the east coast of Canada.
(2) North America Onshore and St. Clair ethanol plant are not included as they are not material sources of NOx emissions for our business.

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Volatile organic compounds (VOCs)

In 2015, company-wide absolute VOC emissions and emissions intensity increased by 21% and 14%, respectively as compared to 2014.

While overall VOC emissions from our in situ facilities decreased in 2015, there was an increase in the VOC emissions from Base Plant mainly from the mining areas, dedicated disposal sites and ponds.

Annually, we measure our fugitive VOC emissions from mining areas, dedicated disposal sites and ponds. The measurement program is in accordance with the 2014 Alberta Environment & Sustainable Resource Development (now Alberta Environment and Parks) guidelines. However, the methodology recommended to conduct fugitive emissions monitoring is highly dependent on weather conditions and technology constraints and results in significant uncertainty in the accuracy of the measurements. Collaborative efforts are underway through Canada's Oil Sands Innovation Alliance to improve accuracy of fugitive atmospheric emissions monitoring. This increase in VOC emissions was slightly offset by a decrease in our fugitive emissions measurements from equipment leaks.

The overall downstream VOC emissions were relatively flat in 2015 compared to 2014. The decrease in VOC emissions at our Sarnia refinery, terminals and pipeline operations were slightly offset by increases in emissions at our Edmonton, Montreal and Denver refineries and at the Lubricants facility.

VOC emissions at the Terra Nova facility also increased as the hydrocarbon blanket gas was only 85% efficient in 2015 versus almost 100% in 2014. Performance data for NAO and other business units have not been included in the chart below as it does not materially impact our business.

VOC EMISSIONS INTENSITY*
(kg/m³ production)

	2011	2012	2013	2014	2015
Oil Sands (1)	0.99	0.98	0.40	0.71	0.82
In Situ	0.04	0.03	0.03	0.03	0.03
East Coast Canada	1.08	1.12	0.54	0.09	0.31
Refining & Marketing	0.16	0.16	0.17	0.16	0.16

* North America Onshore and the St. Clair ethanol plant are not included here as they are not material sources of VOC emissions for our business.

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

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What is odour?

Odour is defined as a quality of something that is perceived by human's sense of smell. Odours are subjective and different individuals will identify and sense an odour at varying concentrations. Odours are monitored as part of regulatory and stakeholder requirements at our operations.

Odour monitoring in the wood buffalo region

Suncor engages regularly with community stakeholders, government and other external agencies on odours to discuss best practices and management strategies.

Suncor is currently engaged with government, industry and external stakeholders to develop an improved odour management system. This process was a result of Suncor's proactive management of community concerns related to odours. In early 2014 Suncor organized meetings between industry and community members to have an initial discussion about their concerns, and a follow up meeting was held in early 2015 at which time Alberta Health was engaged to address concerns about health impacts from the community. These meetings demonstrated a need for further work regarding odours in the community, for which Suncor remains engaged.

Suncor is pro-actively researching and testing new methods and technologies to monitor fugitive emissions. In 2014, we tested a new fugitive emissions monitoring technology (Open Path-Fourier Transform Infrared (OP-FTIR) remote sensing) to improve the accuracy of our estimation. R&D and field validation of new measurement technologies will continue with other industry members, government, and academia over the next few years.

Air quality monitoring

We are a member of the Alberta-based Wood Buffalo Environmental Association (WBEA), which monitors air quality across the oil sands region 24 hours a day, 365 days a year. WBEA provides ambient air quality data and a real-time air quality index (updated hourly) that are available to the public through the WBEA website.

We also support air monitoring through the following multi-stakeholder airsheds/organizations which monitor and report air quality around the clock, and ensure timely availability of air quality monitoring results to the public and government agencies, as required.

Alberta

- Peace Airshed Zone Association
- Parkland Airshed Management Zone
- Alberta Capital Airshed, through involvement in the Strathcona Industrial Association
- Alberta Clean Air Strategic Alliance

Ontario

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

Montreal

- We collaborate with the Service de l'environnement de la ville de Montréal by providing ambient air quality monitoring data for reporting and analysis.

We also continuously work with governments, industry peers and other stakeholders to ensure these additional monitoring measures are implemented effectively and efficiently as we pursue the shared goal of minimizing the impact of oil sands development on regional air quality.

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Flaring

On this page:

> Flaring can concern stakeholders as it involves a visible flame at the end of a tall stack. While flaring is important from a safety and environmental standpoint, we are working to reduce flaring events across our operations.

What is flaring?

Flaring is the controlled combustion of excess hydrocarbons, and other contaminants that cannot be handled by processing facilities, at the end of a flare stack or boom. It is a necessary practice at any energy facility to manage gases that accumulate as hydrocarbon feedstocks are transformed into useful products.

Why do we flare?

There are many safety and environmental reasons for flaring. Flaring is an important measure used to dispose of waste gas that would pose a hazard to workers, nearby residents and facility equipment if it were to be released in a non-routine occurrence like emergencies, process upsets, equipment failures or power outages. Essentially, flaring is used to safely depressurize a process unit to reduce risk of pressure build up that, if unmanaged, could lead to a combustive incident.

Flaring is also done to reduce the toxicity of gases by converting those toxic components, such as hydrogen sulphide (often found in sour gas), into less harmful substances like sulphur dioxide. It can also be used to convert hydrocarbons into carbon dioxide, which has less impact on our atmosphere from a global warming potential and volatile organic compounds perspective.

How is flaring controlled?

Flaring, like other aspects of energy production, is tightly regulated. In Alberta, the Alberta Energy Regulator ensures companies that flare are doing so in a controlled and monitored way.

For certain types of emissions, like sulphur dioxide, releases must fall within regulator-approved quantity limits. These limits are put in place to maintain high quality air standards for areas neighbouring operations. Emission levels exceeding these limits are subject to penalty.

Can flaring be eliminated?

New technologies and industry best practices show promise for reducing or even eliminating flaring by:

- minimizing waste gas production from processing units
- using waste gas in production instead of releasing it

Using these technologies and best practices it would be possible for us to:

- capture energy value that would have otherwise been wasted
- minimize emissions of greenhouse gases and other air pollutants

The reliability of our operations and equipment used also greatly impacts the need to flare. Implementing effective procedures and controls throughout our operations is critical to minimizing overall flare volumes. Through stringent procedures and controls, we can minimize waste gas volumes, make use of waste gas recovery systems and recycle recovered gas for reuse as fuel or process gas.

Flaring simply because it is convenient or because it has been a long-standing industry operating practice is unacceptable; however, while industry's objective is to eliminate routine flaring and minimize non-routine flaring, emergency flaring is still the most fail-safe operational measure available to prevent a serious incident.

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Land and biodiversity

On this page:

> We recognize our operations have an impact on our shared environment, including valuable land resources.

Energy development disturbs land – there is no way around that. However, the land is not lost forever. We undertake detailed planning to reclaim land affected by development before the first tree is removed or the first shovel hits the ground.

Reducing our footprint, reclaiming land, promoting biodiversity

Our land stewardship efforts are focused in three key areas:

- 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
- accelerating the pace of progressive reclamation of disturbed lands, including the reclamation of tailings ponds
- preserving biodiversity by working internally and with industry peers and multi-stakeholder organizations on initiatives to conserve and promote natural habitat for birds, mammals, fish and other species

Reserves that underlie 97% of the oil sands surface area are recoverable only using in situ drilling technology, which is similar to conventional oil production. In situ operations disturb about 15% of the land required for mining operations and do not produce tailing ponds. However, in situ operations contribute to forest fragmentation – an issue we are addressing through initiatives undertaken by Canada's Oil Sands Innovation Alliance (COSIA).

As part of achieving our reclamation goal, the following biodiversity efforts were simultaneously implemented:

- Working with Aboriginal communities to identify culturally-significant wetland plants to incorporate into our reclamation;
- Diverse ecosystems were created, including lakes, streams, shallow open water, marsh and fen wetlands, and many different forest types;
- Planting different type of native trees, shrubs and aquatic plants – approximately 40 species - 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 to establish wildlife habitat and control soil erosion;
- 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 new areas;
- Rock piles were established as denning sites for small animals; and
- Direct placement of reclamation material to conserve native seed propagules;

Working with stakeholders

The impacts of our operations are assessed in many ways, including for their impact on biodiversity when permits change or an expansion project warrants a review.

Local stakeholders are often involved in monitoring significant risks and/or potential impacts on biodiversity. We're required to provide the provincial government with plans to manage our impacts on many components of biodiversity within the areas where we operate. This includes:

- re-vegetation plans
- wildlife mitigation and monitoring plans
- annual vegetation assessments to measure and plan species richness and density of reclaimed sites

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

Suncor is involved with many stakeholder groups, research activities and monitoring programs aimed at understanding and mitigating potential industry impacts on biodiversity. This includes oil sands development in Canada's boreal forest, one of the world's largest intact ecosystems.

We're committed to being a responsible steward of the boreal forest by striving to preserve the region's biodiversity. We work independently, and with industry peers and multi-stakeholder organizations, to conserve and promote natural habitat for species including those potentially impacted by our operations.

We are a signatory to the Boreal Forest Conservation Framework – a ground-breaking national conservation vision developed by 20 First Nations, environmental groups and resource companies. 2013 marked the 10th anniversary of this important multi-stakeholder collaboration.

Suncor sponsored a Boreal Leadership Council (BLC) project to review tools, data, practices and governance structures currently used by Aboriginal peoples for action-planning, including Indigenous knowledge, habitat identification, population monitoring and aspects of caribou conservation.

Learn more at the Boreal Leadership Council website

Working to minimize our impact

We are working on a number of other fronts to minimize our impact in the boreal region:

- **Advancing progressive reclamation techniques at our oil sands mining operations.** We're working to reclaim mined lands as they are disturbed and to accelerate the time it takes to return disturbed lands to a self-sustaining, locally common boreal forest ecosystem.

- **Pioneering research and innovation** on wetland reclamation, including the official opening, in 2013, of one of the world's first man-made fens. (A fen is the most common boreal wetland found in the oil sands region). We've also partnered with Ducks Unlimited and COSIA to investigate potential for boreal swamp reclamation.

Learn more about reclamation efforts

- **Conservation of environmentally sensitive boreal habitats.** Work started by the Alberta Conservation Association (ACA) and supported by the Suncor Energy Foundation secures lands with important habitat value through collaborative effort. Acquired lands, referred to as Conservation Sites, provide essential habitat for wildlife and fish species as well as sustainable recreation opportunities. We continue to work with ACA and in 2014/15 our collaborative partnership resulted in the purchase of seven parcels of land (or more than 1,089 additional acres of habitat) across the Boreal Forest Natural Regions. These parcels were used to either create new Conservation Sites or expand on existing ones.

- **Managing our in situ footprint.** We continue to work with industry peers to pilot techniques and increase understanding of how to effectively reduce

fragmentation of natural habitat related to in situ bitumen extraction and other resource activity in the boreal forest.

We work through COSIA on a wide range of projects aimed at restoring disturbed lands and protecting natural habitat.

Examples of our ongoing biodiversity initiatives:

Expand all | Collapse all

Our wildlife monitoring and mitigation programs

We pay close attention to how our operations affect the environment, especially wildlife. We invest in research, monitoring and conservation activities in partnership with a variety of organizations. This includes support of developing science and research into reclamation efficacy through monitoring of wildlife species returning to reclaimed areas, as well as avian monitoring projects and bat mortality studies at our wind farms. We follow an integrated approach to landscape management and wildlife protection. Reducing impact to wildlife is incorporated into our project planning process.

The wildlife management program

The objective of Suncor's Wildlife Management Program on our oil sands leases in the Regional Municipality of Wood Buffalo (RMWB) is to minimize human-wildlife conflicts and wildlife habituation and conditioning while maintaining a healthy wildlife population and diversity.

In 2015, Suncor continued to take a holistic approach to its wildlife management program, with proactive strategies focused on waste management, wildlife conflict prevention inspections and education.

We regularly consult and collaborate with the Alberta Energy Regulator's (AER) wildlife biologists and local fish & wildlife officers.

Investigating wildlife incidents helps us understand the cause and prevent future occurrences. Following a fatal bear attack at our oil sands site in May 2014, we have implemented additional preventive measures to minimize risk of future human-wildlife encounters at our Wood Buffalo region leases:

- mandatory wildlife awareness training for all workers on Suncor sites or projects in the RMWB
- an online wildlife-tracking tool within Suncor to increase awareness and understanding of wildlife present on our leases
- additional training for personnel working in natural habitats such as remote locations away from vehicles or buildings
- wildlife specialists focused on bear aversion conditioning, effective waste management and education on site
- the addition of wildlife hazard considerations in our standards and procedures

The 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 implement a combination of radar linked deterrents, non-radar linked deterrents and physical deterrents to discourage waterfowl from landing on tailings and other process-affected ponds. We closely monitor our deterrents and attend to any impacted birds in consultation with the AER.

In 2015, a total of 32 species were recorded among 4,903 observations of landed birds at process-affected ponds. None of the landed birds observed were oiled, nor did site personnel report any incidental observations of oiled birds. One Mallard and two Savannah sparrows were observed oiled, dead during mortality searches and are included in the total of 38 birds that died on our oil sands mine leases in 2015, compared to 45 in 2014.

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 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 footprint reduction, accelerating reclamation and preserving biodiversity.

Some examples of COSIA projects related to boreal forest biodiversity:

Reclamation efforts in the Algar region

The Landscape Ecological Assessment and Planning (LEAP) 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 license areas.

The project, originally planned as five-year program, was completed over a four-year period ending in 2015 with a total of 387 km of seismic lines treated and 162,000 trees planted to help restore woodland caribou habitat within the Algar region. A wildlife monitoring program will help track how the restoration work affects wildlife movement in the area and measure the success of treatments applied through the project.

Read more about the restoration of Algar

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 2015, more than 200,000 trees and shrubs were planted, bringing the total number of trees and shrubs planted since 2009 to approximately 3.3 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 adapted 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 re-vegetating.

Read more about the Faster Forests program

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:

- rare and endangered species monitoring and conservation
- cause and effect assessment of biodiversity change as the foundation for effective management
- improve monitoring, modeling and management of terrestrial biodiversity for regional land use planning
- integrated restoration – from site to landscape levels

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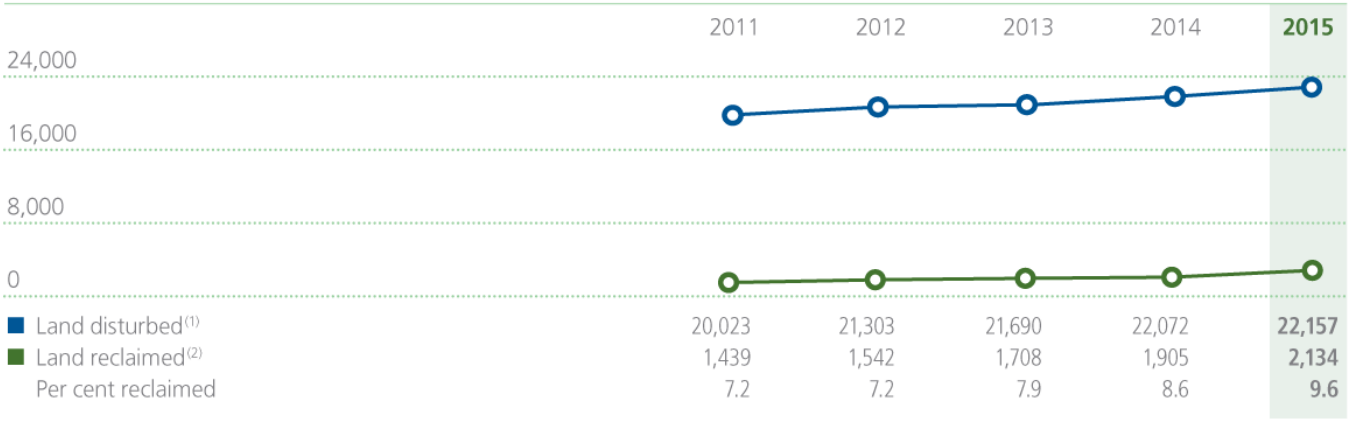
Reclamation

On this page:

> Wherever our developments disturb land we pursue progressive reclamation efforts, including reclaiming tailings ponds.

Since Suncor opened Canada's first oil sands mine in 1967, our oil sands operations have disturbed approximately 22,157 hectares of land. Land reclamation takes place once the disturbed land is no longer part of active operations. As of the end of 2015, the company had reclaimed about 10% of the total land disturbance to date.

LAND USE AT OIL SANDS
(cumulative hectares)



	2011	2012	2013	2014	2015
Land disturbed(1)	20,023	21,303	21,690	22,072	22,157
Land reclaimed(2)	1,439	1,542	1,708	1,905	2,134
Per cent reclaimed	7.2	7.2	7.9	8.6	9.6

(1) Land disturbed is the total active footprint which includes the cumulative hectares (ha) for areas cleared, disturbed, ready for reclamation, soils placed and permanently reclaimed. This is used to represent all land area that has been or is currently disturbed at Oil Sands. The area reported as land reclaimed is a subset of the total active footprint and the area of non-reclaimed land at Oil Sands is 20,023 ha for the 2015 reporting year.

(2) Reclaimed lands have not been certified as such. For further details on the definition of reclaimed, see the Advisories page.

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We targeted a 100% increase in land area reclaimed by 2015 - we surpassed our target by reclaiming 3,730 hectares of oil sands in situ and mine disturbed lands or achieving a 176% increase relative to the 2007 baseline.

Read more about our environmental performance goals

Improving reclamation techniques and accelerating the rate at which land is reclaimed are two key ways we strive to balance responsible resource development with the need to preserve a healthy environment for future generations.
We are committed to ultimately returning all lands disturbed by our oil sands mining and in situ operations to a self-sustaining boreal forest ecosystem native to the area. Our efforts have led to milestones already being reached in both tailings pond and wetland reclamation, including;

- In 2010, Suncor became the first oil sands company to reclaim a tailings pond to a trafficable surface or 220 hectares watershed supporting a mixed wood forest, a network of streams and a marsh wetland;
- In 2011, Suncor joined 12 companies to form Canada's Oil Sands Innovation Alliance, (COSIA), to accelerate environmental performance environment, including in the Land Environmental Performance Area;
- By September 2011, 5 million trees were planted at Base Plant;
- In 2012, Suncor set a new planting record for planting the most trees, shrub and aquatic plants in a single season - 694,533 seedlings;
- In 2012, research results prompted us to use compostable tea bags in reclamation efforts in order to directly promote the growth of seedlings;
- In 2013, Suncor became one of the first companies in the world to complete reconstruction of a fen peatland watershed.
- In 2015, Suncor planted more than 230 hectares in one season, exceeding our record for largest area reclaimed in one year.
- By the end of 2015, Suncor had planted more than 7.9 million trees, shrubs and aquatic plants on our oil sands site – including 692,808 trees in the previous year alone.

Here are some details on Suncor's reclamation procedures and performance in 2015:

Progressive reclamation: A multi-phase process

Developing a reclamation plan

Before constructing a new mine, we develop a reclamation plan in consultation with local stakeholders and government regulators. We also develop conservation and reclamation plans with respect to land disturbed by our in situ operations. The Alberta government must approve reclamation plans for all new projects.

Mining oil sands requires digging about 50 metres below the surface, creating a pit. The removed soil is known as overburden and is stored close to the mine site. These pits are often filled in with liquid tailings from the extraction process.

In the past, there was a lag time of many years between when overburden was removed and land reclamation could begin. Today, we work to reclaim disturbed lands shortly after they are created, a process known as progressive reclamation. In the case of oil sands tailings ponds, reclamation involves two distinct components:

- transformation of the tailings ponds into a solid, soil-capped deposit that can be re-vegetated and reclaimed
- re-vegetation in a way that the reclaimed landscape can support native boreal vegetation and wildlife as self-sustaining ecosystems

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 at a more rapid pace. We expect this will result in improved tailings management now and at future oil sands mine sites.

Learn more about COSIA's tailings environmental priority area

Read more about our tailings management

Returning the land to a self-sustaining boreal ecosystem

Once solid enough to support vegetation, the next step is to contour the land to allow for proper drainage and a natural appearance. The landform is then capped with soil and erosion-prone areas are seeded with oats or native bunch grasses.

Native tree, shrub and aquatic seedlings are planted, and the soil is fertilized directly at the seedling roots to give the young plants help during early development years. As the trees, shrubs and aquatic plants take hold on the reclaimed lands, ongoing scientific monitoring is done to ensure the new forest and wetlands mature into a healthy, self-sustaining ecosystem.

By the end of 2015, Suncor had planted more than 7.9 million trees, shrubs and aquatic plants on our oil sands site — including 692,808 trees in the previous year alone.

All of the trees came from local seed, which was gathered from the surrounding natural areas adjacent to operations, or on the undisturbed parts of our leases. This ensures the trees are equipped to withstand regional climate extremes.

Areas planted in the 1980s are now seeing young conifer seedlings take root under mature trees — a positive sign of regeneration.

Another indicator of success is the increase in wildlife returning to reclaimed lands. The species spotted on our reclamation sites include:

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

Learn about our biodiversity initiatives

2015 Progress on Land Reclamation

To achieve our reclamation goal established in 2009 to increase land reclamation to 100% by 2015 we aimed to significantly increase our yearly reclamation performance.

During 2015, Oil Sands reclaimed overburden areas within the Millennium, Steepbank and North Steepbank Extension (NSE) Mines to marsh wetland featuring aquatic and riparian vegetation, white spruce and aspen mixed wood forest, and black spruce and jack pine forest. Overburden areas in the Steepbank Mine were also reclaimed to white spruce and aspen mixed wood forest. Finally, aquatic vegetation was added to the NSE Compensation Lake to enhance shoreline and riparian complexity and biodiversity for fish utilization. During mine reclamation, over 690,000 trees, shrubs and aquatic plants were planted in these areas, thereby increasing the total amount to 7.8 million planted seedlings.

Suncor continues to reclaim even more new landforms that will further contribute to reclamation pace now and in the future. This includes coke-capping of consolidated tails underway at Pond 5 and the accelerated tailings dewatering (e.g. TRO process) currently being implemented.

Certification of reclaimed lands: A complex issue

Some question why so few of the lands described by the oil sands industry as ‘reclaimed’ have been certified as such by government regulators. Part of the answer is that, under the current regulations, companies can only apply for a reclamation certificate when the lands in question are fully functioning ecosystems – that can take many years to achieve.

For example, even after the completion of surface reclamation and re-vegetation at Wapisiw Lookout in 2010, it will take at least a decade for the seedlings to become tall forest and to confirm the area is self-sustaining and reflective of the locally common boreal forest.

This helps explain why some industry observers are able to assert that, to date, only 0.2% of the land disturbed by oil sands development has been certified as reclaimed by the Alberta government. While technically accurate, the statement is incomplete.

A more complete story would give operators some credit for achieving intermediate stages on the way to reclamation. According to the Canadian Association of Petroleum Producers, approximately 10% of the area disturbed by oil sands mining since operations began in the 1960s has been reclaimed by industry.

It is also worth noting the oil sands industry is relatively young, so it is not surprising that only a small part of the total production area has yet to be reclaimed. As mines mature, reclamation is likely to accelerate.

Even when oil sands reclamation has run its full course, there are additional reasons why industry is reluctant to seek certification under the current regulations. Lands certified as reclaimed revert to Crown ownership and can be accessed by the public. Since most of the reclaimed land is adjacent to, or entirely within, ongoing operating areas, granting public access to such lands could create a concern for public safety.

A transparent reclamation reporting system

The Province of Alberta has implemented a reclamation reporting system that gives stakeholders a clear understanding of the progress being made along every step of the reclamation process. The Oil Sands Information Portal is a one-window source for information; the portal has both an interactive map display and a data library.

Reclamation progress is reported with eight key milestones:

- cleared
- disturbed

- ready for reclamation
- soils placed – terrestrial, wetlands and aquatics
- temporary reclamation – terrestrial
- permanent reclamation – terrestrial
- permanent reclamation – wetlands and aquatics
- certified

The system is transparent to the public, with reclamation data available through an interactive, map-based website.

In situ land disturbance

As the oil sands industry grows, the ratio of land being disturbed by development is expected to decline. That is because reserves that underlie approximately 97% of Canada's oil sands surface area are recoverable using in situ (drilling) technology, which is similar to conventional oil production. In situ operations disturb only about 15% of the land required for traditional mining operations and do not produce tailings ponds.

But 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, which negatively impacts wildlife habitat.

In situ oil sands exploration requires the creation of temporary drilling pads to effectively explore and delineate bitumen deposits. In order to address the historical Oil Sands Exploration (OSE) footprint, in 2012, we undertook a focused effort to identify the persisting factors at individual sites that were preventing corresponding OSE programs from receiving reclamation certification. These efforts paid dividends with over 162 hectares of reclaimed lands from 140 OSE wells attaining reclamation certification that year.

As part of COSIA, we are participating in several projects to address the issue of forest fragmentation. These include:

- The Faster Forests Program, which in 2015 saw approximately 201,643 trees and shrubs strategically planted in disturbed areas across the oil sands region. Since 2009, 3.3 million trees and shrub have been planted cumulatively by this program alone.

The Algar Restoration Plan, which in 2015 saw 33,900 trees planted in 177 kilometers of linear disturbance southeast of Fort McMurray. Cumulatively since 2012, 161,700 trees have been planted over 387 linear kilometers. These tree plantings are taking place outside of actual license areas as part of an effort to reduce the regional impact of seismic lines and restore woodland caribou habitat.

Other land disturbance challenges

As a matter of course, we undertake remediation at our downstream retail sites operated under the Petro-Canada, Shell and ExxonMobil brands. Remediation is done in conjunction with upgrades to facilities and tanks at existing operations and at sites slated for closure.

Read more about Shell and ExxonMobil brands on suncor.com

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 proper vegetation. Reclamation certificates are issued on sites that have been returned to equivalent pre-disturbance land capability.

Reclamation research and monitoring

Suncor participates in a number of ongoing 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 reclamation designs and minimize habitat disturbance.

Among these are:

- **Projects to support native shrub and wetland species that are an ecologically and culturally important component of boreal forest ecosystems**.

- 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 Native Plant Establishment program determines how best to collect and prepare seed, and how to establish dozens of native shrub and wetland plants in reclaimed sites.
- The Seed Delivery Systems Research (SEEDs) program is working with a northern Alberta nursery and investigating an alternative revegetation technique, development of seed-containing pucks. The concept is expected to improve planting efficiency during reclamation, especially for hard to access locations, such as remote in situ linear corridors.

- **Projects to support the successful establishment of tree species, which can be limited by low nutrient and water availability, soil compaction and competition from ground cover.**

  - 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.
  - One program is focused on determining the right type and amount of nutrients (e.g., phosphorus) to add while the seedlings are produced in the greenhouse to improve early establishment, growth and land reclamation success.

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 continue in 2015 to ensure safe incorporation of materials in reclamation and closure at Suncor's mining and in situ projects. Results are shared with COSIA to ensure we are not only accelerating Suncor's environmental performance, but improving results across the entire oil sands region.

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* Reclaimed lands have not been certified as such by government regulators. For further details on what we mean by reclaimed, see the legal advisories.

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Caribou

Caribou conservation and impact mitigation

> Canada's boreal forest is home to many things, including both Suncor's oil sands operations in northeastern Alberta and a diverse range of wildlife including woodland caribou, a federally listed species at risk.

Woodland caribou are well adapted to the life in the boreal forest. They are a non-migratory subspecies with an anti-predator strategy of spatial separation (i.e. to live where others don't) that requires large expanses of habitat with low densities of predators. Unlike the large migratory herds of barren-ground caribou that travel through the northern tundra, woodland caribou are usually found in small numbers.

The boreal population of woodland caribou is listed as threatened under Canada's Species at Risk Act (SARA) due to declining population trends likely to be caused primarily by increased predation due to habitat loss, degradation and fragmentation. Natural (e.g. fire) and anthropogenic factors 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 is developing caribou range and action plans that are due in 2017. Implementing these plans to stabilize, recover and sustain woodland caribou populations will require a broad range of tools applied at both the local and landscape levels. As an operator in the boreal forest, Suncor has a role to play in demonstrating progress towards caribou recovery goals and recognizes the importance of both local and landscape scales when considering taking any action for caribou recovery.

To address the risk of operating in areas inhabited by woodland caribou, Suncor has developed a Corporate Caribou strategy. The goals of the strategy are aimed at mitigating our impact on woodland caribou.

Suncor regularly considers caribou focused objectives at both the local and landscape scales. As examples, Suncor incorporates under-pipe crossings along above ground pipelines at in situ projects and reclaims disturbed areas to accelerate recovery of caribou habitat. While at the landscape scale, Suncor works with the Alberta Government and industry peers to restore important caribou habitat along the North Cabin natural gas pipeline. Similarly, Suncor is working in collaboration with Canada's Oil Sands Innovation Alliance (COSIA) on a multi-year caribou habitat restoration program, to repair fragmented habitat,

within the Algar region of northeast Alberta.

Learn more about accelerating habitat recovery

As a member of COSIA Land Environmental Performance Area and Caribou Working Group, Suncor continues to support development of landscape and population tools designed to demonstrate progress towards caribou habitat recovery objectives and self-sustaining caribou populations in the boreal forest.

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Wetlands

Wetland reclamation: Pioneering fen research

Wetlands are an important part of reclamation efforts. To date, 48.2 hectares of wetland and lake reclamation have been completed. A high research priority is developing the ability to reconstruct wetlands, including swamps, marshes and fens. Until recently, reclamation efforts had primarily focused on marshes.

In 2013, Suncor marked a milestone in wetland reclamation — the official opening of a reconstructed fen that is planned to emulate the properties of a natural fen. Our fen — one of the first reclaimed fen wetland watersheds in the world — is named Nikanotee (pronounced Nee-ga-no-tee), a Cree word meaning future.

A fen is the most common boreal 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 runoff 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, Alta., our three-hectare fen is fed by a man-made 32-hectare watershed. The project is the culmination of 10 years of collaborative research.

The University of Waterloo led the fen hydrological feasibility modeling, in partnership with the Cumulative Environmental Management Association (CEMA). Suncor funded the design and construction of the fen. Along with Shell and Imperial Oil, we are funding ongoing research and monitoring of the constructed site.

Ongoing research and monitoring of the fen wetland watershed is conducted by students from five universities and colleges — Waterloo, Calgary, Colorado State, Wilfrid Laurier and Keyano – as well as our staff. It's expected this work will reveal a lot about the potential for recreating these natural habitats.

The Nikanotee Fen is now a joint industry project, contributed by Suncor to other members of Canada's Oil Sands Innovation Alliance.

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Tailings management

On this page:

> Finding ways to get fluid tailings to dewater more quickly and become suitable for reclaiming is critical to improving our overall reclamation performance. Left unmanaged, these fluid tailings could take centuries to naturally dewater enough to be reclaimed.

All forms of mining — whether coal, gold, uranium or potash — produce tailings. Mining operators must determine how to safely and effectively dispose of this byproduct. With mining operations on the scale of the oil sands, the challenge is all the more daunting.

Oil sands tailings are the remaining sand, water, clay, silt and residual hydrocarbons left after the majority of the hydrocarbons are extracted from the ore during our water-based extraction process. Fluid tailings are formed from the portion of clay that does not become trapped in the trafficable tailings sand. In situ drilling of oil sands bitumen does not produce tailings.

Suncor employs a holistic approach to tailings management called Tailings Reduction Operations (TRO™). TRO™ includes:

- Fluid Transfer and Storage Systems
- Sand Dumps
- Dedicated Disposal Areas

As mining operations expanded fluid tailings volumes increased. Suncor currently has about 300 million cubic metres (m^3) of fluid tailings. Since launching TRO™ six years ago, it has helped prevent the further increase in fluid tailings volumes on site at Suncor's base plant.

Oil sands tailings management

Over the past six years, Suncor's approach has allowed us to reclaim a tailings pond (Wapisiw Lookout) and make another one trafficable through the use of coke capping technology and we are in the process of converting another one to a dedicated disposal area.

Expand all | Collapse all

Tailings Management Framework

In 2015, Alberta Environment and Sustainable Resource Development (AESRD) introduced a new oil sands policy called the Tailings Management Framework. This policy outlines expectations for new and legacy fluid tailings and sets requirements for each operation to steward to a fluid tailings volume profile.

During the fall of 2015, Suncor was invited to work with Aboriginal communities, Alberta Energy Regulator and other stakeholders to support development of a new tailings directive under this new provincial policy.

To meet the new requirements, Suncor is looking to add treatment capacity. We propose adding an in-mine dedicated disposal area to our TRO™ operation 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 provided access to the technologies that others are using to manage their tailings.

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

Learn more about COSIA's tailings environmental priority area.

Coke capping technology

Suncor is also accelerating tailings pond reclamation by using petroleum coke, a byproduct of upgraded bitumen, to help create a solid surface on the company's Pond 5.

The coke capping layer is light enough to float on the surface of the pond and yet strong enough to allow trucks to drive over the pond surface. Wicking drains in the coke cap, which act like straws, remove the water and potentially separate tailings and reclamation material.

The Pond 5 coke capping project is one of the largest field trials of a tailings technology anywhere in the world. The required consolidation is expected to be complete by 2019; at that point, further reclamation activities can start.

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Spills and releases

On this page :

Incident prevention

Our focus is always on incident prevention. This means having:

- capable and well-trained people
    - Suncor has response teams that receive ongoing training and participate in regularly scheduled exercises
    - Suncor has agreements in place with spill response agencies
- rigorously controlled working procedures
    - Suncor has spill prevention processes and procedures, as well as emergency response plans that are reviewed at least annually
- equipment and technology designed for our operating environment
- appropriate third party vetted contractors

All of these elements, combined with careful planning and risk assessment, reduce the probability that a spill or release will occur.

We manage spills by sharing best practices to increase awareness and mitigate risks of future incidents.

Spill events are recorded and investigated. Root cause is determined and remedial actions are implemented to minimize risk and chance of recurrence.

Spill reporting and emergency response plans

We have systems in place to inspect and audit our facilities and have emergency response and spill reporting plans at all our locations, including:

- upstream and offshore facilities
- refineries and other downstream operations
- distribution terminals
- our network of service stations

In addition to our own internal response capability, we're a participating member in a number of response organizations, including:

- Eastern Canada Response Corporation
- Western Canada Marine Response Corporation
- Western Canada Spill Services Ltd.
- Oil Spill Response Ltd.

Growth and increasing complexity in our operations mean we must continuously improve our reporting practices and strengthen mitigation efforts to further reduce the number and volume of spills.

A tiered approach to offshore oil spill response

We have three tiers of spill response:

1. This is the immediate front-line response conducted by trained staff and contractors using procedures and equipment identified in the oil spill response plan. Tier 1 equipment is kept readily available on both support vessels and the offshore installation.
2. This response is provided by local onshore oil spill resources. For example, the Eastern Canada Response Corporation (ECRC) provides support services for our operations off the coast of Newfoundland and Labrador. ECRC is a Transport Canada-certified response organization contracted to provide additional resources for regional oil spill response staff and equipment.
3. This response is provided by an international company that specializes in oil spill response, Oil Spill Response Limited (OSRL). OSRL provides access to oil spill response resources and equipment that can be deployed rapidly to any of our assets globally.

Continually improving response capability

We are committed to continually improving our oil spill response capability.

As part of our contingency plans, we conduct regular tabletop and on-water training exercises. We invite regulatory agencies and oil-spill response organizations to participate in these preparedness exercises.

We work with other companies in the regions where we operate, to build capacity through shared knowledge, experience and resources.

We also work with industry associations to ensure subsea well control equipment, including capping devices and dispersant tool kits, are available to our operations in the unlikely event of a subsea release during drilling. For example, Oil & Gas UK, through the Oil Spill Prevention and Response Advisory Group, has designed, constructed and tested a capping stack which is now available for use by companies with operations on the United Kingdom continental shelf.

To ensure that well control/intervention equipment is also available for our operations on Canada's East Coast and in Norway, we subscribe to the Subsea Well Intervention Service through a supplementary agreement with OSRL.

Our primary focus is to execute our drilling projects with careful planning and due diligence to prevent incidents from occurring. We also ensure suitable well control/intervention equipment is in place for our drilling operations.

Watch a video from the Canadian Association of Petroleum Producers about spill prevention and response in the offshore energy industry

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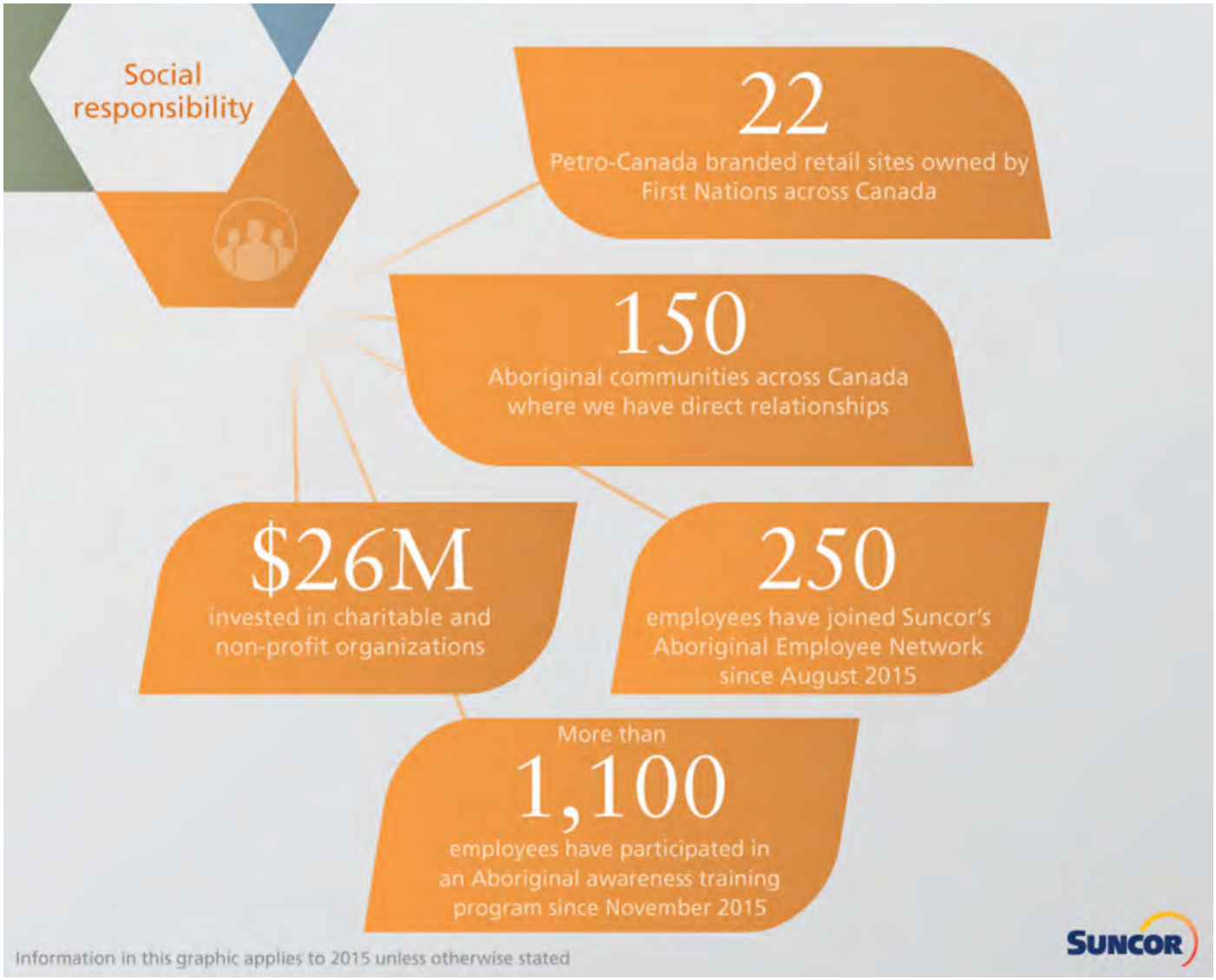
Social responsibility

The trust and support of stakeholders are foundational to successful energy development. We work hard to build and maintain relationships with local communities and stakeholders, to meaningfully consider their issues and concerns about the effect of proposed development and operations on the land and resources — including working together to mitigate potential environmental and social impacts, and ensuring that local communities benefit from development.



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Our strategy

We believe that those affected by Suncor's business have a right to be informed about our activities, participate in a transparent engagement process and be involved in the issues and opportunities affecting them. We actively seek stakeholders' input and feedback on our activities and decisions, and encourage stakeholders to define how they wish to be consulted.

Often, it's simply an informal discussion with a stakeholder, 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 and in multi-stakeholder forums with groups including CERES and the Boreal Leadership Council.

We also engage on issues of national interest with stakeholders, through multiple forums. Our president and CEO Steve Williams is a member of Canada's

Ecofiscal Commission which aims to shape policy to encourage economic activities that support mutual benefits such as job creation, investment and innovation. We also provided feedback through Alberta's Climate Change Advisory Panel in support of the Climate Leadership Plan. In 2015, we participated in and supported public dialogues such as the Walrus Talks Energy to collectively understand energy challenges and what it means for all of us and our future.

Read more about Suncor's engagement on public policy issues.

Engagement on tailing management

In 2015 Suncor was invited to engage with the Alberta Energy Regulator (AER) and other key stakeholders on the technical advisory committee (TAC) for regulatory tailings management. Other TAC members included representatives from industry, environmental non-government organizations (ENGOs), First Nations, Métis, municipalities, community-based groups with direct interest in tailings management, and the AER. The TAC's mandate was to conduct a technical review of the province's draft tailings directive that was developed in response to the policy direction of the *Lower Athabasca Region: Tailings Management Framework for the Mineable Athabasca Oil Sands*. Using a consensus-based approach, the committee provided recommendations to the AER on improving the regulatory management of tailings in the province.

Alberta is moving into the next phase of public engagement for the Tailings Management Framework for the Lower Athabasca region. Phase 2 includes a multi stakeholder interest group (SIG) and four technical TAC working groups. Suncor continues to be active participant at the SIG and each of the TACs, as they become implemented.

As part of Suncor's operational excellence management system, the Stakeholder Relations Framework ensures that we have a consistent approach to relationships with stakeholders and Aboriginal communities, whether it is local engagement or involvement in national forums. The framework outlines Suncor's responsibilities and commitments, and provides a mechanism to consider stakeholder needs, interests and concerns 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.

Policy

Our stakeholders 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 communities
- trappers
- governments and regulators
- non-government organizations and environmental groups
- community investment partners
- business groups
- customers and suppliers
- employees

Our Human Rights, Stakeholder Relations and Canadian Aboriginal Relations policies outline our commitments and key beliefs with respect to stakeholders and communities where we operate. 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. Work began in 2015 to update both polices and to reflect changing societal expectations and external context, like the government's commitment to adopt the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP). The revised polices will be available in 2016.

Responsibilities

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.

The President and Chief Executive Officer of Suncor is accountable to the Board of Directors for ensuring that Suncor's Stakeholder Relations and Canadian Aboriginal Relations Policies are implemented.

Commitments

Our Stakeholder Relations and Canadian Aboriginal Relations policies outline our commitment to developing and maintaining positive, meaningful relationships with our stakeholders and to working closely with Canada's Aboriginal Peoples and communities to build and maintain effective, long term and mutually beneficial relationships.

Community Agreements

More broadly, we define a commitment as a formal pledge made by the organization to a regulator or other authority, including communities and stakeholders. Beyond those commitments outlined in the policies, we also have agreements with Aboriginal communities, mainly in the Wood Buffalo region. These agreements address how we work together on matters like project consultation, and ways to realize the benefits from our industry such as: commercial and business opportunities, and skills/ employment and training opportunities. Where appropriate, Suncor and the community develop joint workplans that guide mutually agreed-upon engagement and consultation activities.

In 2013 we implemented the Aboriginal Relations Governance Framework. The governance structure is made up of three interconnected groups that each play a role in ensuring that Suncor's activities are strategic, co-ordinated and advancing strong, co-operative relationships. They include a VP Steering Committee, a Working Group and four multi-disciplinary teams:

- Community development
- Environment, health and safety
- Workforce development
- Business development

Aboriginal Relations Governance Framework

While one of the key objectives of the governance structure is to proactively steward our commitments with Aboriginal communities, it also had the mandate in 2015 to develop a comprehensive, long-term Aboriginal relations strategy for the company. In 2016, this governance structure will be working closely with all areas of the business to develop plans to implement Suncor's new social goal.

Our commitments also extend beyond Aboriginal communities. For example, we are a founding member of the United Nations Global Compact Local Canada Network.

Goals, targets and actions

Relationships are best maintained through regular effort and engagement. This means being involved and part of the community, so that we can listen and actively engage with local stakeholders and Aboriginal communities. Some examples of how we do this include:

Cedar Point Community Liaison Committee (CLC)

In 2015, we established the Cedar Point CLC to share information and gather community input during the construction and operation of our Cedar Point wind power project in Ontario. We heard from the CLC and community that there was the need for Suncor to be more accessible through the construction phase as there were a number of community concerns related to the project. In response, we held a number of working sessions with the CLC to establish a strong working relationship and hosted an additional public meeting in 2015.

The joint structure of the committee enabled more meaningful engagement. The community was able to guide the scope and content of the meetings, the project team and community members were able to communicate directly, and it created a forum for those with concerns to be heard.

We didn't meet the expectations of each and every stakeholder in the community; however we did consider all feedback and where possible, addressed the concern. For example, we heard from the community that road and traffic safety on private access roads and on secondary highways was a concern. In response, we worked with the prime contractor to conduct regular speed checks in construction zones and improve overall awareness and road safety.

Culturally Significant Wetland Plants Study

Through ongoing engagement and consultation with Aboriginal communities in the Wood Buffalo region, we heard that Suncor's site reclamation and closure plans should result in an environment that can support traditional activities such as hunting, fishing, gathering and trapping.

To respond to this feedback, Suncor's reclamation and stakeholder and aboriginal relations teams jointly developed an engagement approach that sought input from the five First Nations in the region in order to better understand what wetland plant species are important to these communities. Suncor invited five Elders from each of the First Nations to jointly develop the wetland plant species project.

A first of its kind initiative, the study is a collaborative approach from start to finish between Suncor and First Nation communities to build a list of wetland plant species that reflects and respects the traditional knowledge of communities and enhances Suncor's reclamation activities, After the three-year workplan is accomplished, Suncor will work to incorporate the inclusion of the plant species into our reclamation and closure activities.

Planning engagement for smooth turnaround at the Commerce City refinery

We recognize the importance of timely engagement and the need to provide stakeholders with important information about our business as early as possible, so they have an opportunity to review and respond. With that in mind, early planning and stakeholder engagement for the 2016 turnaround at our Commerce City refinery began in 2015.

Thoughtful planning was important, but what truly made the engagement a success was the trust and long-standing relationships that we have with the community, our neighbors and key stakeholders. For example, early consultation with the City of Commerce City enabled us to utilize many of their communication channels and tools, allowing us to share details about the turnaround more broadly with the community well in advance.

The turnaround engagement was one more opportunity for us to stay connected with our stakeholders on a day-to-day basis about our business activities. Engaging early and often with our stakeholders is really Suncor's values in action; it's a true commitment to sharing, listening and working collaboratively. In this case, along with many others, the City is a true business partner.

Engagement with our neighbors in Sarnia

The Aamjiwnaang First Nation is the closest neighbour to our Sarnia refinery and our relationship with the community is an important priority for us. We recognize our activities have an impact on Aamjiwnaang and we've worked to minimize these impacts, while demonstrating our commitment to being a safe and environmentally responsible operator.

Over the past few years we've worked to address issues of concern at Aamjiwnaang, while further strengthening our relationship with the community. We are doing this is by focusing on operational improvements, better communication and meaningful engagement. We have made progress in stakeholder communication, incident notification and alerts. We also participate in regular meetings with the Aamjiwnaang Environment Committee as well as host meetings that give community members an opportunity to learn about the work our Sarnia refinery does, ask questions and talk to us about what is on their mind.

Through respectful, two-way dialogue we're growing our relationship. While we'll continue to look for ways to improve, constructive conversations are helping us to better understand the priorities and concerns identified by the Aamjiwnaang and how we can work together to address them.

First Nations Advisory Committees

As part of our ongoing engagement with several Aboriginal communities near our oil sands operations, we participate in regular advisory committee meetings. Advisory Committee members represent a broader cross-section of community members, often including Elders and youth that we may not regularly engage with through formal consultation activities. The meetings are a forum for Suncor and the community to discuss Suncor's operations and many other areas of interest or concern to the community.

Supporting processes

Beyond direct consultation and engagement activities, several internal processes ensure that we are aware of and understand stakeholders' interest and concerns, and are considering those views in operations and business planning.

- 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 First Nations and Aboriginal communities
- Through ADEM (Asset Development and Execution Model) consideration for stakeholders, First Nation 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 annual multi-stakeholder forum with CERES.

Evaluation

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 that may arise from direct and/or indirect impacts associated with Suncor's operations or activities in a timely and consistent manner

Beyond our policies and management system, the ongoing effectiveness of our stakeholder relations activities are monitored through several processes including the Aboriginal Relations Governance Framework and the Strategic Issues Management Process.

Results

The way the world views energy development has fundamentally changed. Stakeholder expectations are increasing, the legal and regulatory context continues to evolve and become more complex. We believe our social performance has become as important as our environmental performance. This year, we're building on the learnings from the strategic environmental performance goals established in 2009 and releasing our first social goal. The new goal is aspirational, bold and designed to challenge and stretch our organization.

What we are doing differently

Social Goal - We've learned that setting goals can incent us to look at how we do business and work with others. In 2016 we'll work to implement our social goal. It will not be the work of a small group at Suncor, it will be 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, in our Goals and Progress page.

Integrated-Governance - To meet increasing stakeholder 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 the Aboriginal Relations Governance Framework. This framework includes a VP steering committee, working group and multidisciplinary teams that work across the organization to ensure that Suncor's activities are strategic, co-ordinated and advancing strong, mutually beneficial relationships. We're also leveraging other internal processes such as the SIMP and the ADEM to ensure we're considering the social context of our activities as early as possible.

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. In 2016, we'll apply what we've learned in Wood Buffalo and look for opportunities to expand our approach to other communities. As we implement our social goal, we'll look to increase opportunities with communities and our key partners though the Suncor Energy Foundation.

Big conversations, together - Throughout 2015, we engaged in several public conversations around issues that are important to us and to stakeholders — climate policy, market access and reconciliation, to name a few. We feel we have a role to play in these conversations and we'll continue to be involved, but leading change is not something one company, industry, government or stakeholder group can do alone. We believe that we can achieve so much more when we collaborate, and we'll continue looking for opportunities to better understand the challenges and shape the future, by engaging with others.

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Aboriginal relations

On this page:

Many of our operations are located within the traditional territories of Aboriginal Peoples, and we recognize that our operations have an impact on local communities.

As a long-time operator, we have worked over many years to develop strong, mutually beneficial relationships with Aboriginal communities near our operations and we remain committed to ensuring that these communities benefit from our operations, so that they are strong and sustainable.

While there is still work to be done, we are making progress.

Expand all | Collapse all

Relationships across Canada

Today, Suncor has relationships with over 150 Aboriginal groups across Canada. For example:

- Through Succor's retail brand, Petro-Canada, there are 22 First Nations owned Petro-Canada gas stations, primarily in Western Canada. These gas stations are located on the First Nations reserves.
- The Aamjiwnaang First Nation community is located beside our Sarnia refinery in southern Ontario. This Nation is an equity partner with us in the Adelaide Wind Power Project.
- In 2015, we spent $599 million with Aboriginal businesses, bringing our total to $3.44 billion since 1999. While the majority of this spend occurs through our oil sands operations in the Regional Municipality of Wood Buffalo, we continue to work to find new opportunities to work with Aboriginal businesses across Canada.

Aboriginal Relations Policy

Our Canadian Aboriginal relations policy is guided by these principles:

- respect
- communication
- benefits
- environment

Listen to our Aboriginal relations policy in Cree and Dene:

- Cree audio translation – Download MP3 file (10 MB)
- Dene audio translation – Download MP3 file (11 MB)

Download the Aboriginal relations policy (PDF, 2 pp., 1.3 MB)

Our Social Goal

> *"Business and economies are at risk if we fail to meet society's rising expectation for our performance" –* Steve Williams, president and CEO

Three years ago, we began to think about our next sustainability goals. These goals are focused on the greatest sustainability needs and demands facing our business.

While we've worked with Aboriginal communities for more than 40 years, we now recognize that sometimes our approach was colonial rather than collaborative — we wanted to 'do' or fix things, rather than seek to understand the interests and needs of impacted communities.

Our first 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. 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. Our aspiration is: We will have mutual trust and respect with Aboriginal Peoples of Canada. We will change the way we think and act to increase the participation of Aboriginal Peoples in energy development.

We know Aboriginal Peoples of Canada want to play a larger role in how energy is developed — from project proposal right through to land reclamation. Our long-term social goal recognizes this, and outlines four performance areas where we can work together to advance greater involvement:

- Strengthening relationships between Aboriginal Peoples and all Canadians, starting within Suncor.
- Partnering with Aboriginal youth to develop their leadership potential through meaningful connections within and outside of Suncor.
- Significantly improving our Aboriginal workforce development through focused efforts on hiring, retention and advancement of Aboriginal employees across our business.
- Increasing revenues to Aboriginal businesses and communities through mutually beneficial marketing arrangements and procurements of materials and services.

Learning Together

This isn't work we can do on our own, and it's not something we do 'to' or 'for' Aboriginal Peoples. We'll continue to learn from, and with, partners and communities so that we build trusting relationships. Truly collaborative partnerships require humility, honesty, and a willingness to learn from one another so that there is a common understanding from which we can uncover where we have mutual interests.

Implementation

Suncor will progress the social goal, through the four performance areas, over the next 10 years. We'll also report regularly on our progress.

This won’t be a ‘one size fits all’ approach. Rather, we’ll work together with our businesses and each of the communities where we operate, to build implementation plans that consider both community and business needs and capacity.

A lot of our effort to-date has focused in Wood Buffalo and areas where our operations are in close proximity to traditional lands. With this goal we aim to extend our reach beyond these areas. First, we need to learn from communities and seek to understand. Then, by looking at all the opportunities across our business and inspiring our own employees to take everyday actions, we believe we can make a difference.

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Strengthening relationships

On this page:

> Performance Area: Strengthen relationships among Aboriginal People and all Canadians, starting with Suncor

We can do more to learn about the history and experiences of Aboriginal Peoples, so that we can begin to better understand one another.

We commit to providing our employees with more training and also more opportunities to participate in cultural experiences. We will 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 will be an evolution for each of us at Suncor and we have designed many supporting initiatives to enable our employees along the way. We're focusing on four key areas: increasing awareness, building understanding, shifting attitudes and ultimately, changing behaviours.

Aboriginal Awareness Training

At the end of 2015, we launched our new web-based training to ensure that every employee can have a basic level of awareness about the history and experiences of Aboriginal Peoples across Canada. We developed our own training with input and guidance from partners like Reconciliation Canada and also our own Aboriginal employees. The training features their stories and perspectives, which has made the information and messages more relatable.

We also offer a more comprehensive classroom session that expands on the awareness created through the web-based training. It builds understanding about the historic and current relationship between Aboriginal and all Canadians through storytelling and meaningful discussion.

Aboriginal Employee Network

Suncor's Aboriginal Employee Network (AEN) is a new employee resource group to support 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 within Suncor of Aboriginal experiences.

Cultural Experiential Learning

We are creating opportunities for employees across Suncor to participate in cultural learning experiences. These experiences enable direct engagement and cultural exchange between Indigenous and non-Indigenous people. Examples include participating in community events such as Treaty Days or volunteering for specific initiatives like leading business development workshops through our partnership with NAABA (Northeastern Alberta Aboriginal Business Association).

Growing awareness and understanding, one employee at a time

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. Employees across Canada who've taken the training have given some great feedback. Here are just a few samples of what they said:

- *I like the fact I am walking away appreciating our history as a country and not treating this as only the First Nations history. We had a role in making the history and we have a role in making a better future for all Canadians, regardless of background*. – Calgary
- *Wow, to be honest I never really thought of Aboriginal relations in my personal life until I saw this video. It was a glimpse of how much I didn't know that I didn't know...It inspired me to learn more about the culture and how I can help bridge the gap. Thank you*. – Mississauga
- *It was an emotional experience going from learning the issues, to feeling ashamed of our past, and to feeling proud to be in a company that is really trying to make a difference*. – Fort McMurray

Beyond Aboriginal awareness training, we spent some time in 2015 to ensure that more opportunities were available for employees to become engaged and to learn more about the history and experiences of Aboriginal Peoples. For example, beyond the AEN and opportunities for cultural experiential learning, we:

- created a new employee section on our intranet that highlights a wide-variety of topical resources such as books, movies, websites, music and podcasts
- distribute a community update e-newsletter that profiles an AEN member, provides updates on the work of each of the AEN Circles and includes a cultural awareness moment along with other relevant news
- maintain a calendar of events so that employees across Suncor can see upcoming opportunities and get involved

Measuring our progress

As with the supporting initiatives, 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'll also be using developmental evaluations to assess the effectiveness of our work, to look for shifts in perception, attitudes and behaviours, and to identify emerging opportunities.

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Partnering with Aboriginal businesses

On this page:

Performance Area: 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.

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, particularly in the Wood Buffalo region. 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.

2015 Examples

Petro-Canada partners with Fort McMurray 468 First Nation and Christina River Enterprises

This year, Fort McMurray 468 First Nation and Christina River Enterprises opened the first Aboriginal-owned retail Petro-Canada branded operation in Alberta. The road to this milestone began when Petro-Canada hosted a conference in Osoyoos, B.C. in October 2014. Entitled "Imagine the Possibilities," the conference brought like-minded people together to learn about retail gas station opportunities for Aboriginal businesses. Christina River Enterprises was one of the participants. Pat Pambianco of Petro-Canada had this to say at the opening of the new retail site:

"Today is another chapter in our shared history and valuable relationship we have with Fort McMurray 468 First Nation and Christina River Enterprises. We recognize that people and communities affected by our activities should have the opportunity to benefit through greater participation in energy development."

In 2015, five new Petro-Canada retail sites were opened in Aboriginal communities in Alberta and the Northwest Territories.

Partners on the Adelaide Wind Power Project

Our Sarnia refinery is located beside the Aamjiwnaang First Nation community. In 2015, this First Nation became an equity partner with us in the Adelaide Wind Power Project. Aamjiwnaang First Nation holds a 25% interest.

“This partnership is an opportunity for us to continue to work together with the Aamjiwnaang First Nation on our shared energy future,” says Jim Provias, vice president, renewable energy. “We are committed to working closely with the Aamjiwnaang community and we look forward to building on this relationship over the lifespan of our project.”

The Adelaide Wind Power Project is a 40 megawatt (MW) facility located approximately 5 km north of Strathroy, Ont. and has 18 turbines.

"Aamjiwnaang is committed to creating partnerships that contribute to the development of our community,” says Chief Chris Plain. “The Adelaide project will allow us to use our traditional territory in a way that is in alignment with our values and philosophy, by contributing to a more sustainable future for our community and the province as a whole."

Working with Aboriginal vendors

Aboriginal vendors had a record year in 2015. Significant spending on projects like Fort Hills provided more contract opportunities for Aboriginal vendors. While we came close to reaching our 10-year target, we don’t expect to reach it just yet.

Challenges ahead

Current challenges in the economic environment mean that our project spending for the coming years will be significantly reduced. As a result, there will be fewer contracting opportunities. We know that project spending fluctuates and we’re working hard to define sustained opportunities for Aboriginal vendors in the years ahead. We’re focusing on a few areas:

- Internally, we’re changing our approach by integrating Aboriginal vendor inclusion into each of our supply chain categories so that it becomes fully embedded into the way that we work, every day.
- We’re also working to embed those same values with our suppliers and contractors. Aboriginal vendor inclusion is a key component we use to evaluate our contractors and suppliers, ensuring they’re also focused on advancing Aboriginal sub-contracting strategies.
- We’re finding ways to broaden and diversify the scope of our overall spend that’s available to Aboriginal vendors, and we’re working directly with select businesses to build their capability.
- Historically, we’ve been focused on the Wood Buffalo region. By continuing our partnerships with Northeastern Alberta Aboriginal Business Association (NAABA) and the Canadian Council for Aboriginal Business (CCAB), we’re looking beyond Wood Buffalo for opportunities to build relationships and to partner with Aboriginal vendors in some of the other communities where we operate across Canada.

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Partnering with Aboriginal youth

On this page :

Performance Area: 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, 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 that share our vision. Through the Suncor Energy Foundation funding strategy, 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

Partnering with Bridges Social Development Canada Bridges

In the summer of 2015, our partner organization Bridges Social Development once again hosted The Aboriginal Youth Explosion. The annual event brings together the collective voices of Alberta's Aboriginal youth to celebrate the exploration of their personal wisdom and potential. It showcases the adventurous and challenging work being done by Aboriginal youth as participants of Canada Bridges' Unveiling Youth Potential (UYP) Program — an empowerment

program aimed at realizing the potential of youth and young adults by supporting their leadership roles in building strong, resilient communities.

Watch the Aboriginal Youth Explosion videos

Measuring our progress

Over the next 10 years, we will measure year-over-year increases in two areas:

- Number of opportunities for youth leadership training and experiences
- Number of opportunities for Suncor employee and youth interactions

We'll measure much of this work through our transformative community partners. We'll also work with our own employees through the Aboriginal Employee Network (AEN). In particular, the AEN's Outreach Circle is working to build a community of support for Aboriginal employees at Suncor and is developing an ambassador program. The program is intended to create a pool of ambassadors representing a broad cross section of our Aboriginal employees interested in engaging with youth in schools and communities to share their experience.

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Improving Aboriginal workforce development

On this page :

> Performance Area: We're improving Aboriginal workforce development through hiring, retention and advancement of Aboriginal employees across our businesses

Advancing meaningful Aboriginal employment at Suncor isn't just about getting more self-identified Aboriginal people working at Suncor. To truly create lasting positive change, we need to build a culture of greater inclusion at Suncor. This means changing the way we think and act so that all diverse groups are respected, valued and engaged in our workplace.

We recognize that having Aboriginal people working at all levels and across Suncor's business provides an important connection to other Aboriginal employees and communities across Canada.

Supporting Initiatives

Inclusive recruitment processes

Suncor enlisted the help of the Aboriginal Human Resource Council (AHRC) to conduct an independent review of our recruitment and selection practices. The AHRC report recognized the many positive activities taking place related to Suncor's Aboriginal recruitment and selection efforts. It highlighted recommendations to strengthen attraction activities and to encourage Aboriginal candidates to apply for Suncor opportunities.

A number of these recommendations have been enacted:

- Suncor sends marketing to all local Aboriginal employment coordinators in the region to let them know about our current employment opportunities.
- Suncor has developed additional marketing tactics to reach this important talent segment Canada-wide, including partnership with the Aboriginal Link

network.
- A Suncor representative visits local Wood Buffalo Aboriginal communities on a regular basis to review resumes, talk about what it's like to work for Suncor and share additional information about education and training programs.

Aboriginal Employee Network

The Aboriginal Employee Network is a new employee resource group developed by and for Suncor employees wanting to play a part in advancing Aboriginal inclusion at Suncor, and creating a safe and supportive workplace culture for Aboriginal employees. Over 100 people joined the network when it was launched in the summer of 2015, and membership continues to grow steadily. 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 business, who meet regularly to develop programs and initiatives in support of four key objectives:

- Aboriginal Community Circle: build a community of support for Aboriginal employees at Suncor
- Aboriginal Outreach Circle: develop a pool of Suncor ambassadors to 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 people
- Aboriginal Awareness Circle: to increase awareness and understanding within Suncor of Aboriginal experiences

Summer Aboriginal Student Program

For a number of years, Suncor has encouraged Aboriginal post-secondary students to apply for positions in our Summer Aboriginal Student Program. This program is part of our commitments to Aboriginal communities in the Regional Municipality of Wood Buffalo and we're proud of the valuable work experience and exposure to the energy sector this program offers post-secondary Aboriginal students.

Connecting Aboriginal youth with employment opportunities remains a common goal of Suncor and the communities in which we operate. In 2015, we conducted a thorough review of the program's successes and opportunities and will continue to identify areas to ensure that the students who are hired will be successful.

Our initiatives with Aboriginal workforce development are ways we have begun to change the way we think and act — the commitment we make in our new social goal — to strengthen our relationships, so that Aboriginal Peoples can play a larger role in energy development.

Measuring our progress

Some of the ways we're going to measure our progress includes:

- Increase Aboriginal representation in our workforce by 50% by 2025 through increased self-identification of current employees and hiring of new employees.
- Eliminate the gap in retention and advancement rates between Aboriginal and non-Aboriginal Suncor employees by 2025.

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Community investment

On this page :

As stewards of valuable natural resources, we have the opportunity – and responsibility – to help build a better future. By supporting resilience, skill development and social well-being in the communities around us, we strive to create shared value and benefit for all involved.

We are here to connect and support, as well as learn with our community partners. By working with others, we increase our body of knowledge and make progress toward resolving complex social challenges.

Collaboration is at the heart of our community investment strategy. By working collaboratively, we can find and realize opportunities for long-term solutions that can positively impact communities, future generations and our company. It also ensures we continue to understand each other's interests, issues, needs and concerns.

Our community investment strategy

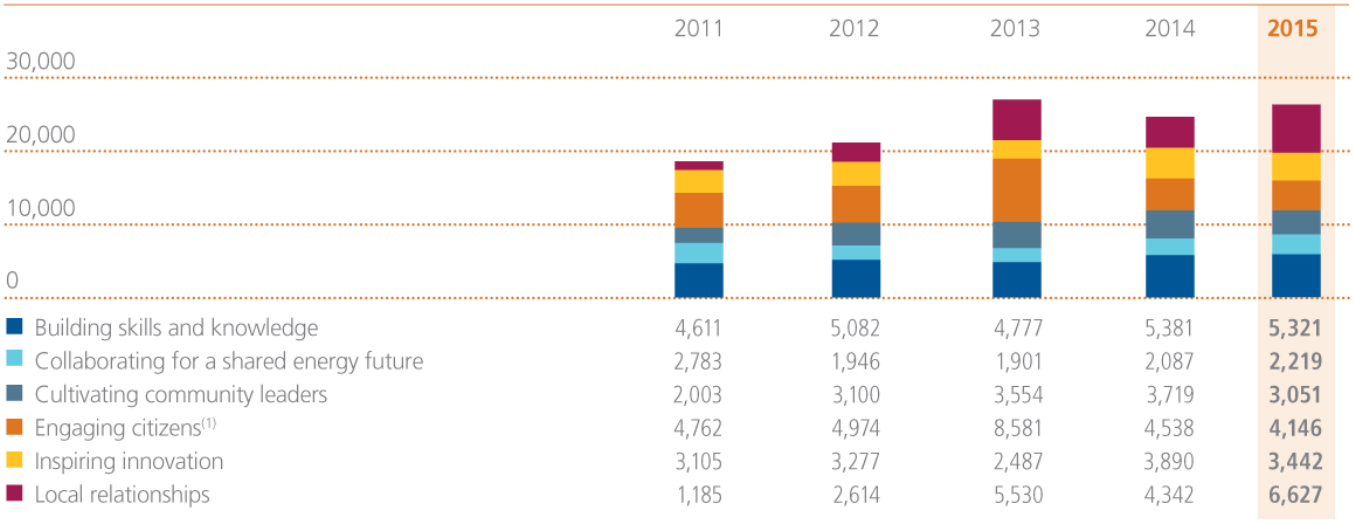
Suncor and our private, non-profit, charitable organization, the Suncor Energy Foundation (SEF), are guided by a strategy focused on targeted investments intended to help communities near our operations grow, thrive and become sustainable and resilient.

By leveraging our strengths as an integrated energy company, we believe we can be an effective partner in supporting sustainable, resilient communities. That's why we focus our investments in five key areas to support integrated initiatives that:

- strengthen communities by cultivating community leaders
- support building skills and knowledge for the current and future workforce
- foster the ability to think creatively through inspiring innovation
- build employee and volunteer capability by engaging citizens in community activities
- engage employees and communities in collaborating on our energy future

"Our collaborative approach allows us to work in partnership with communities to understand the big issues that impact both society and Suncor," says Cathy Glover, director, community investment and the SEF. "Whether it's supporting Aboriginal youth, addressing community capacity or facilitating a dialogue on energy future, our investments have the potential to be transformative both internally and in community."

COMMUNITY INVESTMENT BY FUNDING PRIORITY*
($ thousands)



	2011	2012	2013	2014	2015
Building skills and knowledge	4,611	5,082	4,777	5,381	5,321
Collaborating for a shared energy future	2,783	1,946	1,901	2,087	2,219
Cultivating community leaders	2,003	3,100	3,554	3,719	3,051
Engaging citizens[1]	4,762	4,974	8,581	4,538	4,146
Inspiring innovation	3,105	3,277	2,487	3,890	3,442
Local relationships	1,185	2,614	5,530	4,342	6,627

* Suncor and the Suncor Energy Foundation have a Community Investment strategy in place with funding priorities that reflect our commitment to be actively engaged in the development of sustainable communities in our key operating areas. For historical community investment information under previous funding priorities prior to 2011, please refer to archived copies of Suncor's Report on Sustainability.
(1) Contributions in 2013 to the "engaging citizens" priority were significantly higher as a result of the activation of several Suncares Humanitarian matching grant programs for employees (Alberta floods, Colorado floods, Haiyan typhoon).

SUNCOR

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For most energy companies, 2015 was a difficult year to navigate how best to support community organizations in time of economic downturn and budget constraints. Through the corporate foundation model, SEF was able to utilize their reserve fund to honour commitments and maintain support to our community partners. Our Foundation is an example of sustainability in action by allowing us to be resilient in times of economic uncertainty. While SEF could not consider new funding, we were able to maintain support to our strategic initiatives and partners through dollars, in-kind contributions and volunteerism.

Read more about our Community Investment strategy and the Suncor Energy Foundation

Community investment: Our support in community

Suncor is part of our communities so we need to be a contributor towards strengthening their resilience and sustainability.

"For many years, we were doing what we thought was right, being reactive and doing things 'to' community. Now we've started to move into that 'with' and 'of' space: how do we work together in partnership for the common good?" reflects Glover. "One key learning we've had is that we can't force outcomes and we have to be prepared to allow ourselves and our organization to be changed by what we're seeing and hearing."

This approach was strengthened from the SEF Gathering events and can be seen in some emerging collaborations such as the Alberta Social Innovation fellows, Alberta Ecotrust's Climate Gathering and the creation of the social goal.

Examples of our strategy in action

Here are some examples of the community investment strategy in action in 2015, and what we've learned:

Expand all | Collapse all

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 around Collaborating on the Energy Future. 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 30 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 three convening organizations: the SEF, The Banff Centre and the Pembina Institute, 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?

Check out the Energy Futures website to learn more about what is happening

"As energy producers and users, it is imperative for all of us to find collaborative ways to transition production towards using less carbon intensive means," says Lori Gammell, senior advisor, social innovation and partnerships. "Opinions on energy may differ, but with everyone in the conversation, we can make informed decisions that create shared value for all Canadians and transition to a sustainable energy future for Canada."

Another initiative supported in the energy space is Student Energy (SE), and their interactive energy literacy platform. SE is a global not-for-profit 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.

Reconciliation Canada

Another example of our community investment strategy in action is our partnership with Reconciliation Canada. Through this partnership, 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 Canada where all peoples achieve their full potential and shared prosperity" as stated in the vision of Reconciliation 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, invested in establishing the four-week *Getting to Maybe* social innovation residency program.

Launched in June 2015 with 28 participants, it brought together diverse corporate, government and community leaders 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.

"To make tangible progress on the issues facing communities, we know we need to foster and participate in new thinking and leadership at a system-wide level," says Paul Gardner, senior vice president, human resources, and chair of the SEF board of directors. "This investment in the people that are taking leadership roles in collaborative change efforts in Canada underscores our commitment to address complex social issues and develop strong and

sustainable communities."

Find out more about the *Getting to Maybe* social innovation residency.

Local Communities

During 2015, Suncor and SEF continued to support many local initiatives in our operating communities including:
St. John's – Community Sector Council: this initiative is a multi-sectoral project to strengthen the capacity and resources of the non-profit sector
Fort McMurray – FuseSocial: emerging from the Social Prosperity Wood Buffalo project, this organization serves as a backbone organization to the community sector in the region.
Sarnia – Wheels to Lambton Project: getting to school is a critical element to student success so, in 2015, SEF started supporting the initiative which provides transportation for Lambton College students from Walpole Island First Nations and Aamjiwnaang First Nation.
Denver – Boys and Girls Club: As a long-time supporter, we proudly celebrated the grand opening of the new Suncor Boys & Girls Club facility in Commerce City. The new space will support expanded programs to meet the community needs for years to come.

Supporting our employees

Volunteerism and community engagement has long been part of how our employees contribute to the community. Through our SunCares employee program, we help employees more readily support community in the following ways:

- Volunteering – through Suncor-supported events or team-building and individual volunteering opportunities
- SunCares Grants – SEF and Suncor provide a suite of grants that support causes important to employees
- United Way – During the 2015 Suncor United Way Campaign, more than $6.4 million was contributed to United Way chapters through employee donations, special events and the corporate donation provided by Suncor and SEF

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 2016.

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 over 2,700 athletes on their way to the Olympic and Paralympic Games. Every year, 50 promising athletes from across Canada are awarded a $10,000 FACE grant, shared with their coaches, to help them along their journey.

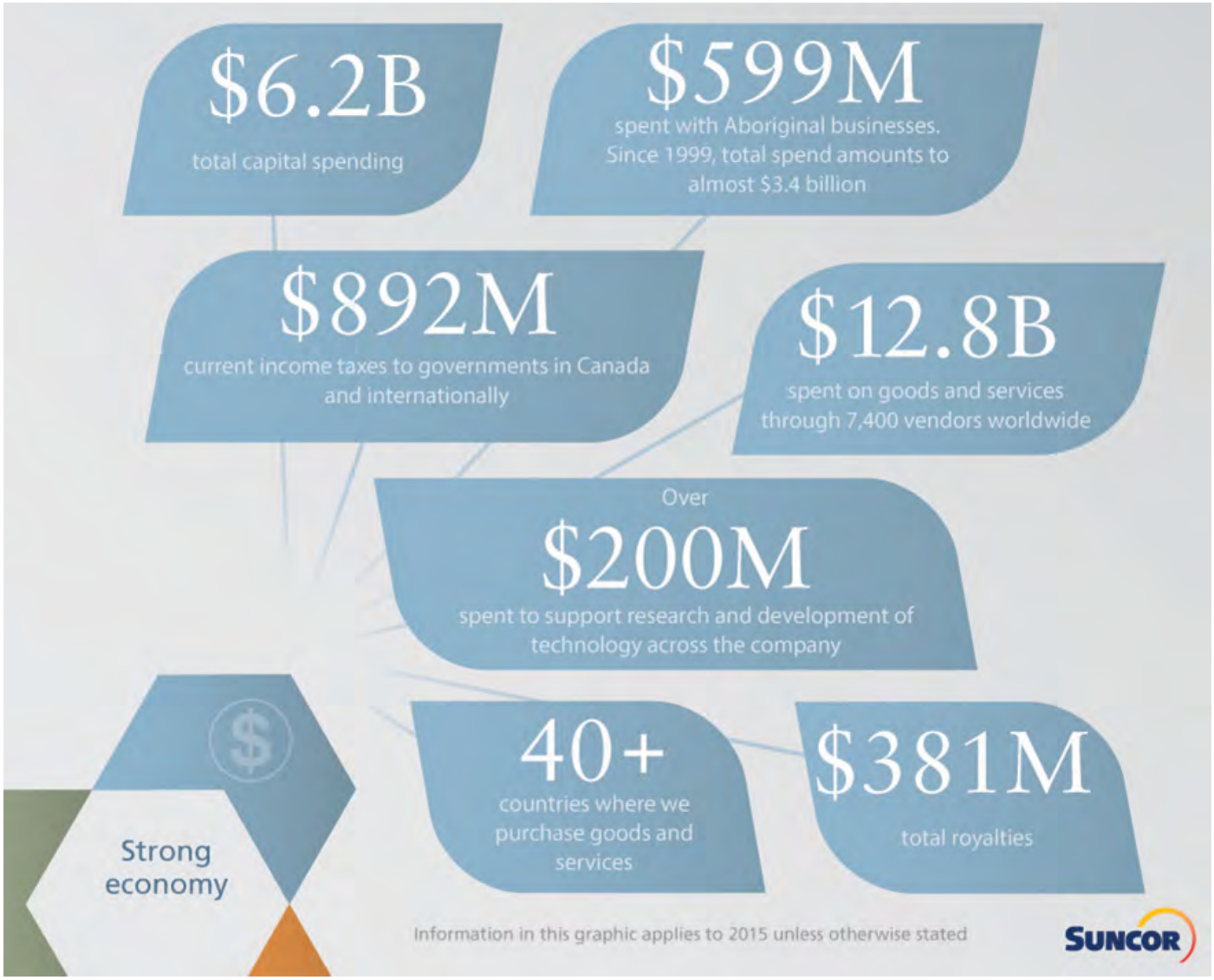
We also believe one of the best ways to support Canadian athletes is to help their biggest fans, their families. We continue to support a ticketing program that will help ensure family members have the opportunity to see their athletes compete live in Rio in 2016.

Other examples

You can find more examples of our community investment strategy in action in other areas of the Report on Sustainability, including how:

- we partner with Aboriginal youth
- we help address skilled labour challenges
- we're involved in climate change and energy transition conversations

Economic



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> “Sustainability is about striking a balance between opportunity and risk. Businesses and economies are at risk if we fail to meet society’s rising expectations for our performance.”
> — Steve Williams, president and CEO

Strong economic performance, social responsibility and environmental stewardship is foundational to being a sustainable energy company. What follows is a high-level overview of our economic management approach.

Expand all | Collapse all

Our strategy

We are committed to delivering competitive and sustainable returns to shareholders by focusing on:

- capital discipline
- operational excellence
- long-term profitable growth
- leveraging our competitive differentiators

Our management approach to economic risk is to mitigate negative impacts while enhancing positive impacts, where possible. We also continue to execute well on our strategy which focuses on:

Capital discipline

Strong cost management, focusing on core assets and investing in projects that deliver the best possible returns are all examples of creating value for every dollar spent. In response to declining crude prices, the 2015 capital guidance range was revised downwards, with prudent capital spending allowing us to finish the year more than $1 billion below the low end of initial guidance.

Operational excellence

We strive to continuously raise the bar on operational performance through consistently applied standards and principles. In 2015, for example, our refining facilities achieved 94% overall utilization and our upgrading operations achieved reliability in excess of 90% more than a year ahead of schedule. Operational excellence is also about becoming a more sustainable energy company. Every barrel of water conserved and every emission reduced means lower input costs and supports our social licence to operate and grow.

Profitable growth

Our focus is on smart, profitable growth. Our Fort Hills mining project, for example, continues to be on schedule, with construction more than 50% complete at the end of 2015.

Read more about our growth plans and capital spending

Read more about our vision and strategy

Download our 2015 Management's Discussion and Analysis (PDF, 55 pp., 226 KB)

We also ensure that the management of economic risks by joint venture partners and subsidiaries are in line with our vision and strategy.

Policy

We have adopted several policies related to economic performance. These include:

- competition
- accounting reporting and business control
- business conduct
- enterprise risk management

Our strategy leverages our competitive differentiators and paves the way for us to unlock our company's full potential for the benefit of our employees, shareholders and stakeholders. We strive to profitably operate and develop our oil sands resources, optimize value through integration, achieve industry-leading unit costs in each business segment and be an industry leader in sustainable development.

Implementation of our Operational Excellence Management System (OEMS) across the entire enterprise is a key example of continually improving the reliability and performance of our assets. This means integrated and consistent standards, processes and procedures that reduce risk and enable continuous improvement.

For more information on our business strategy, growth projects, performance, financial goals and objectives, visit Suncor's Investor Centre.

Additional policies and practices include:

- Prevention of Improper Payments, which sets out that funds and facilities are not to be used for any illegal or improper purposes.
    - Read more about prevention of improper payments
    - Download our PG&S on the Prevention of Improper Payments (PDF, 10 pp., 71 KB)
- Conflict of interest, which sets out conduct for Suncor personnel in a conflict of interest situation.
    - Read more about corporate governance
    - Learn more about our governance policies on suncor.com
- Aboriginal relations, which encourages each business unit to plan and measure business activities and partnerships that create opportunities for Aboriginal-owned businesses.
    - Read more about partnering with Aboriginal businesses
    - Download the Aboriginal relations policy (PDF, 2 pp., 1.3 MB)

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

Commitments

We are committed to a mission, vision and values which 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.

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

Goals, targets and actions

We are committed to five enterprise-wide value driving goals:

- continue to advance our journey to operational excellence
- improve maintenance and reliability across Suncor's operations
- accelerate progress on Suncor's culture and workforce performance
- generate and sustain industry-leading returns
- achieve long-term sustainability goals

For information about how we delivered on these goals in 2015, download our 2015 Annual Report (PDF, 136 pp., 3 MB) and see pp. 8-9.

Technology investment

Our strong balance sheet allows us to invest in new technologies, for potential use to reduce carbon emissions, water use and the overall environmental footprint of our business. In 2015, Suncor spent more than $200 million to support research and development of technology across the corporation. These investments include technologies to improve the efficiency of bitumen extraction from the oil sands, while reducing carbon intensity. Suncor also shares 814 technologies and innovations through Canada's Oil Sands Innovation Alliance (COSIA) that cost more than $1.3 billion to develop.

Read more about our latest developments in technology

Community investment

Through the company and our private, non-profit charitable organization, the Suncor Energy Foundation, we provide targeted investments intended to help communities near our operations grow, thrive and become sustainable. In 2015, our community investments totalled more than $26 million.

Read more about our community investment strategy

Responsibilities, resources and training

Our senior management team is responsible for delivering significant growth while maintaining operational excellence, led by our president and chief executive officer Steve Williams.

Our senior executive compensation program is designed to support and reinforce Suncor's value drivers:

- continue to advance Suncor's journey to Operational Excellence
- materially improve maintenance and reliability
- accelerate progress on Suncor culture and workforce performance
- generate and sustain industry leading returns
- achieve long-term sustainability goals

More information about compensation programs can be found in our 2016 Management Proxy Circular (PDF, 106 pp., 909 KB)

Resources and training

- We have had a comprehensive anti-bribery compliance program in place since 2012. The program includes training, contractual protections, audits and third-party contractor prequalification.
- We conduct an annual business conduct compliance program with employees, contract staff and directors, who must review our business conduct policies and make an affirmation respecting policy compliance during the preceding calendar year.
- In light of the current crude price environment, Suncor has reduced the size of our workforce and implemented a number of directives around discretionary spending to continue to drive a sustainable, cost-conscious culture across all levels of the organization. This cost-conscious culture will not deter our focus on safe, reliable and environmentally sound operations and these areas are critical to the long-term viability and to the success of Suncor.

Read more about our standards of business conduct code

Results and evaluation

Our integrated business model, along with a relentless focus on cost reduction and operational discipline, delivered financial, operational and strategic achievements over the course of 2015.

We continued to demonstrate:

- industry-leading free cash flow from our integrated model and a strong focus on execution
- emphasis on capital discipline by maintaining a strong balance sheet, with a decreasing net debt balance while steadily increasing the return of cash to shareholders

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.

Financial performance information is included in our 2015 annual disclosure documents.

- Download our 2015 Annual Report (PDF, 136 pp., 3 MB)
- Download our Annual Information Form dated Feb. 26, 2016 (PDF, 94 pp., 353 KB)

Read about our economic performance

What we are doing differently

Read about our growth plans and capital spending

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Economic performance

On this page :

> We are one of a few energy companies in Canada to operate across the value chain — from resource extraction and upgrading to midstream logistics to refining and marketing. This integrated business model, along with a strong focus on execution, continues to generate solid results.

Here is a look at the main indicators of our internal economic performance in 2015:

Expand all | Collapse all

Production

Total upstream production averaged 577,800 barrels of oil equivalent per day (boe/d) in 2015, compared to 534,900 boe/d in 2014. This amount reflected an increase in volumes from Oil Sands operations due to improved reliability and increased Exploration & Production volumes as a result of the ramp up of Golden Eagle.

The production of 577,800 boe/d in 2015 included 463,400 barrels per day (bbls/d) from our Oil Sands business unit and 114,400 boe/d from Exploration & Production.

Driven primarily by improved upgrading reliability and In Situ production, our Oil Sands operations increased production more than 10% in 2015, compared to 2014. In 2015, Firebag nameplate capacity increased from 180,000 bbls/d to 203,000 bbls/d as a result of cost-effective debottlenecking activities and

sub-surface optimization.

A record low steam-to-oil ratio of 2.6 at Firebag was achieved for 2015, primarily due to optimized reservoir management strategies and strong infill well performance.

Please note: The production numbers cited above are from Suncor's 2015 Annual Report. These are for upstream volumes only, and include production from non-operated assets. This differs from production numbers used in the performance data section of Suncor's Report on Sustainability, which includes 100% of the production at Suncor-operated facilities only, and also includes downstream throughput volumes of saleable refined products. For the purposes of our Report on Sustainability, net corporate production in 2015 was approximately 48.2 million cubic metres (m^3), compared to 45.4 million m^3 in 2014.

Earnings

We reported net losses of $1.995 billion in 2015, compared to $2.699 billion in 2014. Operating earnings* for 2015 were $1.465 billion, compared to $4.620 billion, in 2014.

Consolidated cash flow from operations* for 2015 was $6.806 billion, compared to $9.058 billion in 2014. Cash flow from operations decreased primarily due to the decline in crude prices, partially offset by higher production volumes and lower operating costs.

Operating costs

Reducing our cash operating costs* continues to be a focus for us. We reduced annual Oil Sands operations cash operating costs per barrel from $33.80 per barrel (bbl) in 2014 to $27.85/bbl in 2015.

Share prices and dividends

Our common share price closed at $36.90 on the Toronto Stock Exchange on Dec. 31, 2015, a decrease of approximately 1% from the year before.

- We returned $1.648 billion in dividends in 2015, an 11% increase versus 2014.
- 2015 marked the 13th consecutive year in which Suncor's dividend has increased.

Balance sheet and financial position

Our approach to prudent capital spending in 2015 resulted in the company finishing the year within its revised 2015 capital guidance range of $5.8 to $6.4 billion, and $1.0 billion below the low end of initial 2015 guidance. We ended the year with $4.0 billion in cash and cash equivalents.

Read more about our economic performance in our 2015 financial reports

*Non-GAAP financial measure. Please see the Advisories.

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Growth plans and capital spending

On this page:

Suncor remains focused on profitable growth. In the past year, we've successfully acquired Canadian Oil Sands Limited's and Murphy Oil's ownership shares in the Syncrude joint venture, increasing our interest to 53.74 per cent. We also have made significant progress on the Fort Hills mining project and acquired an additional 10% working interest in the project in 2015. First oil is targeted for the fourth quarter of 2017. To date, we have achieved all critical milestones according to plan and construction is more than 50% complete.

We are also making significant progress on our growth projects in Exploration and Production:

- The Golden Eagle Area Development ramped up to full production rates in 2015.
- Development of the Hebron project continued in 2015, with first oil expected in late 2017.

Preserving energy and economic growth opportunities for the future

In response to the continued lower crude price environment, we have elected to defer some capital spending. This means that projects such as MacKay River 2 and the White Rose Extension will await more favourable market conditions. We'll carefully stage these projects so that when the time comes to bring them back into development, previously invested capital will be preserved.

Expanding market access

Growth requires access to markets. We're well-positioned with more than 600,000 barrels per day of takeaway capacity for our Oil Sands production. Key 2015 highlights include:

- Enbridge's line 9 reversal was commissioned during 2015 with the first delivery of crude to Suncor's Montreal refinery in December. The reversal provides us with the flexibility to supply our Montreal refinery with a full slate of inland priced crudes.
- Optimization of our midstream assets added approximately $2 per barrel in value to our Oil Sands production

Read more about market access

2016 capital spending plan and production outlook

For corporate guidance on 2016 capital spending and anticipated production, please visit Suncor.com/guidance

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Contribution to economy

On this page:

> The economic benefits of our success extend well beyond the returns we provide to shareholders. In 2015, we contributed a combined $1.3 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 also generate economic growth and prosperity through our purchase of goods and services. In 2015 our supply chain teams worked with approximately 7,400 suppliers representing over $12.8 billion in combined spending on goods and services.

Royalties and taxes

In 2015, royalties totalled over $381 million, including $114 million directed to the oil sands royalties. As well, income taxes totalled approximately $892 million to governments in Canada and internationally.*

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

Capital spending

Capital and exploration expenditures totalled $6.2 billion in 2015, compared to $6.5 billion in 2014.

Goods and services

We have a defined process to segment spend by categories and to develop supply strategies by category. This process identifies those suppliers that are high volume, those that provide critical materials and/or services and those that are non-substitutable.

A look at our supply chain spending shows we had more than 5,400 Canadian vendors spanning all 10 provinces as well as the Northwest Territories the Yukon and Nunavut. The United States was our next biggest supplier (more than 1,400 vendors), and we also purchased from 40-plus other countries.

We have 7 major category groups that are further segmented into sub-categories. The taxonomy used to define and create these categories and sub-categories is the United Nations Standard Products and Services Code (UNSPC) 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
- electrical
- engineering services and tech support
- facility materials
- fleet
- freight and transportation
- ground transportation
- instrumentation and controls
- IS hardware, software and services
- lodging
- maintenance and support services
- materials
- mining equipment
- offshore services
- rotating machinery
- services (EHS, professional, marketing and sales)
- static equipment

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

Aboriginal partners

In 2015, we spent $599 million on direct purchases from Aboriginal businesses. Since 1999, Suncor has spent approximately $3.4 billion with Aboriginal businesses, nearly half of which was spent since 2011. We prefer to use local vendors whenever possible.

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Corporate governance

On this page :

> Good corporate governance is a critical part of our business culture and practice. Making decisions responsibly and in the best interests of our shareholders and stakeholders is a key focus, from the Board of Directors to every employee.

Leadership starts at the top

Our Board of Directors sets the standard for our governance structure. The Board oversees the management of Suncor's business and affairs on behalf of our shareholders. It has processes in place to help ensure we live up to regulatory requirements and the standards of excellence we set for ourselves.

The Board's responsibilities include:

- identifying risks and ensuring systems are in place to manage and monitor risks
- strategic planning
- 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

Read about our Board of Directors on suncor.com

Experienced and diverse leaders

According to the Canadian Board Diversity Council (CBDC), having a diverse, experienced and well-credentialed Board of Directors helps:

- consider challenges and opportunities from a variety of perspectives
- generate powerful ideas and innovative solutions
- create shareholder value

The Board aims to be comprised of directors who have a range of perspectives, insights and views in relation to the issues affecting Suncor. It looks for members from diverse backgrounds, having 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.

Learn more about CBDC

Learn more about our governance policies on suncor.com

Corporate governance structure

Effective corporate governance comes from leadership and good corporate structure. Economic, environmental and social issues aren't considered separately but evaluated together as part of our strategic decision-making process. This has informed our corporate structure and its key features:

- Our Board of Directors and its committees have clearly defined and distinct oversight roles to protect the interests of our shareholders and stakeholders set out in terms of reference
- The Board's environment, health, safety and sustainable development committee monitors management's performance in areas within its mandate. They also review emerging trends and issues in the areas of health, environment, climate change, safety and sustainable development to ensure we are anticipating future challenges and positioning ourselves to minimize risks
- Our senior management team integrates key operational and functional accountabilities for maximum efficiency and effectiveness
- The vice president, sustainability and communications reports directly to our executive vice president, business services
- Environment, health and safety and sustainability employees have direct access to senior management

Download the company's annual Management Proxy Circular and related governance policies on suncor.com.

Download

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Ethical business conduct

On this page:

> Our commitment to integrity and ethics is the foundation for our Standards of Business Conduct Code and the company policy guidance and standards that reinforce it.

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 contract worker is required annually to 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

Consultants working on our behalf or in our name through outsourcing of services, processes or business activity, are required to abide by the code when representing Suncor.

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

Stewarding to business conduct code

- Our Board of Directors exercises stewardship over the code
- Internal auditors audit the compliance program 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

At least once annually, the code is reviewed, and if appropriate, updated. Management reports to the governance committee annually on this process and any recommended changes are approved by the governance committee.

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 2015.

Raising ethical concerns

We encourage employees to raise ethical concerns without fear of reprisal with these teams/departments:

- Management
- Legal
- Corporate Security
- Human Resources
- Internal Audit

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

The integrity hotline is available 24 hours a day, 7 days a week. All serious issues are investigated by Internal Audit or the chief compliance officer. The audit committee receives regular updates on integrity hotline activities.

Download The Way We Do Business Guide (PDF, 24 pp., 1 MB)

Prevention of improper payments

Corruption constrains sustainable economic activity. It hinders the development of fair market structures and distorts competition. More important, corrupt business practices undermines 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 the PG&S on the Prevention of Improper Payments. 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.

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 Board of Directors.

Download our PG&S on the Prevention of Improper Payments (PDF, 10 pp., 180 KB)

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, federal and international laws. We respect privacy rights of all individuals and have policies, procedures and practices to protect those rights.

Competitive practices

We strive not to engage in anti-competitive activities. 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 try to identify, select and do business with suppliers who enhance our competitiveness and who have a consistent vision of sustainability and business ethics.

- Download our PG&S on Competition (PDF, 19 pp., 98 KB)
- Download our PG&S on Trade Relations (PDF, 2 pp., 28 KB)

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 in communities where we're located for many years. 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. We acknowledge work that the Extractive Industries Transparency Initiative does in this regard and, while we haven't formally endorsed the initiative, we consider supporting host countries seeking to implement greater transparency if requested.

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.

- Download Suncor's 2016 management proxy circular (PDF, 111 pp. 910 KB)

As per the Board's conflict of interest policy, if a director is a party to, or has an interest in any party to, a contract or transaction before the Board of Directors (regardless of the materiality of the contract or transaction), the director must immediately advise the board chair or the particular committee chair. The director's conflict or potential conflict is recorded in the meeting minutes and the director is required to exit from the meeting for any material discussions or deliberations concerning the subject matter of the contract or transaction. The director is required to abstain from voting on any resolution in respect of such contract or transaction. The corporate secretary also ensures that directors don't receive board materials in situations where the subject matter of the materials could involve an actual or potential conflict of interest.

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Executive pay

On this page :

> Interest in executive pay from shareholders, other stakeholders and the general public continues to be strong. This can be seen in evolving regulatory requirements, increasing focus on pay-for-performance in a very challenging business environment — highlighted by a dramatic drop in crude prices during 2015, clear expectations for transparency in disclosure of executive pay and demonstration of good governance practices.

Compensation linked to goals

Our executive compensation plans, policies and programs are designed to support and reinforce successful strategy execution, achievement of our corporate and business unit goals and to attract and retain top talent, resulting in profitable growth and long-term shareholder value.

To ensure alignment on key priorities, our goal-setting process begins with the president and chief executive officer and cascades through the organization. Goals are established by each of the business units in key areas that will drive the most value:

- continue to advance operational excellence
- improve maintenance and reliability
- achieve long-term sustainability goals
- generate and sustain industry-leading returns
- enhance our culture and workforce performance

We ensure our executives' focus is linked with the interests of our shareholders by driving alignment on key priorities, and tying executive compensation

directly to the achievement of our goals and strategy.

Consistent pay-for-performance approach

To deliver sustained performance and increased shareholder value, it is essential that we attract, engage and retain talented, capable executives who can lead and execute business plans that position us for long-term success. One of the ways we do this is by designing and implementing compensation plans, policies and programs that provide an attractive and competitive total compensation opportunity.

This is demonstrated in the total direct compensation we provide to executives, which has a significant portion (70% to 85% for senior executives) at risk, in the form of short, medium and long-term performance-based pay. Annual, medium and long-term incentive plans are tied directly to operational performance and to absolute and relative increases in shareholder return.

Our incentive-based pay-for-performance design provides executives with the opportunity to increase their compensation when above-target operational and shareholder return performance is achieved and limits their compensation when performance warrants.

This pay-for-performance approach is a fundamental part of our identity, underpins the design of our incentive programs and responds to shareholder expectations of a strong link between executive pay and longer-term value creation.

Oversight of compensation programs

An important responsibility of the board is ensuring that executive compensation plans, policies and programs are aligned with shareholder interests, are competitive and that compensation risks are limited.

This governance responsibility is carried out with the assistance of the Human Resources and Compensation Committee and accomplished through the committee's mandate which includes:

- review and approval of performance goals
- monitoring and feedback on company performance
- application of sound executive compensation governance based on best practices
- design of executive compensation plans, policies and programs to include thresholds, caps or maximums, performance hurdles and robust share ownership requirements

For more information on executive compensation, download the 2016 Management Proxy Circular (PDF, 111 pp., 910 KB).

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Managing enterprise risk

On this page:

Like any responsible business, we must constantly identify, assess, treat and monitor risks inherent to our assets, activities and operations. Suncor's Risk Management Policy drives a culture of being:

- Proactive – we do the right thing by identifying and managing risks in advance.
- Transparent – we foster a culture that is open and honest about our risks. We actively provide and seek out information so we can make better decisions.
- Consistent – we take a disciplined approach to achieve excellence in risk management. We do the right thing the right way.

Our rigorous enterprise risk management process engages all levels of the corporation — from the Board of Directors 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, review and report on critical risks in their areas of business.

Risk matrix tool

Once identified, risks are assessed and evaluated in terms of magnitude of impact and likelihood by using an internal risk matrix tool. A risk owner is assigned who develops a plan to treat and monitor the risk. They also report up the organization to the accountable and responsible people for the risks to ensure decisions are being made at the appropriate leadership level. Follow-up measures are in place to ensure risk management decisions are properly and effectively implemented.

Identifying principal risks

We define principal risks as those that have the potential to materially impact our ability to meet or support Suncor's business strategy.

In 2015, we focused on 11 principal risks:

1. **Commodity price:** fluctuations due to market dynamics that affect our profitability

2. **Government policy impact:** changes relating to air, water, land, climate change or health regulations or to tax and royalty structures that materially affect us and our competitive position

3. **Reliability:** significant or catastrophic asset failure affecting profitability and/or stakeholder confidence

4. **Environmental/safety:** one that causes potential harm to people or the environment or a threat to our operations

5. **Regulatory approval and compliance:** delays or denials of approvals or non-compliance that could disrupt or stop core operations, projects and Suncor's growth strategy, resulting in financial penalties or lost opportunity.

6. **Project execution:** inability of a project to meet business requirements, achieve expected benefits or realize optimal life cycle costs

7. **Fossil fuel industry reputation:** inability to meet corporate social responsibilities or a significant event that jeopardizes company goodwill that ultimately impacts our ability to execute our business strategy

8. **Change capacity:** concurrent demand to deliver operational excellence and growth activities exceeds our capacity to adopt and implement change

9. **Cost pressure :** escalating operating costs and/or major project capital costs as well as impact from commodity price could reduce cash flow and profitability

10. **Market access:** macro-economic and political conditions that affect the ability to maintain or increase access to markets

11. **Information security**: pace of technology advancement and sophistication could place us in a vulnerable position to cyberattack and penetration of our information systems that could lead to economic loss and brand damage

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

Evolving risks

In the constantly evolving energy business, new risks can emerge and established risks can take on new forms or orders of magnitude. In late 2015, we consolidated two of our principal risks, Government Policy – Impact and Regulatory Approval and Compliance were combined into the Government/Regulatory Policy and Effectiveness principal risk.

In 2015, our risk matrix was revised to help prioritize our top critical risks, clarify descriptions and provide clear and consistent accountability of risk ownership. The approved risk matrix is being rolled out across the company in 2016 and is used to support employees in consistently assessing risks and evaluating the consequence and likelihood of risk events. The consequence is based on the following five receptors on the risk matrix:

1. health and safety (to the public and employees)
2. environmental
3. regulatory
4. reputation
5. financial impact

Colin Foley, vice-president enterprise risk and audit, notes that proactive risk conversations, at all levels of the organization, have been driving a culture of risk transparency and clear accountability. "These important conversations are leading to informed risk-based, decision-making across the company."

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Our employees

Download

Our vision to be trusted stewards of valuable natural resources and lead the way to deliver economic prosperity, improved social well-being and a healthy environment depends on the commitment, development and performance of an engaged, highly skilled and high performing workforce that shares our values. Our people are the key to our success. Below summarizes our management approach of our people.

Expand all | Collapse all

Our strategy

The skilled trades profession has long been described as a risk in Canada – often felt most acutely in Alberta where large-scale construction projects, maintenance and turnarounds draw upon the skilled trades workforce. However, the plummeting price of oil, increasing amount of budget cuts and layoffs by producers have casted doubt on the amount of forecasted skilled trade jobs needed in the next decade.

An economic downturn also has a ripple effect on apprentices entering the labour market. Many of them may have limited work, which leads to delayed achievement of journeyperson status and which may ultimately push them to leave the industry. We also know that an aging workforce is a demographic certainty and we will need to replenish positions that open up when people retire and begin to exit the labour market over the next few years.

Advancements in technology may also affect our workforce, but not necessarily by decreasing the demand for skilled trades, as most occupations rely heavily on the physical labour and skill contribution of its workers.

That's why, through our own research and experience, we know that there will likely be an increase in the demand for skilled labour over the long-term, given expected global demand for the products we develop and produce.

- The oil sands are the single largest employer of skilled tradespeople in Canada. This means our hiring will support our oil sands operation with a particular focus on recruiting skilled trades.

To address workforce challenges we're working with:

- industry
- government
- labour union providers
- contractors
- trainers
- educators

We're taking proactive steps to manage our workforce requirements. This means we're focused on keeping people here and we're purposefully planning for future workforce needs through the following:

- As baby boomers retire we've focused on mentoring to transfer knowledge to our next generation of leaders. We're also building new talent for the future through our engineer-in-training or apprenticeship programs.
- We continue our strong push for senior technical types of roles, such as reliability engineers, process engineers and power engineers.
- We foster a diverse and inclusive work environment that provides employee programs to support quality of life and career development while offering a 'total rewards' compensation package including: flexible benefits, pension and savings plans. This is in addition to a competitive pay package, generous vacation and performance-based annual incentive bonuses.
- We work with industry and educational institutions to encourage Canadians, especially young Canadians, to consider training for careers in the oil and gas sector.
- All salaried employees have an annual development goal, in support of their work priorities and performance goals. Employees may also have required training for their role, which is assigned and managed through a central, corporate learning system. Our learning and development programs are aligned in this way to help employees further develop the skills they need to execute our business strategy in a safe, reliable, and cost-effective way.

Suncor's hiring includes securing the workforce we currently need while also ensuring we have strong succession plans for the future. We source talent from geographic regions that best support operations and hire from the local population where possible. Suncor actively develops skills in the communities in which we operate by sponsoring programs at local colleges. The only recruiting that occurs out of country is typically for 'hard-to-fill' positions, such as mid-career professionals. This consists of fewer than 5% of total hiring volume.

We also partner with other companies who share our values. In certain commercial agreements, we include the expectation that our partners understand our employee policies and have policies of their own which, at a minimum, adhere to employment standards and human rights legislation in all jurisdictions where we operate.

Policy

Internal policies are communicated to ensure the workplace is safe and respectful. Among others, these include:

- Standards of Business Conduct (PDF, 24 pp., 75KB)
- Harassment and violence-free working environment (PDF, 7 pp., 113 KB)
- Environment, Health and Safety (PDF, 1 pp., 157 KB)
- Human Rights (PDF, 2 pp., 19 KB)

The above policies are applicable to all Suncor employees, contractors and entities. The policies are approved by various members of senior leadership who are responsible for the stewardship of that subject matter.

Most policies are reviewed annually, with the Environment, Health and Safety Policy reviewed every three years.

Workplace diversity, inclusion and respect

We are committed to equal opportunity employment and cultivating diversity within a respectful, inclusive workplace. We believe in creating an environment where all employees, wherever we do business, are treated respectfully and feel valued.

A diverse and inclusive workforce enables us to benefit from a wide range of backgrounds, perspectives and experiences. Suncor believes diversity and inclusion leads to a healthier and more successful workplace and ultimately, better performance.

We continue to progress our organizational diversity and inclusion strategies which are focused on increasing the attraction, representation and progression of women and Aboriginal peoples in our workforce.

In 2016, we are working to improve workforce diversity through improved representation and a reduced systemic bias.

- Continue key partnerships such as Women in Engineering program
- Enable the new Aboriginal Employee Network to support the progress of our organizational goals.
- Continue to leverage the Aboriginal Awareness web-based training program available for all Suncor employees and contractors to understand the importance of our relationships and partnerships with these key communities.
- Continue to develop strategies to increase the attraction, representation and progression of women and Aboriginal peoples in our workforce.
- Enable the women's networks across the company
- Continue to educate the organization on the impact of unconscious bias on an environment of inclusion.
- Leverage our annual goal setting process to continue to show our commitment to diversity and inclusion as priority for the organization.

Commitments

Where labour or employment issues arise, we have mechanisms in place for employees to raise concerns in good faith.

Employees can raise an issue with their:

- supervisor
- business unit manager
- legal department
- corporate security representative
- human resources representative
- internal audit

Alternately, employees and contractors can file a report about a suspected violation of Suncor's Business Code of Conduct through our integrity hotline – a third-party service where concerns can be reported anonymously and confidentially.

In certain commercial agreements, we ensure that suppliers have employee policies in place that adhere to legislated employment standards and match our values.

Suncor has a corporate responsibility to respect human rights and to ensure that we are not complicit in human rights abuses. In our human rights policy, we acknowledge that our responsibility to respect human rights applies to all of our activities and to our business relationships with others. The scope of our human rights responsibility includes our own operations and where we can influence our third-party business relationships, those of others.

Goals, targets and actions

We use an integrated workforce planning process which identifies the skills and capabilities we need. This work allows us to strategize for and recruit the right balance of early talent, mid-career employees and senior contributors, which ensures our workforce meets our strategic needs, now and in the future.

Supporting educational institutions

To help build the skills and knowledge needed for careers in trade, we support educational institutions that offer programs that produce qualified individuals for our workforce. Our long-term partnership with Keyano College in Fort McMurray, Alta., as an example, helps us meet industry needs for skilled trades in the Regional Municipality of Wood Buffalo. Since 1998, the Suncor Energy Foundation has invested more than $4,100,000 to support the college with a focus on their mining and process operations programs.

Rewards and career opportunities

Suncor is a company where talented people thrive. With a comprehensive rewards package and diverse career opportunities, we attract, recruit and retain some of the most capable individuals in the industry. It takes great people to make a great company, and we value our employees' contributions and hard work.

Our total rewards approach for employees is robust. It includes:

- competitive compensation
- health and insurance benefits
- career development
- pension and savings plan

Rounding out this picture are other programs designed to enhance quality of life for employees and their families. These include:

- time-off programs
- employee and family assistance
- scholarships for dependent children
- some benefits that accompany employees into retirement

We continue to conduct exit interviews with employees who choose to leave the company. Through these opportunities, we learn why employees leave Suncor and how we might minimize employee turnover, which is among the lowest in our industry.

Responsibilities, resources and training

Suncor's senior vice president, human resources, oversees policies and programs relating to our employment practices, and reports to the chief executive officer as well as to the board of directors.

The corporate human resources team develops tools and provides oversight and consistency to the business units. Business unit vice presidents are directly responsible for the implementation of policies and practices and are supported by human resources advisors.

We have a central, specialized labour and employee relations team that handles labour and employee relations issues that arise within the business.

In 2015, this team was expanded to better support our oil sands operations in Alberta. These HR professionals are fully dedicated to the delivery of a wide range of labour and employee relations services. This includes leading labour negotiations, interpreting and administering collective agreements and administering grievances, as well as providing information and expertise on employment-related legislation, conducting harassment and disciplinary investigations, and any resulting actions, up to and including termination of employment.

Examples of the technological capital we invest in to manage our workforce are a central system to maintain employee information and manage payroll, and a performance management tool.

Suncor is also taking the first step towards a single learning technology for all employees and contractors. Released in early 2015, the new Suncor Learning

Management System integrates with our talent management tools to improve the tracking and reporting of employee competency and related training, including safety, technical and other learning activities, and has room to grow with developments in our learning program.

Read more about our counselling and support programs for employees

Read more about our alcohol and drug policy

Evaluation

Monitoring

Human Resources shares a monthly workforce stewardship report with the executive leadership team that provides a point-in-time view of our business and functional unit people statistics and communicates year-to-date changes in our business and functional unit workforce. Other monitoring mechanisms include:

- compliance with our business code of conduct policies (employees and contractors are asked to make an annual affirmation respecting compliance). Online and in-person training is available
- a confidential integrity hotline available for employees and contractors. An internal audit team addresses issues raised and the board is updated regularly
- labour and employee relations issues are centrally governed and managed locally

About every two years, Suncor encourages employees to participate in an engagement survey as a way to collect feedback on what employees say about:

- working at Suncor
- what drives them to stay with the company
- what degree they go over and above
- what is expected of them in their role

Employees are also given opportunities to provide more immediate feedback on their work or ask questions about the company through:

- quarterly company-wide town halls
- regular business unit or function town halls
- access to the Employee Centre
- regular check-ins with their leader as part of the annual performance management cycle
- one-to-one sessions with their manager's leader

For in-demand talent segments, the creation and implementation of key strategies will continue to be a focus in order to ensure talent is available. Suncor monitors these segments and continually assesses internal and external health so that our investment in programs is driven by need and risk.

Results

Stewardship of HR program reporting
Every year, human resources information related to senior leadership succession planning, the annual incentive program and executive compensation is shared with Suncor's Board of Directors.

Top-rated employer
We are proud to be recognized as a great place to work. Awards we've achieved include:

1. Glassdoor's Best Places to Work 2016
2. Globe and Mail Canada's Top 100 Employers 2015
3. Alberta's Top 70 Employers 2015
4. Globe and Mail Top Employers for Young People 2014

Through our recruitment campaigns we continue to attract co-op students, new graduates and experienced people to Suncor.

What we are doing differently

We continue to evolve the work around areas identified for improvement in our employee engagement survey results in 2014, including:

- managing performance
- work processes
- resources (people, tools and systems)
- career opportunities

Across the company, action plans were developed to address two priority themes from those areas in 2014 and 2015:

- improving leadership effectiveness and support
- work processes

Business units and functions are also working on action plans to address specific feedback in their areas. The next planned employee engagement survey is scheduled for 2017.

How we manage performance

- We align goals annually (through an extensive goal alignment process) and progress is tracked as part of ongoing conversations between employees and leaders, and then formally reviewed at mid-year and year-end. This process creates a clear line of sight for employees to Suncor strategy and prioritized work.
- We emphasize high-quality employee development plans as an important focus area, which is enabled through our annual development goal setting process

Cost management program and impact of low crude price environment

In 2015, as part of an overall cost management program that began in 2014 and was accelerated by a low crude price environment, Suncor reduced the size of our workforce by approximately 1,700 people, primarily through our contract workforce, not backfilling attrition for non-critical positions, and employee reductions.

These were difficult decisions to respond to market conditions. Employees who left the company were treated fairly and with respect, and were provided with career transition services, including job search techniques, resume preparation, networking and interviewing skills. For positions critical to operations and safety, and wherever possible we redeployed people into these roles if they had the right skills and experience.

Some hiring continued in 2015 to ensure that we:

- had the specific sets of specialized skills needed to run our business safely and reliably
- filled business critical positions that were vacant through normal attrition
- can execute our Fort Hills oil sands project in Alberta
- supported long-term talent recruitment needs (students, new graduates, engineers in training and apprenticeships) or maintained post-secondary relationships

In 2016, Suncor continues to implement a hiring freeze except for Fort Hills and roles that are critical to safety and operations. Despite a challenging business environment, we are committed to maintaining a strong workforce to deliver reliable, safe and environmentally responsible operations.

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Process Safety

Suncor applies the Operational Excellence Management System (OEMS) to manage process safety and reliability. Suncor leverages lessons from internal and external 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.

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 updating our management of change, incident management and process hazard analysis standards.

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 System integrity.

Safety Instrumented Systems (SIS) Improvement

SIS are key controls to mitigate process safety and reliability risks. In 2015, a team of Suncor Process Automation Systems experts started a multi-year journey to improve SIS management. Through this team, Suncor is incorporating industry best practices into existing functional safety management programs to ensure consistency and effectiveness to improve the reliability of these key controls.

Operational Controls

Operating Procedures, Safe Work Practices and Operating Envelopes enable our frontline employees to manage operational risks. Suncor is raising 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.

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Personal safety

On this page:

> Our environment, health and safety policy states our unwavering commitment to our value of safety above all else.

Our Journey to Zero program asks all employees and contractors to honour our beliefs and commitments:

- all incidents can be prevented
- to work here you must be committed to working safely
- leadership is accountable for environment, health and safety performance
- we deliver on our commitments
- our Operational Excellence Management System (OEMS) enables environmental, health and safety excellence

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.

Read more about our environment, health and safety policy on Suncor.com

Read more about our Journey to Zero program on Suncor.com

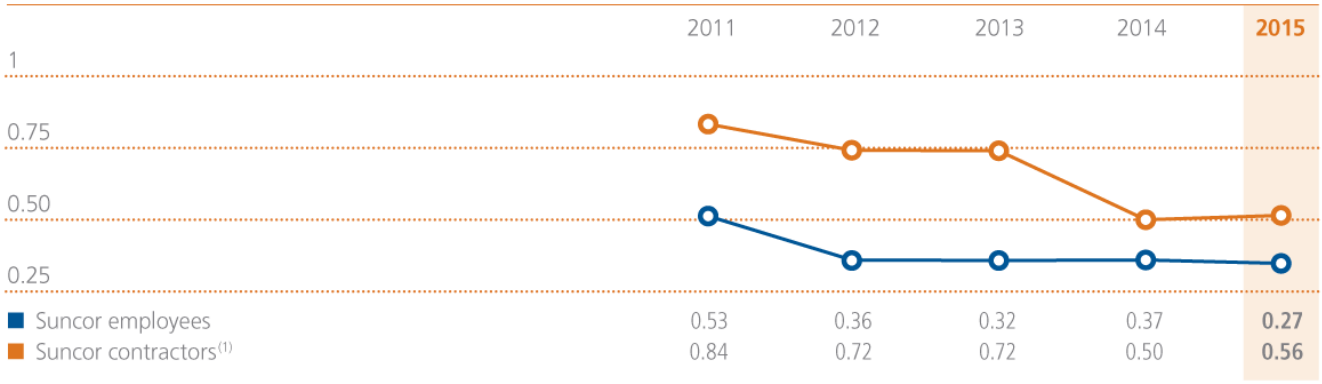
Expand all | Collapse all

2015 safety performance

A sustained commitment from people at every level of the company – people who champion and cultivate a culture of safety all day, every day – made 2015 a strong year for safety at Suncor.

2015 combined employee and contractor recordable injury frequency performance of 0.45 was favorable to the 2015 target of 0.48. We also recorded the fewest number of lost time injuries (LTI) since the merger.

RECORDABLE INJURY FREQUENCY*
(injuries per 200,00 hours worked)



	2011	2012	2013	2014	2015
Suncor employees	0.53	0.36	0.32	0.37	**0.27**
Suncor contractors(1)	0.84	0.72	0.72	0.50	**0.56**

* The number of recordable injuries (including medical treatment, restricted work 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.
(1) Contractors refer to any organization, company or individual who provides goods and/or services to Suncor. Prime contractor incident data is excluded from this metric.

SUNCOR

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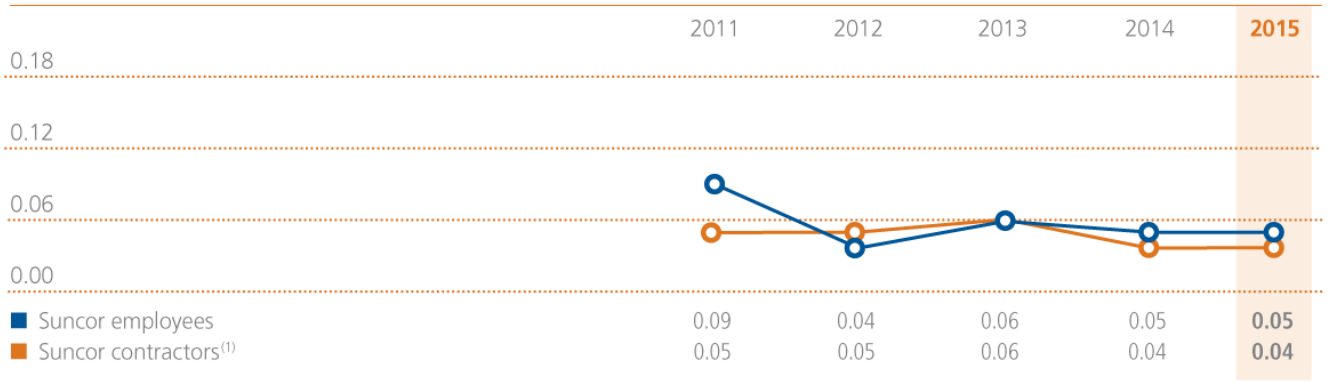
LOST TIME INJURY FREQUENCY*
(injuries per 200,00 hours worked)



	2011	2012	2013	2014	2015
Suncor employees	0.09	0.04	0.06	0.05	**0.05**
Suncor contractors[1]	0.05	0.05	0.06	0.04	**0.04**

* 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 1 year) divided by the actual exposure hours. This tells us how many people are injured for every 100.
(1) Contractors refer to any organization, company or individual who provides goods and/or services to Suncor. Prime contractor incident data is excluded from this metric.

SUNCOR

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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 element outlining requirements for reporting, investigation and management of incidents, hazards and near misses

Other initiatives include Get a Grip on Safety, a corporate-wide campaign that first launched in 2013. This campaign focuses on the unsafe conditions and unsafe behaviours that contribute to slip, trip and fall injuries, and our Line of Fire safety initiative, calls attention to stored energy, striking hazards and crushing hazards.

We have shared materials from our Get a Grip and Line of Fire safety campaigns with the Oil Sands Safety Association and our contractors. Many member companies have made use of the information to further promote these safe work practices.

We started several initiatives in response to our 2014 fatalities. In May 2014, we formed the Safety Step Change Task Force to lead an assessment of unacceptable safety performance and recommend a path forward to improve safety at oil sands.

In 2015, the Safety Step Change Task Force focused on implementing the 16 safety solutions designed to improve safety performance and culture at oil sands.

Initiatives to strengthen safety leadership, processes and tools were created with the end user in mind.

Input from employees and contractors were critical to ensure the taskforce was aligned with the needs and expectations of the business.

A key indicator of the ‘step change’ in safety for 2015 was the fact that oil sands recorded the lowest recordable injury frequency for employees since 2008.

Raising the bar on workplace safety

We continue to work on several initiatives to help us achieve our safety goals. Priority initiatives include:

- While preventing all injuries is our enduring priority, we are sharpening our focus on recognizing conditions and preventing incidents that could lead to serious injuries and fatalities (SIF).
- The introduction of a new and common enterprise tool for incident and corrective action management — “Enablon” will help us to track and analyze incident trends across the company, improving our ability to proactively mitigate risk and prevent incidents. It’s backed up strong standards and processes, as well as our revised risk matrix. Enablon will replace other localized tools used for these purposes
- The safety communications repository allows employees and contractors to access searchable safety communications. It houses:

    - safety and incident alerts
    - incident learnings
    - safety moments
    - toolbox talks
    - information on safety meetings
    - SIF prevention information, including learnings from SIF potential events

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Occupational health and wellness

On this page:

> In support of our Journey to Zero, we work towards improving and maintaining the personal health and well-being of our employees with the prevention of illnesses and injuries, identifying potential occupational health risks and proactively monitoring working environments to minimize potential hazards.

Medical monitoring programs

Medical monitoring programs are recommended for workers who are at risk of exposure to potential health hazards. This is coupled with ongoing industrial hygiene sampling to proactively measure workplace exposures and provide exposure control solutions.

Integrated disability management

Our integrated disability management program involves early intervention to positively alter the course of medical absence due to an illness or injury, for both occupational and non-occupational injuries and illnesses. The process is overseen by a cross functional group of professionals, including:

- health advisors
- disability advisors
- human resources advisors

This group works collaboratively with the employee, the employee's medical practitioners and the supervisor to facilitate early, safe and productive return to work.

Promoting wellness and healthy lifestyles

Promoting wellness and healthy lifestyles is part of our safety commitment to employees and contractors. We have programs that are tailored to specific business needs and environments. These include our annual influenza vaccination program and ergonomics workshops.

Employee and Family Assistance program

The Employee and Family Assistance Program (EFAP) is a confidential and voluntary support service that is offered to our employees and immediate family members to help them with personal issues. Offering expert information and immediate support resources to help with work, health and life challenges, the EFAP provides both short-term clinical counselling and work/life consultations. EFAP is available 24 hours a day, seven days a week with simple access via phone, web, mobile app as well as in-person counselling.

Read about our benefits programs

Alcohol and Drug policy

Alcohol and drugs can adversely affect a safe work environment.

Our Alcohol and Drug policy aims to minimize risks in the workplace associated with alcohol and drug use and ensure our workers are fit for duty. It outlines specific responsibilities, requirements and expectations to adequately mitigate the workplace risks associated with alcohol and drugs.

Alcohol and drug dependencies are treatable illnesses. We encourage employees who suspect they have a substance dependency or an emerging alcohol or drug problem to seek immediate assistance and follow appropriate treatment. In cases where there is an alcohol and/or drug dependency, we support employees through any treatment program recommended by an approved substance abuse professional.

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Building talent

On this page:

We help our employees and leaders build skills and knowledge to master the roles they're in today as well as prepare them for their next and future roles.

Our employees build their skills through development goals that align to their career aspirations and to our business needs and priorities. Suncor's approach to learning and development is grounded in a 70/20/10 development formula which states that development occurs in three main ways:

- 70% from real-life and on-the-job experience
- 20% from feedback and observing and working with role models
- 10% from formal training

Helping people continue to develop is key to high performance and the company achieving its goals.

Watch our employee testimonials on suncor.com

Navigating career development

Our company offers a variety of career paths for operations, technical, professional and leadership streams. The Career Compass is a tool that gives insight into various career paths at Suncor and the different ways people can move into a new position or organizational level, or stay in their current role for a satisfying career.

Within the career tool, there are many resources that help identify potential career paths. It also shows how others have navigated their careers at Suncor and gives a standard way to talk about career and development.

The Career Compass, along with other resources in our development toolkit, supports our ability to retain and engage people to meet our business needs.

Educational assistance programs

This program provides financial support to employees who want to build skills and knowledge applicable to their current position or future aspirations.

We also offer a company-wide scholarship program to help employees' children access post-secondary education.

Developing our leaders

Suncor has a succession-planning process that identifies and prepares those employees with the capability and interest to take on more senior leadership roles. In doing so, we ensure business continuity as roles become vacant, we proactively plan for leadership roles that are critical to executing our business strategy, and build the talent we need for the future from within the company.

Orienting and onboarding new leaders

In 2014, we introduced a leader onboarding program that helps new front-line leaders in their first 90 days in the role. This program offers a comprehensive suite of tools and resources to assist new leaders in their transition from individual contributor to leader, or from external hire to new leader.

Managing performance and development

Performance management also helps align our employees to the strategic goals of the organization through our goals translation and goal planning processes. It is through these guided discussions with their leader, employees understand how their work contributes to the overall goals, what their performance expectations are and how their performance will be measured. Our process includes opportunities for formal and informal feedback on both the "what' and the "how" of performance throughout the year.

Effective performance management:

- ensures performance is meeting expectations
- provides an opportunity for leaders to recognize and reward performance
- gives leaders the information they need to support employees' ongoing development
- helps the organization to meet its strategic objectives

To support the process, salaried employees across the company use an online tool as a repository for all talent information and to document the following:

- **Goal setting:** Leaders work with employees to establish and agree upon goals and make sure individual goals align with those of the business, as well as personal development needs and aspirations.
- **Manager-once-removed discussions:** an annual opportunity for employees to meet with their leader's leader to discuss their work, career aspirations and development goals.
- **Mid-year reviews:** a mid-year check-in between employees and their leader to see if they are on track to meet goals and to identify any challenges.
- **Year-end performance review:** employees meet with their leader to go over performance and measure their results. This discussion forms the basis for our salaried employees' performance rating and associated rewards.
- **Live Profile:** Employees can document their experience, education, aspirations, ability to relocate for new roles and other specific skills in an online tool. This information – visible only to the employee's leader and their leader's manager – supports effective discussions about an employee's experience, interests, aspirations and career development.
- **Training Requirements:** Employees and leaders access courses and development opportunities through a centralized hub called the Learning Management System.

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Skilled labour

On this page:

Despite the current downturn, business and industry continue to prepare for the long-term need for skilled labour in the construction and oil and gas sectors, including when baby boomers retire from the workforce. We have developed a proactive approach to managing our skilled and technical workforce needs today and into the future.

We believe in hiring in the communities where we operate. But not all of our recruitment needs can be filled locally. Where we have remote camp-based operations, such as our Fort Hills oil sands mining project in Alberta, we recruit both locally and from outside of Alberta. Employees and contractors travel to and from these work sites from our Calgary, Edmonton or Fort McMurray transportation hubs, either by bus or plane. For all of our operations, we look for qualified candidates within Canada first and then may look internationally to create the robust workforce we need.

Our multi-pronged approach is the best way to meet our skilled and technical workforce demands.

Building awareness of career opportunities for trades and operations

Along with our industry partners, we work to build awareness of career opportunities and the important role skilled tradespeople play in our industry and across the Canadian economy.

This includes telling an authentic and compelling employment story in print, traditional, digital and social media. It also means engaging a broader and more diverse workforce to explore career options within the sector.

We accomplish this work through supporting key Suncor Energy Foundation partners that help to build the skills and knowledge needed in the workforce such as:

- Women Building Futures – an organization based in Edmonton, Alta., which specializes in training women for careers in the heavy industrial workforce, including the skilled trades.
- CAREERS: The Next Generation – an organization based in Edmonton, Alta., that works throughout the province to introduce youth in high school to rewarding career opportunities and to develop the skilled workers of the future through their apprentice and co-op programs.

- Indspire Institute - an Indigenous-led registered charity that invests in the education of Indigenous people for the long-term benefit of these individuals, their families and communities, and Canada. Among other programs, the Suncor Energy Foundation (SEF) supports their Apprenticeships, Skilled Trades and Technology scholarship programs.

We also look to inform all Canadians about our industry and showcase the variety of employment opportunities available to them. We partner with groups like Calgary Economic Development and the Edmonton Economic Development Corporation to help tell the Alberta labour story nationally and internationally in an effort to help attract qualified labour to the province.

Our executive team has an important role to play in sharing the industry's employment story. Through our Speakers Bureau program, executives provide speeches and presentations to a variety of stakeholder groups across North America and beyond.

Encouraging careers in the trades

To help build skills and knowledge needed for careers in trade, we support educational institutions that offer programs that feed our workforce.

- Through the Suncor Energy Foundation and the company, we have a long-term partnership with Keyano College in Fort McMurray, Alta. to help meet industry needs for skilled trades in the Regional Municipality of Wood Buffalo. Since 1998, we have invested more than $4.4 million to support this partnership. Our contribution primarily supports the college's mining and process operations programs.
- Through our campus recruiting program, we visit several schools across Canada each year, talking with students about trades and technical careers in the energy sector.
- We also support a number of post-secondary co-op education programs. We are involved with Mohawk College and the Hamilton Skilled Trades Apprenticeship Consortium in Ontario, which provide students with work experience placements at our lubricants business in Mississauga. We also work with organizations like Skills Canada Alberta to educate youth, parents and high school counsellors about opportunities to work in skilled trades, including the Skills in the Classroom Program.

Having information about opportunities in skilled trades is particularly important to youth as they make decisions about future career opportunities.

Once someone has made the decision to pursue a trades career, we support their development. We hire apprentices and support them as they develop essential skills required to become a full-fledged journeyperson. This commitment to career progression is key to building a workforce that supports us in achieving our high safety and reliability standards.

- One example of our commitment to apprenticeship is our participation in Alberta's Registered Apprenticeship Program. This program is designed for high school students who know they want to pursue a career in the trades. Participating students have the opportunity to earn school credit for their apprenticeship and divide their time between an approved worksite, like ours, and their high-school studies.
- In partnership with Southern Alberta Institute of Technology (SAIT), the Suncor Energy Foundation supports a blended learning program that allows apprentices to learn through online modules while on the jobsite. This saves time for students as they only need to come to campus for the lab and testing phases of their training. It also offers SAIT more training capacity and more options for using its physical space.
- We partner with Lambton College, in Sarnia, Ont., by supporting its chemical/power engineering training programs that help meet the needs of industry in Eastern Canada. In 2015, the SEF renewed our funding with $300,000 in support to their Centre of Excellence in Energy and Bio-Industrial Technologies, building on previous support of the college's Suncor Sustainability Centre, which has become a focal point for sustainability initiatives and programs in the Sarnia-Lambton region.

Participating in unconventional solutions

We're proud to collaborate with other companies in our industry to attract skilled workers. We, along with six other oil sands construction owners, have formed the Association for Construction Worker Acquisition (ACWA) to work with government to address the ongoing demand for skilled construction workers in the Alberta oil sands region. ACWA's chair is Ron Genereux, vice president, productivity and construction.

Construction industry leaders from across Canada continue to support BuildForce Canada, a national organization to help keep a steady flow of highly skilled workers available to the construction industry.

We are also a member of the Alberta Council of Turnaround Industry Maintenance Stakeholders, which is a not-for-profit organization representing:

- three major oil sands owners (Shell, Syncrude and Suncor)
- various industrial maintenance contractors
- the building trades labour providers

This unique collaboration benefits both the industry and the people qualified to work in the heavy industrial maintenance industry.

The benefit to the prospective tradesperson is that their resumé is shared with and reviewed by many contractors. This gives them the opportunity to work

on multiple sites, one after the other. Industry benefits include timely acquisition of skilled and qualified workers for the owners' turnaround maintenance events.

Lastly, our involvement in the Construction Association of Alberta is an owner/contractor forum where best practices and learnings are shared to enhance the construction industry at all levels.

Unions and agreements

Wherever we do business, we respect the right of eligible employee groups to choose representation by a bargaining agent. Where employee groups have made that choice, we bargain in good faith to reach and renew collective agreements that balance the needs of the business and represented employees with settlements reflecting current economic and business realities.

Our current collective agreements stipulate a three to six month notice to employees of significant operational changes. The collective agreements also include provision for consultation and negotiation. All our collective agreements contain articles on health and safety. Specific requirements for union or employee representation on joint health and safety committees are also included in all collective agreements.

Existing collective agreements

Approximately 4,600 or nearly one-third of our employees are covered by collective agreements and about 90% of our represented employees are members of Unifor – a union representing workers in oil sands, in situ, refining, distribution and Canadian offshore operations. The majority of our represented employees are covered by collective agreements linked to a national template agreement with Unifor. The existing template agreement expires in 2016.

Collective agreements are being negotiated throughout our Upstream and Downstream operations in 2016.

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Performance data

On this page:

Report framework

This report has been prepared based on the Global Reporting Initiative (GRI) G4 Sustainability Reporting Guidelines and Oil & Gas Sector Disclosures to the Core option. It represents a balanced and reasonable presentation of our company's social, environmental and economic performance.

Steve Williams

president and chief executive officer

Boundary conditions

We measure progress by monitoring selected performance indicators. These indicators provide insight on the environmental, economic and social impacts and benefits of our business and are used to continuously improve performance.

The performance data section of our 2016 Report on Sustainability includes social, environmental and economic performance indicators from the 2015 reporting year. Data is reported by significant operating business segments and consolidated to Suncor-wide totals, where feasible. A five-year trend is provided, where applicable.

Environmental performance indicators are reported on operated assets only, unless otherwise stated. Economic performance indicators are reported in a manner consistent with our 2015 Annual Report.

Select 2015 economic indicators have been calculated according to the International Financial Reporting Standards (IFRS).

Footnotes available in performance data tables provide additional information for specific boundary conditions, changes in methodology and definitions.

Third party assurance

Ernst & Young LLP was engaged to provide independent assurance on selected performance indicators for Suncor's Report on Sustainability for the year ended Dec. 31, 2015.

Read the Independent Assurance report and the performance indicators reviewed (PDF, 4 pp., 47 KB)

Any data point that is accompanied by the **A** symbol has been independently reviewed and assured by Ernst & Young LLP.

Performance indicators

Business segment structure changes and explanations on re-statements or changes to historical data are reflected accordingly in the introductory statements for the following:

- Suncor-wide (rollup of all data where relevant and applicable)
- Oil Sands (includes the oil sands mining and upgrading facility but does not include Syncrude)
- In Situ (includes Firebag and MacKay River)
- Exploration & Production (see additional information below) — reported as:
    - North America Onshore
    - East Coast Canada (Terra Nova offshore platform only)
- Refining & Marketing (R&M) (facilities include the Montreal, Edmonton, Commerce City and Sarnia refineries, the Mississauga lubricants plant, the Montreal sulphur plant, and various Canadian pipelines and terminals. See additional information below)
- Renewable Energy – reported as:
    - St. Clair ethanol plant
    - Wind (Suncor-operated wind energy facilities)
- Major Projects

When data for performance indicators was not available a line entry (--) appears in the table.

Exploration & Production

Suncor's Exploration & Production (E&P) segment consists of offshore operations off the east coast of Canada and in the North Sea, and onshore assets in North America, Libya and Syria.

These include:

E&P Canada:

- White Rose
- Hibernia
- Hebron
- Terra Nova
- Unconventional natural gas properties in Western Canada.

E&P International:

- Buzzard and Golden Eagle offshore projects (U.K. sector of the North Sea)
- Syria and Libya facilities (Note: operations in Syria have been suspended indefinitely due to political unrest and resulting sanctions. Production in Libya has been substantially shut-in due to political unrest, with the timing of return to normal operations remaining uncertain).

As Suncor is the operator and has significant impact over the Terra Nova platform off the east coast of Newfoundland, only environmental performance indicators for this facility are included in the East Coast Canada performance indicator section of this report.

Suncor does not have control over the other joint ventures; however, it can be considered to have significant influence due to board voting rights. These joint ventures are not deemed to pose significant risk to Suncor's sustainability performance and thus are not included in the performance indicators.

Refining & Marketing

Suncor is part of several joint ventures in our Refining & Marketing segment, including the Sun-Canadian Pipe Line Company Limited, UPI Energy LP, Pioneer Petroleum, Trans-Northern Pipeline, Portland-Montreal Pipeline, Alberta Products Pipeline (APPL), Sun Petrochemicals, ParaChem Chemicals L.P. (ParaChem), and with numerous terminal sites.

As Suncor has control and significant impact over the Sun-Canadian Pipeline Company Limited, applicable performance indicators for this entity are included in the Refining and Marketing performance data section.

Suncor holds a 51% interest in ParaChem, which owns and operates a petrochemicals plant located adjacent to the Montreal refinery. Suncor does not exercise significant control or influence over this wholly independent operation, despite the majority ownership position. This investment is not deemed to pose a significant risk to Suncor’s sustainability performance, and thus is also not included in the performance indicators.

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Suncor-wide

This 2016 Report on Sustainability summarizes our sustainability performance for the 2015 reporting year and provides five-year performance trends on consolidated social, environmental and economic data, where possible.

Expand all | Collapse all

Environment

Filter display

The A symbol (**A**) reflects data that has been assured by a third party. View a complete list of reviewed data to confirm the performance indicators that have been assured.
In the "Footnote" column, click on the down-arrow symbol to display the footnote.

Indicator	Unit	Footnote	GRI Disclosures	2011	2012	2013	2014	2015
Production								
Upstream processed volumes and net production	million barrels of oil equivalent / year	A	OG1	175.9	176.39	186.64	162.03	**171.63 A**
Upstream processed volumes and net production	million cubic metres (m^3) of oil equivalent / year	A	OG1	27.8	28.04	29.67	25.75	**27.29 A**
Downstream net production	million m^3 refined product / year	B	OG1	26.55	27.46	27.35	27.16	**27.62 A**
Total upstream and downstream production	million m^3 / year	C	OG1	48.7	49.09	49.79	45.38	**48.24 A**

Air emissions		D						
Greenhouse gas (GHG)	thousand tonnes carbon dioxide equivalent (CO_2e)	E	G4-EN15 G4-EN16	18,251	20,257	20,535	20,468	**20,480 A**
GHG emissions intensity	tonnes CO_2e/m^3 OE production	F	G4-EN18	0.38	0.41	0.41	0.45	**0.42 A**
Indirect (Scope 3) GHG emissions	thousand tonnes CO_2e	G	G4-EN17	1,485	1,594	1,628	1,466	1,549
Sulphur dioxide (SO_2)	thousand tonnes		G4-EN21	32.8	28.5	23.2	23.1	18.4
SO_2 emission intensity	kilograms/m^3 production		G4-EN21	0.67	0.58	0.47	0.51	0.38
Nitrogen oxides (NO_x)	thousand tonnes		G4-EN21	38.3	36.2	33.3	27.8	27.9
NO_x emissions intensity	kilograms/m^3 production		G4-EN21	0.78	0.74	0.67	0.61	0.58
Volatile organic compounds (VOCs)	thousand tonnes		G4-EN21	24.6	22.7	13.4	17.5	21.1
• Benzene	tonnes		G4-EN21	94	87.2	95.23	88.0	89.6
National Pollutant Release Inventory (NPRI) on-site releases	thousand tonnes	H	G4-EN21	117.6	115.4	82.87	96.7	104.5
Energy consumption		I						
Energy use	million gigajoules (GJ)		G4-EN3 G4-EN4	261	282.4	299.3	304.3	310.4
• Direct energy use	million GJ	J	G4-EN3	243.7	269.8	291	296	301
• Indirect energy use	million GJ	J	G4-EN4	17.35	12.51	8.37	8.24	9.78
Energy intensity	GJ / m^3 production	J	G4-EN5	5.34	5.75	6.01	6.70	6.44
Water use								
Total water withdrawal	million m^3	K	G4-EN8	137.6	143.63	155.91	149.27	**142.47 A**
• Surface water withdrawal	million m^3		G4-EN8	121.23	110.88	113.02	116.36	118.92
• Groundwater withdrawal	million m^3		G4-EN8	2.73	3.2	3.04	2.1	2.72
• Municipality / city / district water withdrawal	million m^3		G4-EN8	3.85	4.14	4	3.49	4.27
• Treated waste water withdrawal	million m^3	L	G4-EN8	1.79	2.7	1.54	1.29	1.51
• Industrial run-off water withdrawal	million m^3	M	G4-EN8	8.01	22.71	34.3	26.03	15.05

Surface water withdrawal intensity	million m^3		G4-EN8	2.48	2	2.27	2.56	2.46
Groundwater withdrawal intensity	million m^3		G4-EN8	0.06	0.06	0.06	0.05	0.06
Municipality / city / district water withdrawal intensity	million m^3		G4-EN8	0.08	0.07	0.08	0.08	0.09
Total water withdrawal intensity	m^3 / m^3 production		G4-EN8	2.82	2.59	3.13	3.29	**2.95 A**
Total water returned	million m^3		G4-EN22	97.7	87.06	97.14	101.22	97.46
Water consumption	million m^3	N		39.86	56.57	58.77	49.14	45.33
Water consumption intensity	m^3 / m^3 production			0.82	1.02	1.18	1.08	0.94
Waste management		O						
Hazardous waste generated	thousand tonnes		G4-EN23	466.34	2,086.49	2,230.90	2,298.70	1,992.12
Non-hazardous waste generated	thousand tonnes		G4-EN23	281.04	434.63	235.34	213.87	398.97
Drilling waste disposed or treated	thousand tonnes	P	OG7	--	63.19	116.1	126.9	70.3
Waste recycled, reused, or recovered	thousand tonnes		G4-EN23	242.29	125.22	96.95	88.72	135
Products and services								
Ethanol blended in gasoline	thousand m^3		G4-EN27	927.9	979	828	1,000	1,027
Sulphur content of gasoline	parts per million (ppm)			24.9	25.8	22.7	18.7	15.7
Compliance								
Regulatory contraventions		Q	G4-EN29	147	171	89	63	51
Regulatory fines	thousand $	R	G4-EN29	722	2,366	130	2,257	908
Total volume of reportable spills	m^3		G4-EN24	1,402	2,419	3,134	2,949	6,335
Environment, Health & Safety (EH&S) management								
EH&S professionals on staff		S	G4-EN31	323	356	374	361	315

Suncor-wide Environment Footnotes

A Upstream production includes: Oil Sands, North America Onshore, In Situ and East Coast Canada.

Transfers between In Situ and Oil Sands have been removed from the Suncor-wide total. Updated production definition for East Coast Canada resulted in updated 2011 production number.

Barrels of oil equivalent and cubic metres of oil equivalent may be misleading as an indicator of value. See "Advisories".

B Downstream production data includes saleable yield from Refining & Marketing Canada and Refining & Marketing U.S.A. Data from Suncor's Refining & Marketing (R&M) business units and the St. Clair ethanol plant. Transfers within R&M have been removed from downstream production. Wind, Terminals, Pipelines and the Montreal Sulphur plant do not contribute to R&M production or Suncor Wide production, due to the definition of the corporate wide production metric.

C The sum of upstream and downstream net production minus upstream to downstream transfers. Production numbers found in Suncor's annual report are for upstream volumes only and include production from non-operated assets.

This differs from production numbers used in Suncor's Report on Sustainability, which include only operated facilities, but also include downstream volumes. Sustainability reports net production on a facility basis, which is a measure of total saleable product. Updated production definition for East Coast Canada resulted in an updated 2011 upstream production number which impacted this value as well.

D Emissions from the production of crude oil, natural gas, natural gas liquids, ethanol and refined products. Emissions are also inclusive of the production of retail products at the Mississauga, Ont. lubricants facility, Canadian Terminals, Alberta Pipelines and the Montreal Sulphur Plant.

E Greenhouse gas (GHG) emissions are calculated using a facility-specific methodology which utilizes various reference methodologies that have been accepted by the relevant jurisdictions within which each facility is required to report GHG emissions. 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.

This report uses global warming potentials (GWPs) from the Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report (2007) to convert individual GHGs into CO_2e units.

F Suncor-wide GHG intensity is calculated using total upstream and downstream production minus transfers between upstream and downstream business units.

G Indirect Scope 3 GHG emissions reported here include GHG emissions reported for R&M consisting of purchased hydrogen and CO_2 streams we produce that are sold to third parties for further processing as well as corporate wide emissions from:

- commercial air travel
- Sunjet travel
- Sunjet chartered flights
- 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

In 2013 it was brought to our attention that industry best practice for disclosing emissions associated with the purchasing of hydrogen should be classified as a Scope 3 indirect source as they do not fall under the Scope 2 indirect emission categories of purchased electricity, purchased steam, purchased heating or purchased cooling. Therefore emissions from purchased hydrogen are reported as a Scope 3 indirect source and are not reported as a Scope 2 indirect emission source. 2011 data does not include licensed fleet emissions which have been reported since 2012.

The breakdown for 2015 includes:

- facilities: 7,048 tonnes of CO_2e
- ground transportation: 14,715 tonnes of CO_2e
- Canadian light truck fuel fleet: 3,244 tonnes of CO_2e
- business travel: 36,618 tonnes of CO_2e (applies to both commercial air travel and Sunjet scheduled and chartered flights)
- Hydrogen purchased from third parties: 1,270,274 tonnes of CO_2e
- CO_2 sold from our facilities to third parties: 217,527 tonnes of CO_2e

Based on the defined scope, Suncor's 2015 Scope 3 emissions were 1,549,426 tonnes of CO_2e.

H National Pollutant Release Inventory (NPRI) on-site releases include all NPRI-reportable nitrogen oxides, sulphur dioxide, total volatile organic compounds, carbon monoxide and total particulate matter.

More information about the Toxic Release Inventory (TRI) can be found on the Environmental Protection Agency website. Beginning in 2015, TRI releases are no longer reported in our Report on Sustainability.

View Suncor's submissions to the:

- Facility Reported Data on the National Pollutant Release Inventory (NPRI)
- U.S. Toxins Release Inventory (TRI) program

I Energy consumption by source is not reported at this time.
Suncor-wide total energy is inclusive of energy consumed by pipeline stations located in Alberta, which are included in R&M business unit values. The energy total for this source for 2015 was approximately 602,277 GJ.

J Direct energy is primary energy consumed on-site by Suncor operated facilities.

Indirect energy includes imported electricity, steam, heating and cooling duty from third parties. The indirect energy calculation methodology was changed to credit operations for electricity exported to external users and/or other Suncor facilities. The facility that exports the electricity subtracts the equivalent gigajoules of electricity from their indirect energy use. The facility that receives the electricity counts it as a Scope 2 indirect energy use, regardless of source. Suncor's renewable operations produced over 310,000 MWh (1.13 million GJ) to the Alberta and Ontario power grids from operated wind farms. This power then ultimately supplies Suncor's operations in Alberta and Ontario with renewable electricity through the provincial power grids.

Energy intensity is calculated using total upstream and downstream production.

K Includes all water withdrawn from rivers, groundwater wells, industrial runoff and water purchased (municipality/city/district), either permanently or temporarily.

L As per GRI guidance, the volume of treated wastewater transferred between Suncor facilities has been reported in the water withdrawal total for the facility sending the water. It is not included in the water withdrawal total for the facility receiving that water.

M Industrial runoff water is included as water withdrawn for all relevant facilities.

N Water consumed is the quantity of water used and not returned to its proximate source or no longer available for use. Includes water used and/or retained within an operation.

O Beginning in 2011, to better align with the GRI reporting guidelines, Suncor expanded the number of indicators for which it collects and reports data in the Waste Management category. Based on reclassification of waste streams for 2014 for our in situ facilities, the total value of hazardous waste generated would be 2,298.52 thousand tonnes.

P Suncor began reporting this GRI Oil and Gas Sector Supplement indicator in 2012. It is inclusive of drilling mud waste from drilling operations. This value has not been captured in the hazardous waste generated and non-hazardous waste generated values.

Q A regulatory contravention is an environmental incident that breaches a regulatory limit (prescribed threshold required by legislation, approval or permit from a regulatory authority) or requirement (any law, act, regulation, licence, standard, approval, directive and/or permit applicable to Suncor's activities) and that triggers formal regulatory reporting.

R Data includes regulatory fines related to environmental contraventions paid during the stated year. Details of regulatory fines can be found on applicable performance pages, by business area.

S Professionals (not including Professional Services Agreements (PSAs) and non-positioned contractors) dedicated to environment, health or safety matters, including the corporate office, Major Projects and personal and process safety management. Beginning in 2014 the Operational Excellence Management System (OEMS) enablement group was added to this total. As of 2015, this indicator is only reported at a Suncor-wide total.

Economic[1]

Filter display

In the "Footnote" column, click on the down-arrow symbol to display the footnote.

Indicator	Unit	Footnote	GRI Disclosures	2011	2012	2013	2014	2015
Economic value generated and distributed		T						
Revenues and other income	$ millions		G4-EC1	39,790	38,526	40,297	40,490	29,680
Operating, selling and general expense (OS&G)	$ millions	U	G4-EC1	8,424	8,897	9,462	9,541	8,607
• Employee costs	$ billions	U	G4-EC1	2.5	3.2	3.3	3.4	3.3
Royalties and taxes paid	$ millions	V	G4-EC4	3,161	3,828	3,347	5,259	1,805
Community investments	$ thousands	W	G4-EC1	19,176	22,619	30,594	27,246	26,346

Distribution to shareholders	$ millions		G4-EC1	1,337	1,411	1,826	2,267	2,565
• Dividends paid on common shares	$ millions		G4-EC1	664	756	1,095	1,490	1,648
• Share capital issued under dividends reinvestment plan	$ millions		G4-EC1	12	15	28	38	47
• Interest expense on debt	$ millions		G4-EC1	661	640	703	739	870
Economic value retained								
Economic value retained	$ millions	X	G4-EC1	–	–	–	23,396	16,677
Other financials								
Market capitalization (debt plus equity)	$ billions		G4-9	56	60	66	66	67
Capital and exploration expenditures	$ millions	Y	G4-EC1	6,850	6,957	6,777	6,961	6,667
Taxes and royalty credits earned	$ millions	Y	G4-EC4	21.85	31.56	31.1	21.8	11.3
Political donations	$ thousands	Z	G4-EC1 G4-SO6	58.3	80.1	73.4	95.6	14.6
Purchases								
Goods and services	$ millions	AA		10,853	11,220	11,487	11,951	12,797
Goods and services purchased in or from:								
• Canada	$ millions			9,794	10,284	10,584	10,915	11,178
• Local businesses and suppliers	$ millions	AA	G4-EC9	5,110	5,536	3,498	4,920	4,504
Aboriginal spend	$ millions	BB	G4-EC9	290	284	431	463	599

Suncor-wide economic footnotes

1 Select economic figures have been calculated according to the International Financial Reporting Standards (IFRS). For complete disclosure of our financial information, see our 2015 Annual Report (PDF, 136 pp., 2.80 MB)

T To better align with the Global Reporting Initiative guidelines, the number of economic indicators typically reported have been reduced to align with G4-EC1 in calculating the economic value generated, distributed and ultimately retained.

U OS&G expenses are subject to historical restatements due to reclassifications within our income statement. The 2014 value was revised. 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.

V Monies remitted to government, including income, property, and other taxes; Crown royalties; and lease bonuses and rentals.

W Data reported for 2014 and 2015 were calculated by Suncor and the Suncor Energy Foundation (SEF). Values are not defined by the London Benchmarking Group (LBG) model as it is no longer an accurate reflection of our programs and strategies. 2011 to 2013 community investment values were reported according to this model.

X 2014 was the first year that Suncor reported economic value retained, to better align with GRI reporting guidelines. This 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). The 2014 value has been revised based on a revision to the OS&G expenses.

Y Capital and exploration expenditures reported here includes capitalized interest.

Taxes and royalty credits earned includes the Investment Tax Credit on Scientific Research and Experimental Development Expenditures, Deep Gas Royalty Holiday Program and Alberta Royalty Tax Credit. The decline beginning in 2014 is due to decreased drilling activity by North America Onshore, resulting in lower royalty credits.

Z Alberta's Government no longer allows union or corporate donations, as of June 2015. As such our contributions were considerably less in 2015. For more information, see the GRI Content Index page of this report, under G4-SO6.

AA Goods and services: 2013 and 2014 local spend excludes Oil Sands operations and Major Projects, due to data management capabilities of tracking local spend in these business areas.

Suncor-wide spend excludes Syria and Libya.

BB Aboriginal businesses include those:
- with a minimum of 51% ownership by Aboriginal individuals or organizations

Values reported for Aboriginal supplier revenues earned from 2011-2013 include GST. Beginning in 2014, values reported reflect amounts captured in our enterprise software data management system, minus 5% GST.

Inclusion of contracts in the reporting year is based on the payment date, not the date of services rendered.

Data includes Aboriginal spend across Suncor's operations Canada-wide. Prior to 2012, data was limited to spend within the Regional Municipality of Wood Buffalo.

Social

Filter display

The A symbol (**A**) reflects data that has been assured by a third party. View a complete list of reviewed data to confirm the performance indicators that have been assured.
In the "Footnote" column, click on the down-arrow symbol to display the footnote.

Indicator	Unit	Footnote	GRI Disclosures	2011	2012	2013	2014	2015
Health and safety		CC						
Employee lost-time injury frequency		DD	G4-LA6	0.09	0.04	0.06	0.05	0.05
Contractor lost-time injury frequency		DD	G4-LA6	0.05	0.05	0.06	0.04	0.04
Employee recordable injury frequency		EE	G4-LA6	0.53	0.36	0.32	0.37	0.27
Contractor recordable injury frequency		EE	G4-LA6	0.84	0.72	0.72	0.50	0.56
Fatalities		FF	G4-LA6	1	0	0	3	**0 A**
Employee Relations								
Employees receiving performance reviews	%	GG	G4-LA11	96	100	100	100	100
Training and development	$ thousands	HH	G4-LA9	16 942	24 262	20 210	20 534	5,327

Education assistance plan	$ thousands		G4-LA10	499	725	1,107	1,246	611
Scholarships for employee dependents	$ thousands	II	G4-EC1	1,669	1,158	--	1,300	1,240
New employee hires		JJ	G4-LA1					
• Male	%		G4-LA1	--	70.5	73.9	72.8	70.7
• Female	%		G4-LA1	--	29.5	26.1	27.2	29.3
• Age less than 30	%		G4-LA1	--	31.5	30.9	32.4	29.2
• Age 30 to 50	%		G4-LA1	--	57.9	57.1	58.6	60.3
• Age greater than 50	%		G4-LA1	--	10.5	11.7	9.0	10.8
Employee turnover:	%	KK	G4-LA1	4.2	6.5	4.1	5	7.6
• Male	%		G4-LA1	3	6.5	4.1	4.9	6.5
• Female	%		G4-LA1	1.2	6.8	4.2	5.4	11.3
• Age less than 30	%		G4-LA1	0.9	7.4	5.5	6.8	6.8
• Age 30 to 50	%		G4-LA1	2.9	7.5	4.8	5.5	9
• Age greater than 50	%		G4-LA1	0.4	4.1	1.9	3.2	4.8
Parental leave:		LL	G4-LA3					
• Male employees that took parental leave	#	LL	G4-LA3	--	59	63	61	60
• Male employees who returned to work after parental leave ended	#	LL	G4-LA3	--	53	60	66	54
• Male employees who returned to work after parental leave ended who were still employed 12 months after their return to work	#	LL	G4-LA3	--	--	--	88	82
• Female employees that took parental leave	#	LL	G4-LA3	--	174	169	246	172
• Female employees who returned to work after parental leave ended	#	LL	G4-LA3	--	49	60	159	186
• Female employees who returned to work after parental leave ended who were still employed 12 months after their return to work	%	LL	G4-LA3	--	--	--	88	80

Workforce								
Suncor employees	#	MM	G4-9	13 469	14 198	14 132	14 425	13 235
Full-time	#		G4-10	13 188	13 836	13 815	14 056	13 042
Part-time	#		G4-10	78	96	67	108	97
Temporary/Casual	#		G4-10	280	266	250	261	96
Long-term contractors	#	NN	G4-10	3 394	3 505	3 669	3 231	2 663
Workforce unionized	%	OO	G4-11	33.4	32.8	32.3	32.4	34.5
Equal opportunities and workforce diversity	% of total workforce	PP						
Aboriginals / American Indians	%	PP	G4-LA12	2.8	2.7	2.6	1.5	1.6
Visible minorities	%	PP	G4-LA12	10.6	11.1	12.1	10.4	10.3
Persons with disabilities	%	PP	G4-LA12	1	0.9	0.8	0.5	0.5
Women	%	PP	G4-LA12	23.2	23.3	23.5	25.1	23.4
Men	%	PP	G4-LA12	75.3	74.3	74.6	74.7	75.7
Age less than 30	%		G4-LA12	15.7	14.6	14.4	12.7	11.6
age 30 to 50	%		G4-LA12	56.2	56.8	57.7	60	60.5
Age greater than 50	%		G4-LA12	26.7	26.3	26.1	27.1	27.1
Percentage of basic salary (women to men):		QQ						
• Management	%	QQ	G4-LA13	92.9	89.2	90.9	96	96
• Professional	%	QQ	G4-LA13	79.5	82	83.9	95	97
• Business support	%	QQ	G4-LA13	91.6	87.47	96.8	104	103
• Operations	%	QQ	G4-LA13	81.9	94.7	95	98	100
Diversity in management		RR						
Employees in management	%		G4-LA12	19	19.4	21.7	20.4	19
Women in management	%		G4-LA12	20.6	21.3	21.3	21.7	22.4
Persons with disabilities in management	%		G4-LA12	1.2	1	1	0.7	0.7
Age less than 30 in management	%		G4-LA12	2.5	2.6	2.3	2.1	1.5

Age 30 to 50 in management	%		G4-LA12	59.9	64.6	65.5	66.8	65.9
Age greater than 50 in management	%		G4-LA12	30.4	26.3	32.1	31.3	32.6
Community investment		SS						
Total value of all contributions made to charitable, non-charitable and community groups (categorized below):	$ thousands		G4-EC1	19,176	22,619	30,534	27,246	26,346
Total value of cash donations	$ thousands		G4-EC1	16,561	18,115	23,367	23,745	24,425
Total value of time donations	$ thousands	TT	G4-EC1	389	945	747	798	408
Total value of in-kind donations	$ thousands	UU	G4-EC1	330	367	2,716	214	382
Total value of management cost donations	$ thousands	VV	G4-EC1	1,080	1,525	1,685	1,384	988
Total value of external resources leveraged	$ thousands	WW	G4-EC1	816	1,665	2,079	1,105	143
Suncor's donation to the Suncor Energy Foundation (SEF)	$ thousands	XX	G4-EC1	13,900	18,800	19,740	19,530	4,500
Suncor Energy Foundation / Suncor Energy Inc. disbursements (distribution by funding priority)			G4-EC1					
• Building Skills & Knowledge	$ thousands		G4-EC1	4,611	5,082	4,777	5,381	5,321
• Collaborating for a Shared Energy Future	$ thousands		G4-EC1	2,783	1,946	1,901	2,087	2,219
• Cultivating Community Leaders	$ thousands		G4-EC1	2,003	3,100	3,554	3,719	3,051
• Engaging Citizens	$ thousands	YY	G4-EC1	4,762	4,974	8,581	4,538	4,146
• Inspiring Innovation	$ thousands		G4-EC1	3,015	3,237	2,487	3,890	3,442
• Local Relationships	$ thousands		G4-EC1	1,185	2,614	5,530	4,342	6,627
United Way donations								
Suncor Energy Foundation	$ thousands		G4-EC1	1,920	2,225	2,510	2,315	2,290
Suncor Energy Inc.	$ thousands	ZZ	G4-EC1	70	82	100	100	100

Suncor employee and retiree contributions	$ thousands	G4-EC1	4,295	4,494	4,779	5,013	4,108

Suncor-wide social footnotes

CC Rates of absenteeism, lost days and occupational disease are tracked but not reported by Suncor.

DD Lost time injury requires medical attention and results in an employee being absent from work on the next regularly-scheduled work day or any subsequent work day.

Lost time injury frequency is the number of such injuries per 200,000 hours worked, divided by the number of exposure hours.

EE Recordable injuries include lost-time injuries as well as medical aid injuries. Medical aid injuries require medical attention but do not result in an employee being absent from work. Recordable injury frequency is the sum of lost-time and medical aid injuries per 200,000 hours worked, divided by the number of exposure hours.

FF The number of fatalities reported are 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.

We experienced 3 tragic employee fatalities at Oil Sands in 2014:

- January 19, 2014 – an employee was fatally injured when he fell through the surface into a cavity containing sand and water.
- April 20, 2014 – an employee was fatally electrocuted when working on a compressor/electrical panel.
- May 7, 2014 – an employee was fatally injured when attacked by a black bear while working in a lay down yard.

Two prime contractors were also fatally injured in 2014 on Suncor's sites. Prime contractors have full care, custody and control meaning they manage their own work and are responsible for maintaining safe working environments. These incidents are described below:

- March 14, 2014 – A worker was overcome by water and the elements when a backhoe broke through the ice that was over top of a borrow pit.
- June 2, 2014 – A worker was fatally injured when he was struck by a plate while performing maintenance work on a piece of heavy equipment.

GG Everyone receives performance reviews, except those paid hourly. Hourly workers receive informal evaluations.

HH Training and development is representative of fees for professional development courses taken by Suncor employees. This total consists of values reported for all business areas (Oil Sands, Exploration & Production, Refining & Marketing and St. Clair ethanol) and our corporate operations.

II In 2013, scholarships for employee dependents was rolled into the employee benefits indicator G4-LA3.

JJ Any externally hired regular full-time or regular part-time employee whose permanent start date falls within the period being reported.

KK Defined as the percentage of employees who leave the organization under any circumstance in a given year. Only terminations are included and numbers are based on full-time and part-time Suncor employees only.

LL All regular full-time and regular 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. Only regular full-time and regular part-time employees that took parental leave and returned to work prior to December 31, 2015 are included in the retention rate.

Historical data prior to 2012 is not available as this is a new GRI indicator.

MM 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.

NN Contractor data includes both staged and structured contractors that are workforce or capacity planned.

OO Unionized data is only applicable in areas where there is a unionized environment.

PP Certain operating regions prohibit collecting information on gender, therefore data presented here 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 consent for release of this information have been included.

QQ Beginning in 2014, average salaries were calculated using a weighted average to ensure the data represents a comparison of equal level positions between men and women. Salary comparison data between women and men is reported on a Suncor-wide basis as position levels are corporately administered and do not differ based on operating area.

	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.
RR	Management is classified as front-line leaders, mid-level leaders, members of the management committee or members of the corporate committee.
SS	Data reported for 2011-2013 for total value of all contributions made to charitable, non-charitable and community groups was defined by the London Benchmarking Group (LBG) Canada model. Since 2014, these values have been calculated by Suncor and the Suncor Energy Foundation (SEF). The SEF is audited annually by PricewaterhouseCoopers (PWC).
TT	Volunteer time is reported by employees to Suncor on a voluntary basis. The hours shown represent hours volunteered during working hours.
UU	In-kind contributions in 2013 were significantly higher as a result of the Alberta floods, the Colorado floods and our decommissioning of the Voyageur Upgrader site.
VV	The value of management costs in 2014 and 2015 is for the Suncor Energy Foundation only.
WW	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, matching donations from other funders, etc.).
XX	Suncor established the Suncor Energy Foundation (SEF) in March 1998. The SEF is limited to providing donations to registered Canadian charitable organizations. This figure represents Suncor's donation to the SEF for 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 the community investment values presented at the beginning of the table.
YY	Contributions in 2013 were significantly higher as a result of the activation of several Suncares Humanitarian matching grant programs for employees (Alberta floods, Colorado floods, Haiyan typhoon). In 2015 two SunCares Humanitarian matching grant programs for employees were activated (Nepal Earthquake and Syrian Refugee Crisis).
ZZ	United Way contributions for Suncor Energy U.S.A.

Oil Sands

> Environmental data consists of Oil Sands mining operations (does not include Syncrude).

All economic data for Oil Sands includes our In Situ operations as well as the Oil Sands mining operations in alignment with our Annual Report (including Syncrude).

Expand all | Collapse all

Environment

Filter display

The A symbol (**A**) reflects data that has been assured by a third party. View a complete list of reviewed data to confirm the performance indicators that have been assured.
In the "Footnote" column, click on the down-arrow symbol to display the footnote.

Indicator	Unit	Footnote	GRI Disclosures	2011	2012	2013	2014	2015
Production								
Gross production	million barrels of oil/year	A	OG1	105.1	103.25	105.31	108.18	119.50
Gross production	million cubic metres (m^3) of oil/year	A	OG1	16.7	16.4	16.7	17.2	19.0
Air emissions								
Greenhouse gas (GHG)	thousand tonnes carbon dioxide equivalent (CO_2e)	B	G4-EN15 G4-EN16	8,524	9,204	8,417	8,542	8,685
GHG emissions intensity	tonnes CO_2e/m^3 production		G4-EN18	0.51	0.56	0.5	0.50	0.46

Ozone-depleting substances	kilograms (kg) of chlorofluorocarbon (CFC)11 equivalent	C	G4-EN20	0	0	0	0	0
Sulphur dioxide (SO_2)	thousand tonnes	D	G4-EN21	20.23	18.54	14.1	16.68	12.64
SO_2 emissions intensity	kg/m^3 production		G4-EN21	1.21	1.13	0.84	0.97	0.67
Nitrogen oxides (NO_x)	thousand tonnes	E	G4-EN21	21.8	21.1	18.8	18.3	19.1
NO_x emissions intensity	kg/m^3 production		G4-EN21	1.3	1.29	1.13	1.06	1.0
Volatile organic compounds (VOCs)	thousand tonnes	F	G4-EN21	16.5	16.1	6.77	12.27	15.52
• Benzene	tonnes		G4-EN21	21.5	11.5	13.6	18.1	22.6
• Toluene	tonnes		G4-EN21	198.2	127.2	144	265	205
• Ethylbenzene	tonnes		G4-EN21	86	70	36.43	80.4	62.9
• Xylene	tonnes		G4-EN21	315.1	188.5	175.14	387.1	300.1
VOC emissions intensity	kg/m^3 production		G4-EN21	0.99	0.98	0.4	0.71	0.82
National Pollutant Release Inventory (NPRI) on-site releases	thousand tonnes		G4-EN21	66.9	70.5	50.1	63.77	72.50
Flared gas	million m^3	G	OG6	43.6	60.3	92.9	54.3	118.04
Flared gas intensity	m^3/m^3 production		OG6	2.61	3.67	5.55	3.16	6.22
Energy consumption								
Total energy use	million gigajoules (GJ)	H	G4-EN3 G4-EN4	109.4	112.8	112.72	117.30	119.47
• Direct energy use	million GJ	I	G4-EN3	111.7	114.9	115.19	119.32	121.20
• Indirect energy use	million GJ	I	G4-EN4	-2.29	-2.38	-2.47	-2.02	-1.74
Energy intensity	GJ/m^3 production		G4-EN5	6.7	6.86	6.73	6.83	6.30
Water use								
Total water withdrawal	million m^3	J	G4-EN8	38.7	44.81	51.35	37.36	25.56
• Surface water withdrawal	million m^3		G4-EN8	27.7	26.6	22.83	18.65	16.90
• Groundwater withdrawal	million m^3		G4-EN8	1.7	1.7	1.38	1.13	1.26
• Industrial run-off water withdrawal	million m^3	K	G4-EN8	9.32	16.54	26.14	17.58	7.40
Water withdrawal intensity	m^3/m^3 production		G4-EN8	2.3	2.73	3.07	2.17	1.35
Water returned	million m^3	K	G4-EN22	10.3	11	17.73	9.92	6.27
Water consumption	million m^3	L		28.4	33.79	33.62	27.44	19.29

Water consumption intensity	m^3/m^3 production			1.7	2.06	2.01	1.60	1.02
Water discharge quality								
Oil and grease in effluent	tonnes	M	G4-EN22	17.7	7.67	11.57	7.23	5.14
Total suspended sediment	tonnes	M	G4-EN22	149.3	77.6	138.82	77.44	63.19
Chemical oxygen demand	tonnes		G4-EN22	609.5	609.93	995.01	477.15	210.27
Phenol	tonnes	M	G4-EN22	0.08	0	0	0	0
Metals in effluent	tonnes	M	G4-EN22	34.5	20.3	43.51	25.25	28.9
Waste management		N						
Total hazardous waste generated	thousand tonnes	O	G4-EN23	3.9	0.38	0.28	7.81	4.31
• Hazardous waste incinerated	tonnes	O	G4-EN23	13.4	5.92	17.23	4.06	4.78
• Hazardous waste deep well injected	tonnes	O	G4-EN23	44.1	7.42	3.17	13.39	3.23
• Hazardous waste landfilled	tonnes	O	G4-EN23	3,792.30	352	223.46	256.90	40.96
• Hazardous waste otherwise disposed	tonnes	O	G4-EN23	28.4	13.05	39.29	58.01	141.91
• Hazardous waste recycled, recovered or reused	tonnes	O	G4-EN23	–	–	–	7,479.50	4,115.30
Total non-hazardous waste generated	thousand tonnes	P	G4-EN23	40.5	84.4	42.8	103.73	57.16
• Non-hazardous waste incinerated	tonnes		G4-EN23	0.7	0.18	0	0	0
• Non-hazardous waste deep well injected	tonnes		G4-EN23	2	1.02	1.58	0	0
• Non-hazardous waste landfilled	tonnes	P	G4-EN23	40,477.90	84,334.30	42,758.50	89,069.18	35,352.19
• Non-hazardous waste otherwise disposed	tonnes		G4-EN23	0	0	36.8	0	0
• Non-hazardous waste recycled, recovered or reused	tonnes	P	G4-EN23	–	–	–	14,663.20	21,804.40
Waste reused, recycled or recovered (off-site)	thousand tonnes	Q	G4-EN23	25.3	29.5	26.5	–	–
Waste reused, recycled or recovered (on-site)	thousand tonnes	Q	G4-EN23	2.43	2.1	1.28	–	–

Land disturbance and reclamation								
Total land lease holdings for potential development (mineable oil sands)	hectares		G4-EN11	70,263	70,263	70,263	70,263	70,263
Total land holdings approved for development (mineable oil sands)	hectares		G4-EN11	24,064	24,432	24,432	22,458	22,548
Total land disturbed	cumulative hectares		G4-EN12	20,023	21,303	21,690	22,072	**22,157 A**
Land reclaimed	cumulative hectares	R	G4-EN13	1,439	1,542	1,708	1,905	**2,134 A**
Combined surface area of tailings ponds	hectares	S	G4-EN23	2,761	2,712	2,864	2,654	2,606
Compliance								
Regulatory contraventions	#	T	G4-EN29	11	9	8	6	5
Regulatory fines	$ thousands	U	G4-EN29	475	0	0	0	14.5
Reportable spills	#	V	G4-EN24	9	7	5	11	168
• Spills to natural water bodies	#		G4-EN24	0	0	2	0	0
Total volume of reportable spills	m^3	W	G4-EN24	0	1,058	353	2,558	3,045
Air quality exceedances	#	X	G4-EN29	0	0	0	0	0
Industrial wastewater limit exceedances	#		G4-EN29	2	1	1	0	0
Environment, Health & Safety (EH&S) management								
EH&S professionals on staff	#	Y	G4-EN31	75	69	72	92	–

Oil Sands environment footnotes

A Gross sweet and sour synthetic crude oil production. This volume is used to calculate emission intensities since it represents emissions associated with mining, extraction and upgrading. This volume is reported as a gross total as it includes unprocessed volumes. See the 2015 GHG performance page of this report for more information on the difference between production reported here and our 2015 Annual Report.

B Greenhouse gas (GHG) emissions are calculated using a facility-specific methodology which utilizes various reference methodologies that have been accepted by the relevant jurisdictions each facility is required to report its GHG emissions. 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.

GHG emissions and emissions intensity values are consistent with Suncor's Specified Gas Emitters Regulation (SGER) Bill 3 reported Total Annual Emission (TAE) values, with a few exceptions. The reported TAE in the SGER Compliance report excludes carbon dioxide (CO_2) emissions from biomass, industrial process emissions and total indirect emissions. Our Report on Sustainability GHG emissions includes industrial process, total indirect emissions, and biomass emissions. Oil Sands GHG data in this report also includes the emissions associated with the Poplar Creek cogeneration facility which is within the Oil Sands facility boundary. Additionally the production definition used in SGER is different than what is reported here. SGER production is a weighted production value which takes into account mining and upgrading products, not only gross synthetic crude oil production.

2012 and 2013 emission methodology was updated as required by Alberta Environment and Sustainable Resource Development (AESRD). This updated methodology has been used since 2012, but not used in years prior to 2012.

C Retrofitting of refrigeration systems currently using R-22 or any other hydrofluorocarbons (HCFCs) are part of Suncor's ongoing program to phase out the use of ozone-depleting substances on-site. The conversion of all remaining R-22 systems with RS-44 with more than 10 kg in it is ongoing and will continue until complete. RS-44 is a non-ozone depleting substance.

D We use low or ultra-low-sulphur diesel in our mining equipment. Beginning in 2014 we include mining combustion equipment emissions in our total sulphur dioxide (SO_2) emissions, even though emissions from these sources are minimal.

E Site-wide nitrogen oxide (NO_x) emissions as reported to Alberta Environment and Parks. This also includes NOx emissions from mobile sources.

F We discovered that a portion of the total VOC emissions reported in 2013 was inadvertently omitted and if this was included in the VOC emissions, the 2013 value would increase by approximately 29%.

G These values include both emergency and non-emergency flaring volumes. In 2014, the maintenance plan was modified to have annual inspections of the sulphur recovery units, subsequently resulting in reduced emergency flaring events.

In 2015, we experienced an increase in our flared gas volumes primarily as a result of an alypical heat exchanger issue that required us to flare a large volume of impure steam for a short period.

H Total energy is the sum of direct and indirect energy.

I Direct energy is primary energy consumed on-site by Suncor-operated facilities including the energy consumed by the Poplar Creek cogeneration facility which is within the Oil Sands facility boundary. Direct energy includes combustion of petroleum coke, natural gas and internally produced fuels; diesel combusted as fuel in mine trucks, and flaring.

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. The facility that exports the electricity subtracts the export value from its indirect energy use. The facility that receives the electricity counts it as a Scope 2 indirect energy use, regardless of source. The Oil Sands indirect energy figures have been negative because the amount of electricity exported by the Poplar Creek cogen was greater in value than the amount of electricity imported.

J Includes surface water, groundwater and industrial run-off water as per Alberta Environment and Parks withdrawal licences. Data and process improvements in 2012 improved the understanding of site conditions for specific facilities.

In 2014 the wastewater treatment plant became operational, resulting in the use of more recycled water and reductions in our river water withdrawal.

K Industrial run-off outfall volumes have been incorporated and include precipitation on process and non-process areas.

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).

L Water consumption is the total water withdrawn minus the water returned. In 2015, as a result of increased recycling of industrial wastewater at our base plant, water consumption decreased relative to 2014.

M The destination of water discharge for our Oil Sands operations is the Athabasca River. In 2011, the water quality discharge parameters increased or decreased due to the Pond C closure that occurred from April to December, and/or the inclusion of the industrial run-off water quality data. Additionally, Pond C was closed all of 2012 and pond E was also closed the majority of the year.

N Beginning in 2011, in order to better align with the Global Reporting Initiative guidelines, Suncor expanded the number of indicators for which it collects and reports data in the Waste Management category.

O Prior to 2014, waste that was reused, recycled and recovered was not included in the totals for hazardous and non-hazardous waste generated and was reported as an aggregated total. Beginning in 2014, in order to provide a more detailed depiction of the waste streams created due to our operations, we have included this category of waste in both hazardous and non-hazardous total waste generated.

Reduction in hazardous waste volume in 2012 resulted from no sulphur being sent to landfill. In 2014, a change in third party waste receivers is reflected in the volumes of hazardous waste reported in individual categories as the final method of waste disposal is dependent on the options available at those sites.

P Non-hazardous waste volume is dependent on site activities and may fluctuate annually.

Prior to 2014, waste that was reused, recycled and recovered was not included in the totals for hazardous and non-hazardous waste generated and was reported as an aggregated total. Beginning in 2014, in order to provide a more detailed depiction of the waste streams created due to our operations, we have included this category of waste in both hazardous and non-hazardous total waste generated.

Q Beginning in 2014, in order to provide a more detailed depiction of the waste streams created due to our operations, we have included this category of waste in both hazardous and non-hazardous total waste generated.

In 2012, a third-party contractor transported used oil offsite for recycling; in previous years this was done on-site.

R Reclaimed lands have not been certified by government regulators. Following Alberta Environment's issuance of standards for Geographic Information System spatial data reporting, issued in 2010, Suncor annually re-evaluates permanent reclamation areas and recalculates historical reclamation totals. Disturbance feature types (such as roads, power lines, pipelines, etc.) that occurred post-reclamation are removed and any new areas of reclamation are added. As such, the reclamation areas for each year, and the total area permanently reclaimed to the end of 2014, have been updated to reflect these changes. See Advisories.

S The tailings pond area calculation is based on fluids area only and does not include solid structures such as beaches and dykes.

T A regulatory contravention is an environmental incident that breaches a regulatory limit (prescribed threshold required by legislation, approval or permit from a regulatory authority) or requirement (any law, act, regulation, licence, standard, approval, directive and/or permit applicable to Suncor's activities) and that triggers formal regulatory reporting.

U Data includes regulatory fines related to environmental, health and safety contraventions paid during the stated year.

2015: In 2015, Suncor paid an administrative penalty of $14,500 to the Alberta Energy Regulator relating to three contraventions of the Environmental Protection and Enhancement Act (section 227e) that occurred in 2013 related to industrial wastewater management and runoff controls systems on site.

2011:

- Suncor paid a $275,000 fine in 2011 for violations of Section 142(1)(e) of the Water Act that occurred between May and September 2008. The violation was a result of Suncor failing to comply with a term of its approval relating to the adherence to the water management plan applicable to the East Tank Farm site.
- A $150,000 fine was paid pursuant to Sections 40(2) and 79.2(f) of the Fisheries Act relating to a June 23, 2008 rain event which overwhelmed Suncor's sedimentation ponds at the North Steepbank Extension, and resulted in discharges into the Athabasca River which contained elevated levels of total suspended solids.
- A $50,000 fine was paid pursuant to Sections 40(2) and 79.2(f) of the Fisheries Act relating to rain events on Aug. 2, 2008 and from Aug. 11 to 13, 2008, which overwhelmed Suncor's sedimentation ponds at the North Steepbank Extension, and resulted in discharges into the Athabasca River which contained elevated levels of total suspended solids.

V A reportable spill is an unplanned or accidental event resulting in a release of material either into the environment or into a location that does not usually contain the material, as specified by Alberta regulation. Beginning in 2014, regulations placed greater emphasis on spill reporting, and subsequently our reportable number and volume of spills, including contractors. The increase in the number of reportable spills in 2015 resulted from changes in the expectation of spill reporting from the regulator. This includes spills that are both recovered and non-recovered.

W All recovered spill volumes are discounted from final spill volumes. Spills are also discounted when the material was spilled into a containment system that was intended for the material, or into a system that would fully recover the material. In 2011, the entire estimated spill volume was recovered resulting in zero net spill volume.

2015: The increased volume in 2015 is correlated to the increase in our number of reportable spills as described in footnote V. A number of rupture disk incidents were reportable, which tend to have larger volumes (>2,000 m^3), but these are generally recovered and not included in the reportable spill volume. The total volume from all spills (including those that were recovered) was 94,678 m^3. Volume of hydrocarbon spills to soil was 1,256 m^3; there were no hydrocarbon spills to water. Diesel spills to soil were cleaned up and disposed of as hazardous waste. For liquid releases from processes the material was generally recycled back into our facility.

X Suncor continues to investigate and evaluate changes that may improve air quality. Ambient ground level concentration exceedances are not provided, as other reduced sulphur compounds and possibly non-sulphur containing compounds may interfere with hydrogen sulphide (H2S) analyzers, leading to results that are not accurate reflections of the actual H_2S concentrations in the ambient air.

Y Professionals dedicated to environment, health or safety matters. Professional Services Agreements (PSAs) and non-positioned contractors are not included in this total. The increase from 2013 to 2014 reflects business unit restructuring; this total now includes EH&S professionals from our In Situ operations. As of 2015, this indicator is only reported at a Suncor-wide total.

Economic

Filter display

In the "Footnote" column, click on the down-arrow symbol to display the footnote.

Indicator	Unit	Footnote	GRI Disclosures	2011	2012	2013	2014	2015
Financials		Z						
Tax and royalty credits earned	$ millions	AA	G4-EC4	6.1	14.5	10.3	15.6	7.5
Investments								
Capital and exploration expenditures	$ millions		G4-EC1	5,100	4,957	4,311	3,826	4,181
Purchases								
Goods and services	$ millions			4,315	4,194	4,651	4,244	4,080
Goods and services purchased in or from:								
• Canada	$ millions			4,139	4,076	4,512	4,081	3,950
• Local businesses and suppliers	$ millions	BB	G4-EC9	2,056	1,929	--	--	--

Oil Sands economic footnotes

Z For complete disclosure of financial information, see our 2015 Annual Report (PDF, 136pp. 2.80 MB). Oil Sands financial information reported here includes Syncrude to align with the Annual Report.

AA Investment Tax Credit on Scientific Research and Experimental Development Expenditures.

BB Local is defined as businesses and suppliers based in the Regional Municipality of Wood Buffalo. Data from 2011 to 2012 includes Oil Sands mining and In Situ spend. Beginning in 2013, this number is reported on a Suncor-wide basis.

Social

Filter display

In the "Footnote" column, click on the down-arrow symbol to display the footnote.

Indicator	Unit	Footnote	GRI Disclosures	2011	2012	2013	2014	2015
Health and safety								
Employee lost-time injury frequency		CC	G4-LA6	0.12	0.09	0.04	0.07	0.08
Contractor lost-time injury frequency		CC	G4-LA6	0.07	0.08	0.01	0.02	0.06
Employee recordable injury frequency		DD	G4-LA6	0.98	0.69	0.5	0.65	0.43

Contractor recordable injury frequency		DD	G4-LA6	1.05	0.87	0.67	0.54	0.47
Fatalities		EE	G4-LA6	0	0	0	3	0
Employee relations								
Employees receiving performance reviews	%		G4-LA11	98	100	100	100	100
Training and development	$ thousands	FF	G4-LA9	11,965	9,879	10,331	11,249	2,251
Ratio of lowest wage to minimum wage		GG	G4-EC5	1.6	1.6	2.3	1.6	2.3
Ratio of average wage to minimum wage		GG	G4-EC5	5.7	5.3	5.5	5.7	5.2
Ratio of jobs offered to jobs accepted		HH		1.1	1.11	1.13	--	--
New employee hires:		II	G4-LA1					
• Male	%		G4-LA1	--	84.1	84.1	80.5	73.6
• Female	%		G4-LA1	--	15.9	15.7	19.5	26.4
• Age less than 30	%		G4-LA1	--	36.3	28.2	33.0	27.4
• Age 30 to 50	%		G4-LA1	--	53.7	56.9	59.4	62.0
• Age greater than 50	%		G4-LA1	--	9.7	14.4	7.6	10.6
Employee turnover:			G4-LA1	4.2	6.4	4.4	5.8	6.2
• Male	%		G4-LA1	4.2	6.2	4.2	5.8	5.6
• Female	%		G4-LA1	4.3	1.2	5.3	5.1	10.2
• Age less than 30	%		G4-LA1	4.8	8.1	5	8.1	6.2
• Age 30 to 50	%		G4-LA1	4.9	7.1	5.1	5.8	7.4
• Age greater than 50	%		G4-LA1	1.8	3.1	1.8	4.1	3.4
Workforce								
Suncor employees	#		G4-10	4,585	5,192	5,768	5,710	5,632
• Full time	#		G4-10	4,561	5,156	5,741	5,636	5,596
• Part time	#		G4-10	1	8	3	13	21
• Temporary/casual	#		G4-10	23	28	24	61	15
Long-term contractors	#		G4-10	386	465	615	676	548
Workforce unionized	%		G4-11	63.4	57.2	52.9	51.6	51.0
Equal opportunity and workforce diversity		JJ						
Aboriginals	%	JJ	G4-LA12	5.3	4.9	4.6	2.3	2.3
Visible minorities	%	JJ	G4-LA12	10.2	10.6	10.8	8.3	8.6
Persons with disabilities	%	JJ	G4-LA12	0.9	0.8	0.7	0.3	0.3

Women	%	JJ	G4-LA12	12	13.1	13.5	15.1	14.1
Men	%	JJ	G4-LA12	87	86.3	86.1	86.1	85.7
Age less than 30	%		G4-LA12	19.9	18.8	17.1	14.7	13.3
Age 30 to 50	%		G4-LA12	56.7	57.9	58.8	61.3	61.4
Age greater than 50	%		G4-LA12	22.4	22.7	23.7	25.0	25.1
Percentage of basic salary (women to men):		KK	G4-LA13					
• Management	%	KK	G4-LA13	90.2	91.7	91.2	--	--
• Professional	%	KK	G4-LA13	86.1	85.4	89.5	--	--
• Business support	%	KK	G4-LA13	74.9	78.8	81.9	--	--
• Operations	%	KK	G4-LA13	82	91.9	91.7	--	--
Diversity in management	% in management							
Employees in management	%		G4-LA12	13.4	14.3	18.2	17.8	14.6
Women in management	%		G4-LA12	9.5	10.9	10.4	11.6	11.9
Persons with disabilities in management	%		G4-LA12	0.8	0.8	0.6	0.6	0.3
Age less than 30 in management	%		G4-LA12	3.3	4.1	3.3	3.6	2.4
Age 30 to 50 in management	%		G4-LA12	56.3	65.7	67.3	69.7	67.6
Age greater than 50 in management	%		G4-LA12	25.6	30.3	29.4	26.7	30.0

Oil Sands social footnotes

CC A lost-time injury requires medical attention and results in an employee being absent from work on the next regularly scheduled work day or any subsequent work day. Lost-time injury frequency is the number of such injuries per 200,000 hours worked, divided by the number of exposure hours.

DD Recordable injuries include lost-time injuries as well as medical aid injuries. Medical aid injuries require medical attention but do not result in an employee being absent from work. Recordable injury frequency is the sum of lost-time and medical aid injuries per 200,000 hours worked, divided by the number of exposure hours.

EE The number of fatalities reported are 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.

We experienced 3 tragic employee fatalities at Oil Sands in 2014:

- January 19, 2014 – an employee was fatally injured when he fell through the surface into a cavity containing sand and water.
- April 20, 2014 – an employee was fatally electrocuted when working on a compressor/electrical panel.
- May 7, 2014 – an employee was fatally injured when attacked by a black bear while working in a lay down yard.

Two prime contractors were also fatally injured in 2014 on Suncor's sites. Prime contractors have full care, custody and control meaning they manage their own work and are responsible for maintaining safe working environments. These incidents are described below:

- March 14, 2014 – A worker was overcome by water and the elements when a backhoe broke through the ice that was over top of a borrow pit.
- June 2, 2014 – A worker was fatally injured when he was struck by a plate while performing maintenance work on a piece of heavy equipment.

FF Fees for professional development courses taken by Suncor employees. Includes the educational assistance plan that reimburses tuition upon successful completion of a course or program.

GG Compares full-time base wage to the province of Alberta's minimum wage ($11.20/hour in 2015). Beginning in 2014, Alberta's minimum wage was used across our operations for this metric for comparison purposes due to the minimal variances of minimum wages across Canada.

HH Beginning in 2014, this indicator is reported Suncor-wide.

II Any externally-hired regular full-time or regular part-time employee whose permanent start date falls within the reporting period. No historical data available prior to 2012 as this is the first year this indicator was reported.

JJ Certain operating regions prohibit collecting information on gender, therefore data presented here 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 consent for release of this information have been included.

KK Beginning in 2014, salary comparison data between women and men is reported on a Suncor-wide basis as position levels are corporately administered and do not differ based on operating areas.

In Situ

Performance data for our In Situ business includes MacKay River and Firebag operations. Economic data for In Situ is included with Oil Sands performance data.

Expand all | Collapse all

Environment

Filter display

In the "Footnote" column, click on the down-arrow symbol to display the footnote.

Indicator	Unit	Footnote	GRI Disclosures	2011	2012	2013	2014	2015
Production								
Net production	million barrels of oil / year	A	OG1	32.7	47.8	62.84	72.79	79.37
Net production	million cubic metres (m^3) of oil / year	A	OG1	5.2	7.6	9.99	11.57	12.62
Air emissions								
Greenhouse gas (GHG)	thousand tonnes carbon dioxide equivalent (CO_2e)	B	G4-EN18	2,608	4,079	5,390	5,610	5,620

GHG emissions intensity	tonnes CO_2e / m^3 production	B	G4-EN18	0.5	0.54	0.54	0.48	0.45
Sulphur dioxide (SO_2)	thousand tonnes	C	G4-EN21	0.47	0.53	0.5	0.52	0.36
SO_2 emissions intensity	Kilograms (kg) / m^3 production		G4-EN21	0.09	0.07	0.05	0.05	0.03
Nitrogen oxides (NO_x)	thousand tonnes	D	G4-EN21	1.91	2.03	2.5	2.66	2.61
NO_x emissions intensity	kg / m^3 production		G4-EN21	0.37	0.27	0.25	0.23	0.21
Volatile organic compounds (VOCs)	thousand tonnes	E	G4-EN21	0.21	0.23	0.3	0.36	0.36
• Benzene	tonnes		G4-EN21	13.53	16.62	26.41	27.56	26.45
• Toluene	tonnes		G4-EN21	8.33	18.03	14.99	15.52	13.29
• Ethylbenzene	tonnes	F	G4-EN21	0.37	0.25	0.21	0.30	0.01
• Xylene	tonnes	F	G4-EN21	3.74	11.46	3.46	3.45	0.13
VOC emissions intensity	kg / m^3 production		G4-EN21	0.04	0.03	0.03	0.03	0.03
National Pollutant Release Inventory (NPRI) on-site releases	thousand tonnes		G4-EN21	6.95	7.32	6.94	8.34	7.98
Flared gas	million m^3	F	OG6	1.58	1.95	3.62	1.78	0.50
Flared gas intensity	m^3 / m^3 production	F	G4-EN21	0.3	0.26	0.36	0.15	0.04
Energy consumption								
Total energy use	million gigajoules (GJ)	G	G4-EN3 G4-EN4	45.46	67.26	85.93	89.48	93.27
• Direct energy use	million GJ	H	G4-EN3	37.4	63.94	86.28	90.45	92.96
• Indirect energy use	million GJ	H	G4-EN4	8.06	3.32	-0.35	-0.97	0.31
Energy intensity	GJ / m^3 production		G4-EN5	8.75	8.83	8.6	7.73	7.39
Energy saved through conservation and efficiency improvements	thousand GJ		G4-EN6	513.37	0	0	0	0
Water use								
Total water withdrawal	million m^3	I	G4-EN8	0.27	0.83	0.88	1.57	2.03
• Surface water withdrawal	million m^3	I	G4-EN8	0	0	0	0.13	0.13

• Groundwater withdrawal	million m^3		G4-EN8	0.2	0.61	0.74	0.65	1.14
• Treated wastewater from external organizations	million m^3	I	G4-EN8	0	0	0	0	0
• Industrial run-off water	million m^3	I	G4-EN8	0.06	0.23	0.14	0.79	0.76
Water withdrawal intensity	m^3 / m^3 production	I	G4-EN8	0.05	0.11	0.09	0.14	0.16
Water returned	million m^3	I	G4-EN22	0.01	0.01	0.01	0.73	0.68
Water consumption	million m^3	J		1.97	2.34	2.15	1.86	1.67
Water consumption intensity	m^3 / m^3 production			0.38	0.31	0.22	0.16	0.13
Produced water	million m^3		OG5	–	24.86	32.59	32.86	34.48
Average annual water recycling rate	%		G4-EN2	92.48	94.5	94.6	97.6	98.1
Waste management		K						
Total hazardous waste generated	thousand tonnes	K	G4-EN23	437.2	764.9	987.3	1,209.0	1,020
• Hazardous waste incinerated	tonnes		G4-EN23	4.5	2.3	0.55	0	0
• Hazardous waste deep well injected	tonnes	L	G4-EN23	382,767.00	704,829.00	901,377	951,648	1,018,064
• Hazardous waste landfilled	tonnes	L	G4-EN23	1,764.40	877.5	7,765.90	763.40	2,316
• Hazardous waste otherwise disposed	tonnes	L	G4-EN23	52,623.40	59,222.90	78,190.40	103,780.19	3
• Hazardous waste recycled, recovered or reused	tonnes	K	G4-EN23	–	–	–	100.98	0
Total non-hazardous waste generated	thousand tonnes	K	G4-EN23	97.5	111.47	95.02	92.19	332
• Non-hazardous waste incinerated	tonnes		G4-EN23		–	–	956	899
• Non-hazardous waste landfilled	tonnes		G4-EN23	59,852	55,803.64	84,392.33	79,171.32	318,038
• Non-hazardous waste otherwise disposed	tonnes	M	G4-EN23	37,634	55,345.54	10,382.36	10,851.00	10,320

• Non-hazardous waste recycled, recovered or reused	tonnes	K	G4-EN23	–	–	–	1,209.00	2,951
Drilling waste disposed or treated	tonnes	N	OG7	–	62,723.95	106,225.37	124,972.00	70,267
Waste reused, recycled or recovered (off-site)	thousand tonnes		G4-EN32	6.41	2.8	2.7	–	–
Waste reused, recycled or recovered (on-site)	thousand tonnes	O	G4-EN32	81.6	0	0	–	–
Land disturbance and reclamation								
Total land lease holdings for potential development	hectares		G4-EN11	181,053	181,053	181,053	181,053	181,053
Total land holdings approved for development	hectares		G4-EN11	24,003	24,537	24,537	24,537	24,537
Total land disturbed	cumulative hectares		G4-EN12	990	1,172	1,356	1,632	1,600
Land reclaimed	cumulative hectares	P	G4-EN13	0	0	10.2	15	19.7
Total number of producing wells	#			123	168	211	241	289
Shut-in or suspended production wells	#	Q		4	4	95	2	6
Wells undergoing reclamation	#		G4-EN13	0	0	0	0	0
Reclamation certificates received	#		G4-EN13	0	0	0	0	0
Compliance								
Regulatory contraventions	#	R	G4-EN29	57	91	15	12	7
Regulatory fines	$ thousands	S	G4-EN29	0	0	0	0	0
Reportable spills	#	T	G4-EN24	24	28	27	28	43
• Spills to natural water bodies	#		G4-EN24	0	0	0	0	0
Total volume of reportable spills	m^3	U	G4-EN24	111	1,081	622	239	2,074

Air quality exceedances	#		G4-EN29	16	16	9	15	6
Industrial wastewater limit exceedances	#		G4-EN29	0	0	0	1	0
Environment, Health & Safety (EH&S) management								
EH&S professionals on staff	#	V	G4-EN31	24	23	20	--	--

In Situ environment footnotes

A Beginning in 2012, production stated is net bitumen sales. Previously-stated production was gross bitumen production and associated natural gas production, internally consumed and/or lost through practices such as flaring. The net volume is used to calculate emission intensities as it represents emissions associated with total plant saleable product. In 2014, production increased mainly due to this being the first full year of operations from all four stages of Firebag's operations.

B Greenhouse gas (GHG) emissions are calculated using a facility-specific methodology which utilizes various reference methodologies that have been accepted by the relevant jurisdictions each facility is required to report its GHG emissions. Methodology has been followed where a jurisdiction has a prescribed one and if none exists then the most applicable and accurate methods available are used to quantify each emission source.

GHG emissions and emissions intensity values are consistent with Suncor's Specified Gas Emitter's Regulation (SGER) Bill 3 reported Total Annual Emission (TAE) value, with an exception. The reported TAE in the SGER Compliance report excludes CO_2 emissions from total indirect sources, such as third-party cogen from MacKay River.

Firebag data in this report includes all cogen emissions as Scope 1. MacKay River data includes all third-party cogen emissions associated with the steam and electricity we consume as Scope 2. Beginning in 2014 and amended in 2015, MacKay River implemented a new methodology for calculating these indirect emissions; therefore all reported data has been calculated using this method.

In Situ experienced a decrease in emission intensity compared to past years. Read more on our GHG performance.

C Suncor installed a sulphur recovery unit at Firebag in 2011

D In 2012 to 2014, increase in NO_x emissions was due to the ramp-up of Firebag, which required an increase in steam generation to bring new wells online.

E In 2012 to 2014, increase in total VOCs and specified VOCs emissions were due to the increase in steam generation required to bring new wells online.

F Values include emergency and non-emergency flaring volumes. Reductions in 2015 resulted from reduced venting and flaring from our Firebag facility.

G Total energy is the sum of direct and indirect energy. It includes combustion of natural gas and internally-produced fuels, flaring and electrical power imports. For MacKay River, exported electricity sent to the grid from the third party cogen is not claimed as an indirect; only the power consumed by Suncor Operations since the cogen is independently operated by TransCanada. For Firebag, the exported electricity to the grid is deducted from the total energy use since the cogen is operated by Suncor. Direct energy consumption is calculated using lower heating value (LHV) in order to be consistent with all other operating facilities.

H Direct energy is primary energy consumed on-site by Suncor operated facilities; it includes combustion of natural gas and internally produced fuels.

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. The facility that exports the electricity subtracts the value from their indirect energy use. The facility that receives the electricity counts it as a Scope 2 indirect energy use, regardless of source. As such, Firebag indirect energy figures are negative, because the amount of electricity exported was higher in value than the amount of electricity imported. The negative Firebag indirect energy figures for 2013 and 2014 are higher than the MacKay River indirect energy figures, which is why the In Situ total indirect energy figures are negative for these years. For Firebag, the exported electricity (regardless of destination) is deducted from the indirect energy use since the cogen is operated by Suncor. For MacKay River, only the imported electricity (regardless of source) is reported as indirect energy use. Power sold to the grid by the MacKay River TransCanada cogen is not included in this number.

I Beginning in 2014, In Situ reported new volumes of surface water withdrawn and industrial runoff water used for road dust suppression and ice road building. This water is also returned to the environment as part of these activities.
The volume of treated wastewater that Oil Sands sends to our Firebag In Situ facility is removed from Firebag's water withdrawal volume and is accounted for in the Oil Sands' withdrawal volume.

J Total Firebag and MacKay River water consumption is comprised of water withdrawn from licenced groundwater wells, treated wastewater and industrial run-off water, minus the water returned.

K Beginning in 2011, in order to better align with GRI reporting guidelines, Suncor has expanded the number of indicators for which it collects and reports data in the Waste management category.
Prior to 2014, waste that was reused, recycled and recovered was not included in the totals for hazardous and non-hazardous waste generated and was reported as an aggregated total. Beginning in 2014, in order to provide a more detailed breakdown of the waste streams created due to our operations, we have included this category of waste in both hazardous and non-hazardous total waste generated.

L Hazardous waste landfilled is primarily off-spec warm lime sludge, created by upset. The period of time dealing with upset conditions at Firebag was a matter of weeks in 2013, compared to several months in2014.

Otherwise disposed includes cavern and ecopit disposal.

A reclassification of waste streams would result in the value of deep well injection in 2014 revised to 1,000,671 tonnes and 54,577 tonnes otherwise disposed in 2014 for a total hazardous waste generated value of 1,056 thousand tonnes in 2014.

M Includes sewage sent to Fort McMurray.

N This is hazardous and non-hazardous drilling waste.

O Beginning in 2012, drilling waste with greater than 8% bitumen content, hauled to the mine for re-processing, is no longer reported as waste reused onsite but has been captured in the OG7 indicator.

P Reclamation associated with the in situ footprint is tracked as the cumulative area reclaimed. As such, the total number of hectares reported from year to year may increase or decrease based on activities undertaken at the site since these activities may lead to new reclamation or re-disturbance of previously reclaimed areas. See Advisories.

Q Some wells (core holes) identified as inactive operated wells in 2013 were incorrectly categorized as such.

R A regulatory contravention is an environmental incident that breaches a regulatory limit (prescribed threshold required by legislation, approval or permit from a regulatory authority) or requirement (any law, act, regulation, licence, standard, approval, directive and/or permit applicable to Suncor's activities) and that triggers formal regulatory reporting.

S Data includes regulatory fines related to environmental, health and safety contraventions paid during the stated year.

T A reportable spill is an unplanned or accidental event resulting in a release of material either into the environment or into a location that does not usually contain the material, as specified by Alberta regulation.

U In 2014, regulations placed greater emphasis on spill reporting, resulting in a greater emphasis on spill reporting, including contractors.

2015: Volume of hydrocarbon spilled to soil was 261 m^3; no hydrocarbon spills to water.

V Professionals dedicated to environment, health or safety matters. Contractors are not included in this total. Due to business unit restructuring, In Situ EH&S professionals are now reported with Oil Sands performance data.

Social

Filter display

In the "Footnote" column, click on the down-arrow symbol to display the footnote.

Indicator	Unit	Footnote	GRI Disclosures	2011	2012	2013	2014	2015
Health and safety								
Employee lost-time injury frequency		W	G4-LA6	0	0	0	0	0

Contractor lost-time injury frequency		W	G4-LA6	0.11	0	0.03	0	0
Employee recordable injury frequency		X	G4-LA6	0.07	0.12	0.24	0.38	0.48
Contractor recordable injury frequency		X	G4-LA6	1.37	1.04	1.04	0.86	0.76
Fatalities		Y	G4-LA6	1	0	0	0	0
Employee relations								
Employees receiving performance reviews	%		G4-LA11	99	100	100	100	100
Ratio of lowest wage to minimum wage		Z	G4-EC5	2.3	2.5	2.1	2.5	2.4
Ratio of average wage to minimum wage		Z	G4-EC5	5.5	5.6	5.7	5.8	5.3
Ratio of jobs offered to jobs accepted		AA		1.05	1.08	1.13	--	--
New employee hires	%	BB	G4-LA1					
• Male	%		G4-LA1	--	89	94	77.4	100
• Female	%		G4-LA1	--	11	6	22.6	0
• Age less than 30	%		G4-LA1	--	37.4	37.9	38.7	0
• Age 30 to 50	%		G4-LA1	--	50.5	46.6	56.5	50
• Age greater than 50	%		G4-LA1	--	12.1	15.5	4.8	50
Employee turnover	%		G4-LA1	4.2	11.3	12.6	7.3	5.4
• Male	%		G4-LA1	3.7	10.9	12.6	7.2	4.9
• Female	%		G4-LA1	6.8	13.9	12.7	8.3	12.5
• Age less than 30	%		G4-LA1	3.9	8.5	12.8	5.8	14.5
• Age 30 to 50	%		G4-LA1	5.4	14.4	13.9	7.6	3.9
• Age greater than 50	%		G4-LA1	1.1	6.8	9.6	8.1	3.1
Workforce								
Suncor employees	#		G4-10	889	635	566	587	391
• Full-time	#		G4-10	885	626	555	574	390
• Part-time	#		G4-10	0	6	8	12	1
Temporary/casual	#		G4-10	4	3	5	1	0
Long-term contractors	#		G4-10	140	128	22	19	75
Workforce unionized	%		G4-11	22.3	31.8	46.8	38.7	55.5

Equal opportunity and workforce diversity		CC						
Aboriginals	%	CC	G4-LA12	2.6	2.8	3	2.6	3.3
Visible minorities	%	CC	G4-LA12	12.4	6	6.9	6.5	2.6
Persons with disabilities	%	CC	G4-LA12	0.2	0.9	0.2	0.2	0
Women	%	CC	G4-LA12	16.6	12.5	12.7	12.3	6.1
Men	%	CC	G4-LA12	83.4	87.5	87.3	87.7	93.9
Age less than 30	%		G4-LA12	22.9	22.4	24.9	20.6	15.9
Age 30 to 50	%		G4-LA12	56	53.7	52.1	56.4	59.3
Age greater than 50	%		G4-LA12	20.2	23.1	22.1	23.0	24.8
Percentage of basic salary (women to men):		DD	G4-LA13					
• Management	%	DD	G4-LA13	89.8	96.9	97.3	--	--
• Professional	%	DD	G4-LA13	81	83	92	--	--
• Business support	%	DD	G4-LA13	92	109	--	--	--
• Operations	%	DD	G4-LA13	86	88	87	--	--
Diversity in management								
Employees in management	%		G4-LA12	22.3	20.3	21.2	18.4	18.2
Women in management	%		G4-LA12	12.1	10.1	11.7	10.2	8.5
Persons with disabilities in management	%		G4-LA12	0	0	0.8	0	0
Age less than 30 in management	%		G4-LA12	2.5	2.3	2.5	0.9	1.4
Age 30 to 50 in management	%		G4-LA12	63.6	60.5	54.2	57.4	60.6
Age greater than 50 in management	%		G4-LA12	28.30	37.2	43.3	41.7	38.0

In Situ social footnotes

W A lost-time injury requires medical attention and results in an employee being absent from work on the next regularly scheduled workday or any subsequent workday. Lost-time injury frequency is the number of such injuries per 200,000 hours worked, divided by the number of exposure hours.

X Recordable injuries include lost-time injuries as well as medical aid injuries. Medical aid injuries require medical attentions but do not result in an employee being absent from work. Recordable injury frequency is the sum of lost time and medical aid injuries per 200,000 hours worked, divided by the number of exposure hours.

Y In July 2011, a Flint Transfield Services employee died at the Firebag site during the removal of an end cap from piping at one of the production pads.

Z Compares In Situ full-time base wage to the province of Alberta's minimum wage ($11.20/hour in 2015).

AA Beginning in 2014, this indicator is reported Suncor-wide.

BB Any externally-hired regular full-time or regular part-time employee whose permanent start date falls within the reporting period.

CC Certain operating regions prohibit collecting information on gender, therefore data presented here 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 consent for release of this information have been included.

DD Beginning in 2014, salary comparison data between women and men is reported on a Suncor-wide basis as position levels are corporately administered and do not differ based on operating areas.

There were no males in business support roles in 2013.

Exploration & Production

Our Exploration & Production (E&P) business segment consists of:

- offshore operations off the east coast of Canada, and in the North Sea
- onshore assets in North America, Libya and Syria (Note: Operations in Syria have been suspended indefinitely due to unrest and resulting sanctions. Production in Libya has been substantially shut-in due to political unrest, with the timing of a return to normal operations remaining uncertain).

Performance data* is reported for our operated E&P assets in the following regions:

- East Coast Canada
- North America Onshore

* Year-over-year differences in E&P regional sustainability data are affected by merger and asset divestment activities.

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North America Onshore

North America Onshore performance data reports on our operated North America Onshore assets, primarily in Western Canada. Social data is reported with East Coast Canada.

On Sept. 26, 2013, Suncor completed the divestiture of the majority of its conventional natural gas business in Western Canada. Environmental performance data for 2013 and 2014 reflects this divestiture.

A number of Suncor's natural gas assets were also divested in 2011.

Expand all | Collapse all

Environment[1]

Filter display

In the "Footnote" column, click on the down-arrow symbol to display the footnote.

Indicator	Unit	Footnote	GRI Disclosures	2011	2012	2013	2014	2015
Production								
Processed volume	million barrels of oil equivalent/year	A	OG1	44.8	47	33.2	1.32	1.14
Processed volume	million cubic metres (m^3) of oil equivalent/year	A	OG1	7.1	7.5	5.27	0.21	0.18
Air emissions								
Greenhouse gas (GHG)	thousand tonnes CO_2e	B	G4-EN15 G4-EN16	1,035	995	630	42.46	20.13

GHG emissions intensity	tonnes CO_2e /m^3 production		G4-EN18	0.15	0.13	0.12	0.20	0.11
Sulphur dioxide (SO_2)	thousand tonnes	C	G4-EN21	3.3	3.6	2.4	0	0
SO_2 emissions intensity	kilograms (kg) / m^3 production		G4-EN21	0.47	0.48	0.46	0	0
Nitrogen oxides (NO_x)	thousand tonnes	D	G4-EN21	7.6	6.9	5.2	0.39	0.21
NO_x emissions intensity	kg/m^3 production		G4-EN21	1.07	0.93	0.99	1.81	1.14
Volatile organic compounds (VOCs)	thousand tonnes	E	G4-EN21	0.49	0.45	0.34	0.01	0.01
• Benzene	tonnes		G4-EN21	10.6	12.6	8.5	1.59	0.7
VOC emissions intensity	kg/m^3 production		G4-EN21	0.07	0.06	0.06	0.05	0.03
National Pollutant Release Inventory (NPRI) on-site releases	thousand tonnes	F	G4-EN21	14	13	0.55	0.20	0.20
Total gas flaring	million m^3		OG6	8.4	10.2	4.9	0.49	0.18
Solution gas flaring	million m^3	G	OG6	0.3	1	--	--	--
Other flaring sources	million m^3	G	OG6	8.02	9.23	--	--	--
Flared gas intensity	m^3/m^3 production		OG6	1.2	1.5	0.9	2.29	0.99
Energy consumption								
Total energy use	million gigajoules (GJ)	H	G4-EN3 G4-EN4	12.2	11.8	7.59	0.50	0.30
• Direct energy use	million GJ	I	G4-EN3	11.8	11.5	7.31	0.50	0.29
• Indirect energy use	million GJ	I	G4-EN4	0.4	0.3	0.28	0	0
Energy intensity	GJ / m^3 production		G4-EN5	1.71	1.58	1.44	2.35	1.63
Energy saved through conservation and efficiency improvements	thousand GJ		G4-EN6	395	36	26	0	0
Water use								
Total water withdrawal	million m^3		G4-EN8	0.55	0.54	0.66	0.06	0
Water withdrawal intensity	m^3/m^3 production		G4-EN8	0.08	0.07	0.13	0.26	0
Water returned	million m^3		G4-EN22	0	0	0	0	0

Water consumption	million m^3			0.55	0.54	0.66	0.06	0
Water consumption intensity	m^3/m^3 production			0.08	0.07	0.13	0.26	0
Produced water	million m^3	J	OG5	2.12	1.77	1.03	0.01	0.01
Waste management								
Total hazardous waste generated	thousand tonnes	K	G4-EN22	5.2	4	3.5	0.06	0.13
• Hazardous waste incinerated	tonnes		G4-EN22	17.1	19.5	17.4	2.65	0
• Hazardous waste deep well injected	tonnes	L	G4-EN22	3,617.8	85.6	0	0	0
• Hazardous waste landfilled	tonnes		G4-EN22	75	91.5	2,313.5	5.35	1.38
• Hazardous waste otherwise disposed	tonnes		G4-EN22	1,492.0	3,764.7	1,182.5	51.0	1.24
• Hazardous waste recycled, recovered or reused	tonnes	K	G4-EN23	--	--	--	9.67	10.77
Total non-hazardous waste generated	thousand tonnes	M	G4-EN22	80.3	178.3	49.7	2.45	0.31
• Non-hazardous waste incinerated	tonnes		G4-EN22	2.7	0	0	0	0
• Non-hazardous waste deep well injected	tonnes		G4-EN22	922.3	549.1	512.9	0	0
• Non-hazardous waste landfilled	tonnes		G4-EN22	57,008.60	148,980.30	26,105.80	2,322.83	88.25
• Non-hazardous waste otherwise disposed	tonnes		G4-EN22	22,351.70	28,800.00	23,041.90	129.8	0
• Non-hazardous waste recycled, recovered or reused	tonnes	K	G4-EN22	--	--	--	--	225
Drilling waste disposed or treated	tonnes	N	OG7	--	465	9,832.30	1,974.16	55

Waste reused, recycled or recovered (off-site)	tonnes	K	G4-EN23	133.1	164.8	210.8	–	–
Land disturbance and reclamation								
Total number of producing wells	#	O		4,840	4,902	67	30	28
Suncor-operated producing wells	#	P		4,716	4,797	63	23	25
Shut-in or suspended production wells	#	Q		1,143	1,339	27	15	16
Wells undergoing reclamation	#	R	G4-EN13	285	270	0	11	11
Reclamation certificates received	#		G4-EN13	0	2	0	0	0
Compliance		S						
Regulatory contraventions	#		G4-EN29	26	32	32	8	0
Regulatory fines	$	T	G4-EN29	2,120	12,080	0	0	0
Reportable spills	#	U	G4-EN24	16	15	13	2	0
Spills to watercourses	#		G4-EN24	0	0	0	0	0
Total volume of spills	m^3		G4-EN24	46	204.85	68.85	20.03	0
Air quality exceedances	#		G4-EN29	3	4	1	1	0
Environment, Health & Safety (EH&S) management								
Projects to reduce GHG emissions and reductions achieved	thousand tonnes CO_2e per year		G4-EN6	29,324.00	24,937.43	1,561.00	0	0
EH&S professionals on staff		V	G4-EN31	38	41	43	–	–

North American Onshore environment footnotes

1 Reported North America Onshore data reflects assets owned throughout the reporting year, as well as divested assets up to their date of sale. In 2013 and 2014 we divested the majority of our conventional natural gas business in western Canada (including Wilson Creek in 2014), therefore performance data reflects significant decreases.

A Processed volume is the total amount of hydrocarbons processed at Suncor-operated facilities. This includes production owned by other companies and processed at Suncor-operated facilities. Processed volume is used to calculate intensities.

Barrels of oil equivalent and cubic metres of oil equivalent may be misleading indicators of value. See "Advisories".

B Greenhouse gas (GHG) emissions are calculated using a facility-specific methodology which utilizes various reference methodologies that have been accepted by the relevant jurisdictions within which each facility is required to report its GHG emissions. 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.

C Total SO_2 emissions from Suncor-operated facilities. This total includes emissions from operated facilities required to report under regulatory reporting programs as well as those facilities not required to report under regulatory programs. 2013 emissions for divested properties were reported from Jan. 1 to Sep 26, 2013.

D Total NO_x emissions from Suncor-operated facilities. This total includes emissions from operated facilities required to report under regulatory reporting programs as well as those facilities not required to report under regulatory programs. 2013 emissions for divested properties were reported from Jan. 1 to Sep 26, 2013.

E Total VOCs emissions from Suncor-operated facilities. This total includes emissions from operated facilities required to report under regulatory reporting programs as well as those facilities not required to report under regulatory programs.

F There was a decrease in NPRI releases in 2013 compared to 2012 as Suncor is not required to report facilities not operated as of Dec. 31 of the reporting year for NPRI.

G As a result of divestment that occurred in 2013, data for solution gas flaring and other flaring sources was unobtainable.

H Total energy is the sum of direct and indirect energy.

I Direct energy is primary energy consumed on-site by Suncor-operated facilities. Indirect energy includes imported electricity, steam, heating and cooling duty from third parties.

J Produced water is all formation and other water brought to the surface during the normal course of our natural gas production process.

K Prior to 2014, waste that was reused, recycled and recovered was not included in the totals for hazardous and non-hazardous waste generated and was reported separately as an aggregated total. Beginning in 2014, in order to provide more detail of the waste streams created due to our operations, we have included this category of waste in total hazardous waste generated.

In 2011, North America Onshore compiled all waste data from our major receivers.

L This is variable year-to-year, based on operations conducted.

M An increased volume of non-hazardous waste generated in 2012 is primarily due to remediation and reclamation activities, including biopile removal.

N Inclusive of drilling mud waste from drilling operations. This value has not been captured in the hazardous waste generated and non-hazardous waste generated values. Value increased in 2013 reflective of drilling that halted in 2012 due to the Altares incident in B.C.

O Both public and regulatory agency databases were mined and compared with Suncor wells with associated yearly production volumes. The number of producing wells decreased significantly in 2013 due to a large divestment of assets in late 2013.

P The number of Suncor producing wells decreased significantly in 2013 due to the large divestment of assets in late 2013 and is reflective of ownership at Dec. 31, 2014.

Q A shut-in well is taken out of production by shutting off flow at the wellhead, often with the expectation of resuming production in the future. A suspended well is a shut-in well on which additional subsurface isolation procedures have been performed, and which is usually taken out of production due to poor economics. If a suspended well is not brought back into production, it is taken out of service as per regulatory requirements. The inactive and suspended well lists from the Western Canadian regulatory agencies (Alberta Energy Regulator, Government of Saskatchewan Energy and Resources, and British Columbia Oil and Gas Commission) were utilized in determining this total.

The number of shut-in wells decreased significantly in 2013 due to the large divestment of assets in 2013.

R For the purpose of the Report on Sustainability, the number of wells undergoing reclamation include abandoned sites in the care and custody of North America Offshore Surface, Land, Logistics and Construction Liability Management group that are categorized (i.e., site status) as Phase I, Phase II, Remediation and Reclamation. Sites categorized with the status Pre-Screening were not included. Further explanation of each category is detailed in Suncor's Draft Remediation - Reclamation Framework document. These are sites we are actively working on in some form or another, with the end goal being closure/obtaining closure through a reclamation certificate or alternative certification. See "Advisories".

S The downward trend in compliance data in 2013 and 2014 is reflective of maturing our operational discipline and the reductions of our operations in this business segment, due to divestment activity.

A regulatory contravention is an environmental incident that breaches a regulatory limit (prescribed threshold required by legislation, approval or permit from a regulatory authority) or requirement (any law, act, regulation, license, standard, approval, directive and/or permit applicable to Suncor's activities) and that triggers formal regulatory reporting.

T Regulatory fines associated with late production accounting filings.

U Reportable spills are defined in accordance with federal and provincial regulations.

V Professionals dedicated to environment, health or safety matters. Professional Services Agreements (PSA's) and non-positioned contractors are not included in this total. Beginning in 2014, this indicator is reported in our East Coast Canada performance data, and reflects our Exploration & Production business segment.

Economic

Filter display

In the "Footnote" column, click on the down-arrow symbol to display the footnote.

Indicator	Unit	Footnote	GRI Disclosures	2011	2012	2013	2014	2015
Tax and royalty credits earned	$ millions	W	G4-EC4	14.2	12.4	18.9	0.8	0.3
Investments								
Capital and exploration expenditures	$ millions		G4-EC1	137	154	114	62	3
Purchases								
Goods and services	$ millions			260	327	228	103	11
Goods and services purchased in or from:								
• Canada	$ millions			260	326	227	102	11
• Local businesses and suppliers	$ millions	X	G4-EC9	237	311	214	--	--

North America Onshore economy footnotes

W For 2011 to 2013, includes the Deep Gas Royalty Holiday Program and Alberta Royalty Tax Credit. For 2014, includes the Deep Gas Royalty Holiday Program only; Alberta Royalty Tax Credit is not included because the amount is not expected to be material due to minimal drilling activity.

X Local businesses and suppliers are those established in the region of operations (2011 to 2014 data includes Alberta and British Columbia operations). Beginning in 2014, local spend is only reported on a Suncor-wide basis.

East Coast Canada

East Coast Canada, a business area of our Exploration & Production (E&P) segment, focuses on offshore operations off the east coast of Canada.

Environmental data is from our operated assets and therefore the only data included is that from our Terra Nova floating production storage and offloading (FPSO) vessel.

Expand all | Collapse all

Environment[1]

Filter display

In the "Footnote" column, click on the down-arrow symbol to display the footnote.

Indicator	Unit	Footnote	GRI Disclosures	2011	2012	2013	2014	2015
Production								
Net production	million barrels of oil equivalent (BOE) / year	A	OG1	16.85	8.47	13.77	16.73	13.13
Net production	million cubic metres (m^3) of oil equivalent / year	A	OG1	2.50	1.35	2.19	2.66	2.09
Air emissions								
Greenhouse gas (GHG)	thousand tonnes carbon dioxide equivalent (CO_2e)	B	G4-EN15 G4-EN16	601.57	391.36	521.83	642.39	548.43

GHG emissions intensity	tonnes CO_2e/m^3 production		G4-EN18	0.24	0.29	0.24	0.24	0.26
Sulphur dioxide (SO_2)	tonnes	C	G4-EN21	0.27	1.31	3.34	6.35	4.39
SO_2 emissions intensity	kilograms (kg) / m^3 production		G4-EN21	0	0	0	0	0
Nitrogen oxides (NO_x)	thousand tonnes	D	G4-EN21	2.39	1.46	2.03	2.39	2.07
NO_x emissions intensity	kg / m^3 production		G4-EN21	0.89	1.09	0.93	0.90	1.00
Volatile organic compounds (VOCs)	thousand tonnes	E	G4-EN21	2.88	1.5	1.2	0.24	0.64
• Benzene	tonnes		G4-EN21	0.23	0.15	0.18	0.62	0.18
• Toluene	tonnes		G4-EN21	0.45	0.25	0.38	1.74	0.40
• Ethylbenzene	tonnes		G4-EN21	0.1	0.05	0.08	0.48	0.09
• Xylene	tonnes		G4-EN21	0.19	0.1	0.16	1.59	0.16
VOC emissions intensity	kg / m^3 production	E	G4-EN21	1.08	1.12	0.54	0.09	0.31
National Pollutant Release Inventory (NPRI) on-site releases	tonnes	F	G4-EN21	5,876.83	3,551	3,903.86	3,499.53	3,435.57
Flared gas	million m^3		OG6	48.53	47.35	53.68	76.65	58.03
Flared gas intensity	m^3 / m^3 production	G	OG6	18.12	35.16	24.5	28.76	27.81
Energy consumption								
Total energy use	million gigajoules (GJ)	H	G4-EN3 G4-EN4	6.88	4.8	6.46	8.49	6.87
• Direct energy use	million GJ	I	G4-EN3	6.88	4.8	6.46	8.49	6.87
• Indirect energy use	million GJ	I	G4-EN4	0	0	0	0	0
Energy intensity	GJ / m^3 production		G4-EN5	2.57	3.56	2.95	3.19	3.29
Energy saved through conservation and efficiency improvements	million GJ	J	G4-EN6	0	0	0	0	0
Water use								
Total water withdrawal	million m^3	K	G4-EN8	24.68	14.07	24.14	26.20	22.63
Water withdrawal intensity	m^3/m^3 production		G4-EN8	9.21	10.44	11.02	9.83	10.84
Water returned	million m^3	L	G4-EN22	19.13	10.46	17.92	18.25	16.48

Water consumption	million m^3	M		5.55	3.61	6.22	7.95	6.15
Water consumption intensity	m^3 / m^3 production			2.07	2.68	2.84	2.98	2.95
Produced water	million m^3	N	OG5	3.82	2.24	3.84	5.02	4.63
Waste management								
Total hazardous waste generated	thousand tonnes	O	G4-EN23	0.17	0.14	0.45	2.07	0.24
• Hazardous waste incinerated	tonnes		G4-EN23	1.5	67.4	123	159	101
• Hazardous waste landfilled	tonnes		G4-EN23	166.2	59.3	52	42	80
• Hazardous waste otherwise disposed	tonnes		G4-EN23	6.3	14.11	278.7	89	22
• Hazardous waste reused, recycled and recovered	tonnes	O	G4-EN23	--	--	--	1,780	32
Total non-hazardous waste generated	thousand tonnes		G4-EN23	2.37	1.85	2.7	3.12	2.42
• Non-hazardous waste incinerated	tonnes		G4-EN23	0	0	0	0	0
• Non-hazardous waste landfilled	tonnes		G4-EN23	2,374.60	1,854.40	2700	3,090	2,357
• Non-hazardous waste otherwise disposed	tonnes		G4-EN23	0	0	0	0	0
• Non-hazardous waste reused, recycled and recovered	tonnes	O	G4-EN23	--	--	--	29	60
Waste reused, recycled and recovered (off-site)	tonnes	O	G4-EN23	38.1	22.9	1,434.30	--	--
Compliance								
Regulatory contraventions	#	P	G4-EN29	18	19	13	14	14
Regulatory fines	$		G4-EN29	0	0	0	0	0
Reportable spills	#	Q	G4-EN24	36	6	12	12	13
• Spills to natural water bodies	#		G4-EN24	36	6	12	12	13
Total volume of spills	m^3	R	G4-EN24	28.79	2.33	7.57	7.80	3.74
Air quality exceedances	#		G4-EN29	0	0	0	0	0
Industrial wastewater limit exceedances	#		G4-EN29	0	2	1	1	1

Environment, Health & Safety (EH&S) management								
EH&S professionals on staff	#	S	G4-EN31	–	–	–	33	–
Environmental capital expenditures	$ millions	T	G4-EN31	0	0	0	6.17	5.22

East Coast Canada environment footnotes

1 In 2014 Terra Nova returned to normal operations after a maintenance shut-down in 2013 which resulted in higher production in 2014.

A Total amount of product sold. Net production is used to calculate intensities. Terra Nova production only includes oil sales, not flaring or internally produced fuel.

Barrels of oil equivalent and cubic metres of oil equivalent may be misleading as an indicator of value. See "Advisories".

B Greenhouse gas (GHG) emissions are calculated using a facility-specific methodology which utilizes various reference methodologies that have been accepted by the relevant jurisdictions each facility is required to report its GHG emissions. Methodology has been followed where a jurisdiction has a prescribed one and if none exists, then the most applicable and accurate methods available are used to quantify each emission source. Decreases in 2015 GHG emissions relative to 2014 are attributed to increased planned and unplanned maintenance activities in 2015.

C The increase in SO_2 emissions from 2012 to 2013 was due to the off-station turnaround conducted in 2012, a return to full operations in 2013, in addition to the increase in sulphur content in the reservoir. The decrease in 2015 relative to 2014 resulted from a change in the boiler fuel source.

D There was an increase in NO_x emissions in 2013 relative to 2012, due to the extended off-station turnaround during 2012. Full operations were resumed in 2013 resulting in higher production.

E In 2013, there was a decrease in total VOCs and VOC emissions intensity relative to 2012, due to the installation of the hydrocarbon blanketing system in the cargo tanks. The increase in 2015 is due to lower efficiency of the hydrocarbon blanketing system in the cargo tanks compared to 2014.

F The increase in overall NPRI emissions for 2013 relative to 2012 was attributable to the extended off-station turnaround that occurred in 2012. In 2015, there were more VOCs, contributing to an increase in NPRI emissions, relative to 2014.

G The decrease in flared gas intensity for 2013 relative to 2012 was due to an increase in production resulting from return to normal operations after the turnaround in 2012.

H Total energy is the sum of direct and indirect energy.

I Direct energy is primary energy consumed on-site by Suncor-operated facilities. For Suncor's East Coast operations, direct energy includes diesel and natural gas consumption for heat and power generation on the Terra Nova FPSO, as well as natural gas consumed in flaring operations. There is no electrical power imported from the local grid as our operated properties are offshore platforms; therefore, the indirect energy is 0.

J This metric reports reductions in energy consumption as a result of conservation and efficiency initiatives, if applicable. In 2011-2015, no energy savings were reported.

K For East Coast operations, water withdrawal includes freshwater bunkered to the FPSO potable water tanks for domestic use on the facility. All freshwater is transferred by vessel, and taken from the city of St. John's domestic water system. It also includes topside seawater intake flow used for process cooling and water injection for production purposes. There was an increase in seawater withdrawal in 2013 relative to 2012 due to the extended off-station turnaround that occurred in 2012.

L Water returned includes both freshwater and seawater, and the destination of this return is the Atlantic Ocean.

M Water consumption increased in 2013 relative to 2012 due to the extended off-station turnaround that occurred in 2012.

N Produced water is all formation and other water brought to the surface during the normal course of the production process.

O Prior to 2014, waste that was reused, recycled and recovered was not included in the totals for hazardous and non-hazardous waste generated and was reported as an aggregated total. Beginning in 2014, in order to provide a more detailed depiction of the waste streams created due to our operations, we have included this category of waste in both hazardous and non-hazardous total waste generated.

P A regulatory contravention is an environmental incident that breaches a regulatory limit (prescribed threshold required by legislation, approval or permit from a regulatory authority) or requirement (any law, act, regulation, licence, standard, approval, directive and/or permit applicable to Suncor's activities) and that triggers formal regulatory reporting.

Q Reportable spills are defined in accordance with federal and provincial regulations.

R Includes both hydrocarbon and non-hydrocarbon spills.

S Professionals dedicated to environment, health or safety matters. Professional Services Agreements (PSA's) and non-positioned contractors are not included in this total. Due to data availability, this total reflects our entire Exploration & Production (E&P) business segment, including East Coast Canada operations. Previous reporting years, this indicator was reported in our North America Onshore performance data. Beginning in 2015, EH&S professionals are reported at a Suncor-wide level only.

T The environmental expenditures consist of, but are not limited to, expenditures for environmental monitoring, environmental assessments, waste disposal, emissions treatment, external services for environmental services, research and development, produced water clarifying chemicals and emergency response services. It does not include personnel and base business costs.

Economic[2]

Filter display

In the "Footnote" column, click on the down-arrow symbol to display the footnote.

Indicator	Unit	Footnote	GRI Disclosures	2011	2012	2013	2014	2015
Investments								
Capital and exploration expenditures	$ millions	2	G4-EC1	967	165	84	112	20
Purchases								
Goods and services	$ millions	U		516	894	727	816	606
Goods and services purchased in or from:								
• Canada	$ millions			341	659	614	721	324
• Local businesses and suppliers	$ millions	V	G4-EC9	399	787	594	–	–

East Coast Canada economy footnotes

2 Beginning in 2015 capital and exploration expenditures is representative only of our Terra Nova operations. 2011 - 2014 data was also revised to be aligned with this methodology.

U Goods and services purchases exclude Syria and Libya and is most representative of our East Coast Canada operations, but due to data availability is inclusive of our other international and offshore activity, including non-operated assets.

V Local businesses/suppliers are those established in the region of operations (Newfoundland, Nova Scotia, United Kingdom and Norway). Beginning in 2014, local spend is reported on a Suncor-wide basis only.

Social[3]

Filter display

In the "Footnote" column, click on the down-arrow symbol to display the footnote.

Indicator	Unit	Footnote	GRI Disclosures	2011	2012	2013	2014	2015
Health and safety								
Employee lost-time injury frequency		W	G4-LA6	--	--	--	0	0.22
Contractor lost-time injury frequency		W	G4-LA6	--	--	--	0	0.16
Employee recordable injury frequency		W	G4-LA6	--	--	--	0.18	0.22
Contractor recordable injury frequency		W	G4-LA6	--	--	--	0.40	0.16
Fatalities		W	G4-LA6	--	--	--	0	0
Employee relations								
Employees receiving performance reviews	%		G4-LA11	98	100	100	100	100
Training and development	$ thousands	X	G4-LA9	837	435	956	2,008	157
Ratio of lowest wage to minimum wage	%	Y	G4-EC5	2	1.3	2.4	2.4	2.6
Ratio of average wage to minimum wage	%	Y	G4-EC5	5.2	5.6	6.6	6.4	5.3
Ratio of jobs offered to jobs accepted	%	Z		1.24	1.22	1.13	--	--
New employee hires:		AA	G4-LA1					
• Male	%		G4-LA1	--	73.5	66.7	80.0	92.3
• Female	%		G4-LA1	--	26.5	33.3	20.0	7.7
• Age less than 30	%		G4-LA1	--	29.4	22.2	8.6	30.6
• Age 30 to 50	%		G4-LA1	--	52.9	68.9	82.9	53.8
• Age greater than 50	%		G4-LA1	--	17.6	8.9	8.6	15.4
Employee turnover:	%		G4-LA1	1.8	17.3	4	9.2	11.7
• Male	%		G4-LA1	1	17	4.1	7.4	12.1
• Female	%		G4-LA1	4.2	6.4	3.6	15.3	11.5
• Age less than 30	%		G4-LA1	3	21.2	6.1	3.2	4.8
• Age 30 to 50	%		G4-LA1	2.5	19.3	3.9	12.4	12.6
• Age greater than 50	%		G4-LA1	0	12.4	2.9	4.6	11.2

Workforce								
Suncor employees			G4-10	551	367	317	448	360
• Full-time			G4-10	547	356	306	437	351
• Part-time			G4-10	0	10	10	10	9
• Temporary/casual			G4-10	4	1	1	1	0
• Long-term contractors			G4-10	22	30	43	56	75
Workforce unionized	%		G4-11	11.3	0	0	15	18.9
Equal opportunity and workforce diversity		BB						
Aboriginals	%	BB	G4-LA12	0.5	0.05	0.3	0.9	1.1
Visible minorities	%	BB	G4-LA12	3.6	6.5	7.6	4.0	3.9
Persons with disabilities	%	BB	G4-LA12	0.7	0.5	0.3	0.7	0.6
Women	%	BB	G4-LA12	21.4	25.6	26.2	21.9	16.9
Men	%	BB	G4-LA12	71.7	72.2	69.4	75.0	78.3
Age less than 30	%		G4-LA12	6	9	10.4	6.9	5.8
Age 30 to 50	%		G4-LA12	57.9	53.7	56.2	59.6	61.9
Age greater than 50	%		G4-LA12	33.6	37.3	33.1	34.2	32.2
Percentage of basic salary (women to men):			G4-LA13					
• Management	%	CC	G4-LA13	64	63	77	--	--
• Professional	%		G4-LA13	81	82	84	--	--
• Business support	%	CC	G4-LA13	131	--	206	--	--
• Operations	%	CC	G4-LA13	76	104	--	--	--
Diversity in management	% in management							
Employees in management	%		G4-LA13	14.7	19.6	29	19.6	21.7
Women in management	%		G4-LA13	14.8	12.5	14.1	17.0	16.7
Persons with disabilities in management	%		G4-LA13	0	0	0	0	0
Age less than 30 in management	%		G4-LA13	0	0	0	0	0
Age 30 to 50 in management	%		G4-LA13	53.1	45.8	48.9	58	61.5
Age greater than 50 in management	%		G4-LA13	46.9	54.2	51.1	42	38.5

East Coast Canada social footnotes

3 Beginning in 2014, health and safety, employee relations, and workforce data reported here includes our entire Exploration & Production business segment, including East Coast Canada, North America Onshore, and non-operated international & offshore assets.

W Beginning in 2014, health and safety data reported here represents our Exploration & Production business segment, including East Coast Canada and North America Onshore. In previous years, this had been included under North America Onshore performance data, but due to significant divestments in our conventional natural gas business in 2013 and 2014, this data is reported with East Coast Canada.

A lost-time injury requires medical attention and results in an employee being absent from work on the next regularly scheduled workday or any subsequent workday. Lost-time injury frequency is the number of such injuries per 200,000 hours worked, divided by the number of exposure hours.

Recordable injuries include lost-time injuries as well as medical aid injuries. Medical aid injuries require medical attentions but do not result in an employee being absent from work. Recordable injury frequency is the sum of lost time and medical aid injuries per 200,000 hours worked, divided by the number of exposure hours.

X Fees for professional development courses taken by Suncor employees.

Y Compares full-time base wage to the province of Alberta's minimum wage ($11.20/hour in 2015). Beginning in 2014, Alberta's minimum wage was used across our operations for this metric for comparison purposes due to the minimal variances of minimum wages across Canada.

Z Beginning in 2014, this indicator is reported Suncor-wide.

AA Any externally-hired regular full-time or regular part-time employee whose permanent start date falls within the reporting period. Suncor began reporting this indicator in 2012.

BB Certain operating regions prohibit collecting information on gender; therefore data presented here 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 consent for release of this information have been included.

CC Beginning in 2014, salary comparison data between women and men is reported on a Suncor-wide basis as position levels are corporately administered and do not differ based on operating areas.

In 2012, there were no males in business support roles. In 2013 there were no females in operations roles.

Refining & Marketing

We operate facilities in the Refining & Marketing (R&M) business segment in Alberta, Ontario, Quebec and Colorado. R&M also includes emissions data from Suncor's Canadian terminals and pipelines, which account for a small percentage of the total R&M numbers and are deemed to be negligible. Suncor Montreal Sulphur Plant data is also included from the purchase date in July, 2014. Data from these R&M facilities are consolidated here for reporting purposes.

Expand all | Collapse all

Environment

Filter display

In the "Footnote" column, click on the down-arrow symbol to display the footnote.

Indicator	Unit	Footnote	GRI Disclosures	2011	2012	2013	2014	2015
Production								
Net production	million cubic metres (m^3) saleable yield / year	A	OG1	26.32	27.21	27.09	26.91	27.37
Air emissions								
Greenhouse gas (GHG)	thousand tonnes carbon dioxide equivalent (CO_2e)	B	G4-EN15 G4-EN16	5,323	5,420	5,406	5,467	5,438

GHG emissions intensity	tonnes CO_2e / m^3 production		G4-EN18	0.2	0.2	0.2	0.2	0.2
Indirect (Scope 3) GHG emissions	thousand tonnes CO_2e	C	G4-EN17	1,360	1,473	1,523	1,369	1,462
Sulphur dioxide (SO_2)	thousand tonnes	D	G4-EN21	8.75	5.77	6.13	5.86	5.36
SO_2 emissions intensity	kilograms (kg) / m^3 production		G4-EN21	0.33	0.21	0.23	0.22	0.20
Nitrogen oxides (NO_x)	thousand tonnes		G4-EN21	4.41	4.53	4.55	4.00	3.83
NO_x emissions intensity	kg / m^3 production		G4-EN21	0.17	0.17	0.17	0.15	0.14
Volatile organic compounds (VOCs)	thousand tonnes		G4-EN21	4.36	4.25	4.68	4.38	4.37
• Benzene	tonnes		G4-EN21	48.14	46.37	46.48	40.09	39.62
• Toluene	tonnes		G4-EN21	125.93	123.86	115.85	116.91	104.31
• Ethylbenzene	tonnes		G4-EN21	11.19	10.51	10.16	9.63	10.03
• Xylene	tonnes		G4-EN21	64.57	62.27	58.91	59.42	57.30
VOC emissions intensity	kg / m^3 production		G4-EN21	0.17	0.16	0.17	0.16	0.16
National Pollutant Release Inventory (NPRI) on-site releases	thousand tonnes	E	G4-EN21	23.41	20.01	20.84	20.32	19.79
Flared gas	million m^3		OG6	109	71.9	100.7	101.87	110.12
Flared gas intensity	m^3/m^3 production		OG6	4.14	2.64	3.72	3.79	4.02
Energy consumption								
Total energy use	million gigajoules (GJ)	F	G4-EN3 G4-EN4	84.24	83.23	84.37	86.18	88.07
• Direct energy use	million GJ	G	G4-EN3	72.9	71.5	72.5	74.03	75.99
• Indirect energy use	million GJ	G	G4-EN4	11.34	11.71	11.83	12.14	12.08
Energy intensity	GJ / m^3 production		G4-EN5	3.2	3.1	3.1	3.2	3.2
Electricity imports	million gigajoules		G4-EN3	5.96	6.08	6.25	5.97	5.07
Electricity import intensity	GJ / m^3 production		G4-EN3	0.23	0.22	0.23	0.22	0.23
Steam imports	million gigajoules		G4-EN3	5.38	5.63	5.59	6.17	5.76

Steam import intensity	GJ / m^3 production		G4-EN3	0.2	0.21	0.21	0.23	0.21
Energy saved through conservation and efficiency improvements	thousand GJ		G4-EN6	874.53	1,387.18	515.45	200.78	640.38
Water use								
Total water withdrawal	million m^3		G4-EN8	79.95	82.33	77.83	83.05	91.17
• Surface water withdrawal	million m^3	H	G4-EN8	68.63	70	64.72	71.33	79.27
• Groundwater withdrawal	million m^3		G4-EN8	0.5	0.6	0.6	0.3	0.3
• Municipality, city or district water withdrawal	million m^3	I	G4-EN8	2.91	3.07	2.95	2.44	3.18
• Treated wastewater from external organizations	million m^3	J	G4-EN8	1.79	2.7	1.54	1.29	1.51
• Industrial run-off water withdrawal	million m^3	K	G4-EN8	6.12	5.95	8.02	7.67	6.89
Total water withdrawal intensity	m^3 / m^3 production		G4-EN8	3.04	3.03	2.87	3.09	3.33
Water returned	million m^3		G4-EN22	68.2	65.46	61.39	72.21	73.88
Water consumption	million m^3	K		11.75	16.87	16.44	10.92	17.28
Water consumption intensity	m^3 / m^3 production	K		0.45	0.62	0.61	0.41	0.63
Water discharge quality								
Oil and grease	tonnes		G4-EN22	18.53	24.52	16.81	14.84	16.76
Total suspended sediment	tonnes		G4-EN22	153.78	360.24	116.47	118.60	117.97
Phenol	tonnes		G4-EN22	0.09	0.08	0.25	0.34	0.19
Ammonia	tonnes		G4-EN22	9.44	14.47	6.56	7.84	6.66
Waste management		L						
Total hazardous waste generated	thousand tonnes	L	G4-EN23	19.9	1,317.07	1,239.30	1,283.91	1,062.27
• Hazardous waste incinerated	tonnes		G4-EN23	2,235.00	1,977.62	1,245.08	2,940.08	2,244.37
• Hazardous waste deep well injected	tonnes	M	G4-EN23	1,082.10	1,302,958.00	1,231,221.23	1,232,852.00	961,873.43

• Hazardous waste landfilled	tonnes	L	G4-EN23	15,296.10	7,205.94	1,907.53	734.19	3,265.96
• Hazardous waste otherwise disposed	tonnes	L	G4-EN23	1,303.20	4,932.98	4,925.45	5,248.60	3,920.04
• Hazardous waste recycled, recovered or reused	tonnes	L	G4-EN23	--	--	--	42,134.50	90,964.36
Total non-hazardous waste generated	thousand tonnes	L	G4-EN23	60	84.7	44.7	48.70	46.13
• Non-hazardous waste incinerated	tonnes		G4-EN23	223	145.05	158.1	174.00	660.00
• Non-hazardous waste deep-well injected	tonnes	N	G4-EN23	0	460.98	2,496.24	1,210.00	801.00
• Non-hazardous waste landfilled	tonnes		G4-EN23	41,968.70	39,475.28	16,672.11	22,785.54	26,239.54
• Non-hazardous waste otherwise disposed	tonnes	O	G4-EN23	17,827.60	16,173.55	25,407.47	3,241.22	3,587
• Non-hazardous waste recycled, recovered or reused	tonnes	L	G4-EN23	--	--	--	21,287.77	14,841.59
Waste reused, recycled, or recovered (off-site)	thousand tonnes	L	G4-EN23	86	69.16	55.23	--	--
Waste reused, recycled, or recovered (on-site)	thousand tonnes	L	G4-EN23	40.4	21.48	9.49	--	--
Products and services								
Ethanol blended into gasoline	thousand m^3	P	G4-EN27	927.9	979	828	1,000	1,027
Sulphur content of gasoline	parts per million (ppm)	Q	OG8	24.9	25.8	25.3	18.7	15.7
Compliance								
Regulatory contraventions	#	R	G4-EN29	32	18	23	13	19
Regulatory fines	$ thousands	S	G4-EN29	245	2,354	130	2,257	894
Reportable spills	#		G4-EN24	91	99	103	107	91

Total volume of reportable spills	m^3		G4-EN24	1,217	71.78	2,082.02	124	1,208.54
Air quality exceedances	#		G4-EN29	74	81	43	45	65
Water effluent exceedances	#		G4-EN29	0	0	0	2	5
Leaks from underground storage systems	#		G4-EN24	1	0	0	0	0
Environment, Health & Safety (EH&S) management								
EH&S professionals on staff	#	T	G4-EN31	81	85	92	94	–
Environmental capital expenditures	$ millions		G4-EN31	56.1	59.24	68.45	32.7	32.17

Refining & Marketing environment footnotes

A On a business unit level, net production is reported where interplant transfers have been identified and removed from the facility production total. This value is calculated by adding each of the Refining & Marketing (R&M) production volumes, which include saleable yield including light sweet synthetic crude oil (SCO), diesel, light sour SCO, bitumen and co-products, minus the transfers between R&M facilities. Terminals, Pipelines and the Montreal Sulphur Plant do not contribute to R&M production (denominator for GHG intensity), only absolute GHG emissions (numerator for GHG intensity) due to the definition of the corporate wide production metric.

B Greenhouse gas (GHG) emissions are calculated using a facility-specific methodology which utilizes various reference methodologies that have been accepted by the relevant jurisdictions within which each facility is required to report its GHG emissions. Methodology has been followed where a jurisdiction has a prescribed one and if none exists, then the most applicable and accurate methods available are used to quantify each emission source.

R&M emissions are inclusive of emissions from the pipeline from Oil Sands to the Edmonton Refinery as well as the pipelines from Firebag to Oil Sands and Fort Hills to Oil Sands. In addition, R&M emissions include emissions from the Burrard terminal station and the Montreal Sulphur Plant (purchased in 2014). These emission sources are broken out separately from other R&M sites in the 2015 GHG Performance section, classified as "Other".

For the Edmonton refinery, GHG emissions and emission intensity values are consistent with Suncor's Specified Gas Emitters Regulation (SGER) Bill 3 reported Total Annual Emission (TAE) values, with the exception that total indirect emissions have been included here. The production metric used for the SGER emissions intensity is different than what is used here. SGER production is a Refinery Activity Index based value and the production used for our Report on Sustainability is saleable yield. For our operations in Quebec and Ontario, the data is consistent with the guidelines for those provinces which are aligned with Western Climate Initiative. The only exception applies to provincial reports for our facilities in Ontario and Quebec which use the Intergovernmental Panel on Climate Change's (IPCC's) third assessment global warming potentials (GWPs). Our 2013, 2014 and 2015 Reports on Sustainability use IPCC's fourth assessment GWPs. For our Commerce City refinery, the data is consistent with the guidelines for the EPA's Mandatory Reporting Rule, with the exception of the emissions reported in Sub-part MM.

Scope 2 indirect emissions include those associated with the 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. Prior to 2014, emissions associated with the purchase of hydrogen had been included as an indirect Scope 2 source; however, it was brought to our attention that industry best practice is to include these emissions as an indirect Scope 3 source and therefore they have been removed from all reported data points and included in the indirect Scope 3 GHG category.

Carbon dioxide sold by the facilities is reported under indirect Scope 3 to be consistent with Ontario and Quebec regulatory guidance. Hydrogen purchased from third parties is also included in this category. These values are reported under indirect Scope 3 emissions in this table and in our Suncor-wide performance data.

C Indirect Scope 3 GHG emissions reported here include emissions related to purchased hydrogen and CO_2 streams that are sold to third parties. In 2013 it was brought to our attention that industry best practice for disclosing emissions associated with the purchasing of hydrogen should be classified as a Scope 3 indirect source as they do not fall under the Scope 2 indirect emission categories of purchased electricity, purchased steam, purchased heating or purchased cooling. Therefore purchased hydrogen emissions are reported as a Scope 3 source and have been removed from the Scope 2 indirect emissions category.

D The SO_2 emissions calculation methodology underwent a number of data and process improvements in 2012, which improved the understanding of site conditions for specific facilities.

E Data includes terminal emissions. More information about the Toxic Release Inventory (TRI) can be found on the Environmental Protection Agency website. Beginning in 2015, TRI releases are no longer reported in our Report on Sustainability.

F Total energy is the sum of direct and indirect energy. Data includes terminal and pipeline emissions.

G Direct energy is primary energy consumed on-site by Suncor-operated facilities; consumption includes refinery fuel gas, purchased natural gas and other internally produced fuels.

Indirect energy includes imported electricity, steam, heating, and cooling duty.

H Surface water:
- Sarnia: Estimated water withdrawal from the St. Clair River
- Edmonton: North Saskatchewan River
- Montreal: Beginning in 2010, water withdrawal from the St. Lawrence River is metered.
- Mississauga: Estimated water withdrawal from Lake Ontario

I Water purchased from municipality for domestic use with the exception of Commerce City where it is used for both domestic and process.

J Edmonton: Wastewater from Goldbar municipal treatment plant.

K Industrial run-off includes water withdrawn. This run-off volume is included as water returned or water consumed, as applicable to each facility. Water return destination for Refining & Marketing operations varies by facility (North Saskatchewan River, St. Lawrence River, Lake Ontario, St. Clair River and Sand Creek).

L Volume of waste varies from year to year due to periodic equipment maintenance including:
- changing catalyst in reactors and waste water treatment tank
- lagoon cleanouts
- operation shutdowns
- location-specific recycling programs

Prior to 2014, waste that was reused, recycled and recovered was not included in the totals for hazardous and non-hazardous waste generated and was reported as an aggregated total. Beginning in 2014, in order to provide a more detailed breakdown of the waste streams created due to our operations, we have included this category of waste in both hazardous and non-hazardous total waste generated.

M Hazardous waste to deep well injection is dependent on throughput volume, which influences water use.

N Beginning in 2012, experimentation of sending downhole water to external wastewater treatment plant required injection of non-compatible water downhole.

O Changes in water management strategy were made in 2012 that resulted in the creation of a waste stream that had not previously required active management. These changes were in place for all of the 2013 reporting year and thus contributed to a higher value for this metric in comparison to the previous year.

Beginning in 2014, waste water is no longer reported in waste disposal but is captured under the water return category of this report.

P Refineries that blend ethanol into gasoline are Sarnia, Montreal, Commerce City and Edmonton.

Q The volume is an annual average for Sarnia, Commerce City, Montreal and Edmonton refineries. Historically, data was calculated as the weighted average.

R A regulatory contravention is an environmental incident that breaches a regulatory limit (prescribed threshold required by legislation, approval or permit from a regulatory authority) or requirement (any law, act, regulation, licence, standard, approval, directive and/or permit applicable to Suncor's activities) and that triggers formal regulatory reporting.

S Data includes regulatory fines paid during the stated year.
The total fines paid in 2015 by our R&M business was $894,349. The breakdown of our downstream fines are as follows:

Commerce City refinery (fines paid for Commerce City are in $US):
In September 2015, our Commerce City refinery paid a penalty payment of $222,000 as a result of 2013-2014 air inspections. The total fine was broken down as follows:

- $214,050 Administrative penalty to Colorado Department of Public Health and Environment (CDPHE)
  - $42,810 in Cash Administrative Penalty to CDPHE
  - $171,240 went to Supplemental Environmental Projects.
- $7,950 in stipulated penalties related to Consent Decree violations
  - $3,975 to Environmental Protection Agency (United States)
  - $3,975 to CDPHE

On December 15, 2015 we also paid a $500,000 fine to the CDPHE in connection with the settlement of penalties related to the 2011 release of material to Sand Creek. Additionally, on or about December 30, 2015 a $5,500 fine was paid to the Federal Railroad Administration as settlement for an alleged violation of the Hazardous Materials Regulations in connection with rail car use at the Commerce City refinery.

Montreal refinery:
A fine was paid In March, 2015 for the following:

- Spill in the St-.Lawrence River - Statement of Offence paid in March 2015
- In 2014, Suncor received a 250K plus costs (total 272K) charge in connection with the September 28, 2010 spill in the St-Lawrence river. The total volume of diesel spilled was 950 barrels of which 880 barrels were contained and recovered at the site. Of the 35 barrels that reached the river, 30 barrels were contained and recovered at the site. Of the 35 barrels that reached the river, 30 barrels were contained in booms and recovered and the majority of the remaining five barrels that travelled downstream were recovered using absorbent materials and by cleaning up the north riverbank. Following negotiations with the Crown Prosecutor, a joint settlement was filed and approved by the Quebec courts on March 25, 2015 in which Suncor was held liable for offences to the Québec Environment Act and was fined $161,470.72 (140K plus costs). Payment of same was made accordingly in March 2015.

Sarnia:
On April 23, 2015 our Sarnia refinery paid a $5,378.25 fine to the Government of Ontario for an environmental penalty related to an incident that occurred on Dec 4, 2014, wherein our waste water effluent exceeded MISA limits for dissolved organic carbon and ammonia.

2014: On February 27, 2014, a Consent Decree entered into by Suncor Energy (U.S.A.) Inc. ("SEUSA"), was approved by the U.S. District Court for the District of Colorado. The Consent Decree related to alleged natural resource damages (NRD), including to groundwater, caused by a release of hydrocarbons from SEUSA's Commerce City Refinery into and around Sand Creek. SEUSA paid $1,887,000 ($US) to compensate for these alleged damages in exchange for a release from liability. In 2014, SEUSA also paid certain penalties to settle alleged violations resulting from an annual air audit of the Commerce City Refinery by the Colorado Department of Health & Environment (CDPHE), an Environmental Protection Agency (EPA) inspection, and under existing Clean Air Act Consent Decrees.

2013: In 2013, SEUSA paid certain penalties to settle alleged violations resulting from an annual air audit of the Commerce City Refinery by the Colorado Department of Health & Environment (CDPHE). Our Sarnia refinery was also ordered to pay an environmental penalty of $10,950 for a test failure in process effluent water. The test from the combined stream that enters the river passed, but the test of effluent water did not. In response to this, the refinery has established performance monitoring metrics for various waste water treatment parameters to allow for early indication of potential issues in the waste water treatment facility.

2012 - $1,956,194.45 was in settlement of Case No. 2011-049; $249,404.73 was in settlement of Case No. 2011-034; $148,637.42 was in settlement of Case No. 2012-087. $1,361,329.65 of this total was paid in supplemental environmental projects.

T Professionals dedicated to environment, health or safety matters. Professional Services Agreements (PSAs) and non-positioned contractors are not included in this total. Beginning in 2015, this indicator is reported on a Suncor-wide basis

Economic[1]

Filter display

In the "Footnote" column, click on the down-arrow symbol to display the footnote.

Indicator	Unit	Footnote	GRI Disclosures	2011	2012	2013	2014	2015
Tax and royalty credits earned	$ millions		G4-EC4	1.6	4.7	1.9	3.3	2.3
Investments								
Capital and exploration expenditures	$ millions		G4-EC1	633	644	890	1,021	821
Purchases								
Goods and services	$ millions			1,790	1,715	2,309	2,815	2,638
Goods and services purchased in or from:								
• Canada	$ millions			1,355	1,302	1,845	2,356	2,103

• Local businesses and suppliers	$ millions	U	G4-EC9	1,178	1,354	1,821	2,290	2,071

Refining & Marketing economy footnotes

1 For complete disclosure of financial information, see our 2015 Annual Report (PDF, 136 pp. 2.80MB)

U Local is defined as spend with businesses/suppliers based in Ontario, Quebec, Alberta and Colorado. Data includes all local spend from Suncor's Refining & Marketing operations.

Social

Filter display

In the "Footnote" column, click on the down-arrow symbol to display the footnote.

Indicator	Unit	Footnote	GRI Disclosures	2011	2012	2013	2014	2015
Health and safety		V						
Employee lost-time injury frequency		W	G4-LA6	0.09	0	0.15	0.05	0.06
Contractor lost-time injury frequency		W	G4-LA6	0.03	0.09	0.19	0.09	0.07
Employee recordable injury frequency		X	G4-LA6	0.41	0.15	0.36	0.25	0.26
Contractor recordable injury frequency		X	G4-LA6	0.61	0.42	0.67	0.50	0.54
Fatalities			G4-LA6	0	0	0	0	0
Employee relations								
Employees receiving performance reviews	%		G4-LA11	96	100	100	100	100
Training and development	$ thousands	Y	G4-LA9	3,889	4,943	3.833	3,745	1,401
Ratio of lowest wage to minimum wage		Z	G4-EC5	1	1.2	2.1	1.19	2.2
Ratio of average wage to minimum wage		Z	G4-EC5	4.3	4.6	4.8	5.0	4.7
Ratio of jobs offered to jobs accepted		AA		1.02	1.01	1.02	--	--
New employee hires:	%	BB	G4-LA1					
• Male	%		G4-LA1	--	70.5	81.6	79.8	79.8
• Female	%		G4-LA1	--	29.5	18.4	20.2	20.2
• Age less than 30	%		G4-LA1	--	41	40.2	34.8	48.1
• Age 30 to 50	%		G4-LA1	--	52.1	54	55.3	48.8
• Age greater than 50	%		G4-LA1	--	6.9	5.4	9.9	3.1
Employee turnover:	%		G4-LA1	2	3.6	1.3	1.7	3.0
• Male	%		G4-LA1	1.9	3.9	1.2	1.7	2.9

• Female	%		G4-LA1	2.7	0.6	1.8	1.5	3.2
• Age less than 30	%		G4-LA1	5.9	4.6	3.2	2.2	4.1
• Age 30 to 50	%		G4-LA1	2.5	4.1	1.7	4.3	3.7
• Age greater than 50	%		G4-LA1	0.2	2.6	0.3	1.7	1.4
Workforce								
Suncor employees	#	CC	G4-10	3,332	3,145	3,255	3,567	3,416
• Full-time	#		G4-10	3,248	3,083	3,178	3,492	3,356
• Part-time	#		G4-10	0	9	10	58	19
• Temporary/casual	#		G4-10	84	53	67	138	41
Long-term contractors	#	CC	G4-10	624	407	399	354	313
Workforce unionized	%		G4-11	33.2	40.3	35.4	37.3	38.2
Equal opportunity and workforce diversity		DD						
Aboriginals	%	DD	G4-LA12	1.3	1.3	1.1	0.9	0.8
Visible minorities	%	DD	G4-LA12	7.9	8.3	11.3	10.9	10.5
Persons with disabilities	%	DD	G4-LA12	1.3	1.2	1.1	0.9	0.8
Women	%	DD	G4-LA12	20	19.2	18.8	20	20
Men	%	DD	G4-LA12	80	79.8	79.1	80.0	80
Age less than 30	%		G4-LA12	10.2	9.7	10.4	11.0	10.7
Age 30 to 50	%		G4-LA12	52	53.3	52.6	55.2	54.8
Age greater than 50	%		G4-LA12	36.5	36	34.8	34.2	33.2
Ratio of basic salary of men to women:								
• Management female	%	EE	G4-LA13	92.5	93.6	91.1	--	--
• Professional female	%	EE	G4-LA13	76.5	83.9	83.9	--	--
• Business support female	%	EE	G4-LA13	94.3	78.5	84.7	--	--
• Operations female	%	EE	G4-LA13	80.9	101.5	101.1	--	--
Diversity in management								
Employees in management	%		G4-LA12	14	15.2	15.5	15.9	16.3
Women in management	%		G4-LA12	18	18.4	19.4	20.0	20.0
Persons with disabilities in management	%		G4-LA12	1.9	1.5	1.4	1.1	0.9
Age less than 30 in management	%		G4-LA12	1.9	1.7	2	1.6	1.6
Age 30 to 50 in management	%		G4-LA12	58	58.5	58.2	58.3	57.2
Age greater than 50 in management	%		G4-LA12	39.6	39.8	39.6	40.1	41.2

Refining & Marketing social footnotes

V Our U.S. operations use the Occupational Health and Safety Administration (OSHA) definitions to classify their injuries, which differ slightly from Canadian standards. For the most part, OSHA is a more rigorous classification standard than current Canadian standards. Beginning in 2014, R&M health and safety data reported here includes our St. Clair ethanol plant.

W A lost-time injury requires medical attention and results in an employee being absent from work on the next regularly scheduled work day or any subsequent work day. Lost-time injury frequency is the number of such injuries per 200,000 hours worked, divided by the number of exposure hours.

X Recordable injuries include lost time injuries as well as medical aid injuries. Medical aid injuries require medical attentions but do not result in an employee being absent from work. Recordable injury frequency is the sum of lost time and medical aid injuries per 200,000 hours worked, divided by the number of exposure hours.

Y Fees for professional development courses taken by Suncor employees.

Z Compares full-time base wage to the province of Alberta's minimum wage ($11.20/hour in 2015). Beginning in 2014, Alberta's minimum wage was used across our operations for this metric for comparison purposes due to the minimal variances of minimum wage across Canada.

AA Beginning in 2014, this indicator is reported Suncor-wide.

BB Any externally-hired regular full-time or regular part-time employee whose permanent start date falls within the reporting period.

CC Employee is defined as 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.

Historical U.S.A. data long-term contractors include contractors at the refinery, based on full-time equivalent staff in the Denver office.

DD Certain operating regions prohibit collecting information on gender, therefore data presented here 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 consent for release of this information have been included.

EE Beginning in 2014, salary comparison data between women and men is reported on a Suncor-wide basis as position levels are corporately administered and do not differ based on operating areas.

Renewable energy

Our renewable energy interests include:

- Six operating wind power projects across Canada
- The St. Clair ethanol plant in Ontario

Performance data is reported for renewable energy assets we operate*, including:

- St. Clair ethanol plant
- Wind energy (consolidated data for wind projects operated by Suncor)

* For the purposes of this report, data for the St. Clair ethanol plant and wind energy has been reported separately from Refining and Marketing Canadian operations.

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St. Clair ethanol plant

We operate the St. Clair ethanol plant, Canada's largest ethanol facility, which opened in 2006 in the Sarnia-Lambton region of Ontario.

Beginning in 2014, health and safety data for the St. Clair ethanol plant is reported in the R&M performance data.

Expand all | Collapse all

Environment

Filter display

In the "Footnote" column, click on the down-arrow symbol to display the footnote.

Indicator	Unit	Footnote	GRI Disclosures	2011	2012	2013	2014	2015
Production								
Net ethanol production	million cubic metres (m^3) of oil equivalent / year	A	OG1	0.23	0.25	0.25	0.25	0.26
Net ethanol production	million litres of ethanol product / year		OG1	379.10	412.51	414.98	412.45	417.91

Air emissions								
Greenhouse gas (GHG)	thousand tonnes carbon dioxide equivalent (CO_2e)	B	G4-EN15 G4-EN16	158.71	167.12	169.52	164.76	168.94
GHG emissions intensity	tonnes CO_2e / m^3 production		G4-EN18	0.68	0.66	0.67	0.65	0.66
Indirect (Scope 3) GHG emissions	thousand tonnes CO_2e	C	G4-EN17	34.3	36.3	22.2	13.27	25.49
Biomass GHG emissions	thousand tonnes CO_2e / m^3 production		G4-EN15 G4-EN16	303.54	331.17	347.57	354.20	290.05
Biomass GHG emissions intensity	tonnes CO_2e / m^3 production		G4-EN17	1.31	1.31	1.37	1.40	1.13
Sulphur dioxide (SO_2)	tonnes		G4-EN21	57.26	63.15	61.77	61.90	62.65
SO_2 emissions intensity	kilograms (kg) / m^3 production		G4-EN21	0.25	0.25	0.24	0.25	0.24
Nitrogen oxides (NO_x)	tonnes		G4-EN21	109.35	115.38	117.06	117.49	120.51
NO_x emissions intensity	kg / m^3 production		G4-EN21	0.47	0.46	0.46	0.47	0.47
Volatile Organic Compounds (VOCs)	tonnes	D	G4-EN21	165.80	180.93	184.21	185.86	185.16
• Benzene	tonnes		G4-EN21	0.03	0.03	0.03	0.03	0.03
• Toluene	tonnes		G4-EN21	0.05	0.05	0.06	0.06	0.06
• Xylene	tonnes		G4-EN21	0.02	0.02	0.02	0.02	0.02
VOC emissions intensity	kg / m^3 production		G4-EN21	0.71	0.72	0.72	0.74	0.72
NPRI on-site releases	tonnes		G4-EN21	533.35	574.93	574.8	576.95	583.03
Energy consumption								
Total energy use	million gigajoules (GJ)	E	G4-EN3 G4-EN4	3.22	3.39	3.44	3.45	3.54
• Direct energy use	million GJ	E	G4-EN3	2.99	3.15	3.2	3.21	3.29
• Indirect energy use	million GJ	E	G4-EN4	0.24	0.24	0.24	0.24	0.24
Energy intensity	GJ / m^3 production		G4-EN5	13.89	13.42	13.55	13.67	13.82

Water use								
Total water withdrawal	million m^3		G4-EN8	0.94	1.06	1.05	1.04	1.08
• Water withdrawal (water purchased from municipality)	million m^3		G4-EN8	0.94	1.06	1.05	1.04	1.08
Water withdrawal intensity	m^3 / m^3 production		G4-EN8	4.03	4.18	4.12	4.10	4.22
Water returned	million m^3		G4-EN22	0.09	0.12	0.09	0.11	0.14
Water consumption	million m^3			0.85	0.94	0.96	0.93	0.94
Water consumption intensity	m^3 / m^3 production			3.65	3.71	3.77	3.66	3.68
Water discharge quality								
Oil and grease	tonnes		G4-EN22	0.35	0.36	0.29	0.31	0.24
Waste management		F						
Total hazardous waste generated	thousand tonnes	F	G4-EN23	0.008	0.004	0.03	0.06	0.03
• Hazardous waste incinerated	tonnes	G	G4-EN23	8.44	3.66	29.91	5.32	32.32
• Hazardous waste otherwise disposed or treated	tonnes	G	G4-EN23	--	--	--	50.87	0.11
• Hazardous waste reused, recycled or recovered	tonnes	F	G4-EN23	--	--	--	5.52	0.00
Total non-hazardous waste generated	thousand tonnes	F	G4-EN23	0.40	0.32	0.46	0.89	0.66
• Non-hazardous waste landfilled	tonnes	G	G4-EN23	395.98	316.11	459.94	871.97	608.53
• Non-hazardous waste reused, recycled or recovered	tonnes	F	G4-EN23	--	--	--	18.39	34.37
• Non-hazardous waste incinerated	tonnes	F	G4-EN23	--	--	--	--	0.21
• Non-hazardous waste incinerated	tonnes	F	G4-EN23	--	--	--	--	14.00

Waste reused, recycled and recovered (off-site)	tonnes	F	G4-EN23	8.67	14.01	18.38	–	–
Compliance								
Regulatory contraventions	#	H	G4-EN29	0	0	0	10	4
Regulatory fines	$ thousands		G4-EN29	0	0	0	0	0
Reportable spills	#		G4-EN24	0	0	0	0	0
• Spills to natural water bodies	#	I	G4-EN24	0	0	0	0	0
Total volume of reportable spills	m^3		G4-EN24	0	0	0	0	0
Air quality exceedances	#		G4-EN29	0	0	0	0	0
Industrial wastewater limit exceedances	#	J	G4-EN29	0	0	0	1	0
Environment, Health & Safety (EH&S) management								
EH&S professionals on staff	#	K	G4-EN31	2	2	1	–	–
Environmental capital expenditures	#	L	G4-EN31	–	–	–	–	0.26

St. Clair ethanol plant environment footnotes

A Total net production refers to ethanol production from the St. Clair ethanol plant, converted to cubic metres of oil equivalent, on an energy basis. In 2011, the ethanol plant was twinned and production therefore increased.

Cubic metres of oil equivalent may be misleading as an indicator of value. See "Advisories".

B Greenhouse gas (GHG) emissions are calculated using a facility-specific methodology which utilizes various reference methodologies that have been accepted by the relevant jurisdictions each facility is required to report its GHG emissions. Methodology has been followed where a jurisdiction has a prescribed one and if none exists, then the most applicable and accurate methods available are used to quantify each emission source. GHG emissions are consistent what is reported to the Ontario government. The only exception is the use of the Intergovernmental Panel on Climate Change's (IPCC's) third assessment global warming potentials (GWPs). Our 2013, 2014 and 2015 Reports on Sustainability use IPCC's fourth assessment GWPs.

The St. Clair ethanol plant's wastewater treatment system, Bio-Methanator, produces methane bi-product that is sent to its dedicated flare, the Bio-Methanator Flare. The calculated emissions from this source are based upon ICM's (ICM inc. designed the St. Clair ethanol plant) and additional derived emission factors, and assumed hours of operations as designed by ICM. The CO_2e emissions from the Bio-Methanator Flare are included in the total GHG emissions and accounts for less than 0.10% of the total GHG emissions. The flare volumes from this source aren't reported in our Report on Sustainability as the Bio-Methanator Flare emissions contributions are extremely low (,0.10%) and are calculated based upon conservative assumptions.

C Indirect Scope 3 GHG emissions reported here include emissions related to CO_2 streams that are sold to third parties. Note that this value has fluctuated year over year depending on supplier demand.

D Ethylbenzene is tracked and reported as per NPRI obligations, but not reported as a line item here as the threshold is too low.

E Total energy is the sum of direct and indirect energy.

Direct energy is energy consumed on-site by Suncor-operated facilities.

Indirect energy includes imported electricity, steam, heating and cooling duty from third parties.

F Prior to 2014, waste that was reused, recycled and recovered was not included in the totals for hazardous and non-hazardous waste generated and was reported as an aggregated total. Beginning in 2014, in order to provide a more detailed breakdown of the waste streams created due to our operations, we have included this category of waste in both hazardous and non-hazardous total waste generated. In 2015, we added the categories of: non-hazardous waste incinerated and non-hazardous waste otherwise disposed, as a result of further refining our waste streams.

G In general, waste volumes are dependent on activities conducted at site and can vary from year to year.

Hazardous waste is primarily generated from clean-out of trucks arriving at the ethanol plant. Volume is dependent on the condition of these trucks.

Reductions in 2012 were a result of process improvement with a contracted trucking company. In 2013, two spills of ethanol mixed with rainwater to the tank farm containment area contributed to a larger amount of hazardous waste generated. In 2014, hazardous waste volumes were influenced by the cleanup and disposal of a sulfuric acid tank leak into its containment area.

H In 2014, there were 10 contraventions related to the site's thermal oxidizer and minimum operating temperature limit prescribed in the site's Environmental Compliance Approval. Corrective actions were instituted on site including additional administrative and equipment controls, and scheduled system upgrades planned for implementation in 2017. The contraventions in 2015 were also related to the thermal oxidizer.

I Spills that enter the St. Clair River directly, or spills into collection systems that exceed downstream treatment capabilities and result in the release of substances into the St. Clair River.

J In 2014, there was a monthly exceedance of the Table 1 Effluent Limit for total phosphorous limit of 1.0 mg/L as outlined in the site's Environmental Compliance Approval. Corrective actions were instituted which led to site improvements, more effective responses to changes in parameters, and a decrease in the average phosphorous levels in the stormwater management pond.

K Professionals dedicated to environment, health or safety matters. Professional Services Agreements (PSAs) and non-positioned contractors are not included in this total. Beginning in 2014, the number of EH&S professionals on staff for the St. Clair ethanol plant is reported with Refining & Marketing performance data.

L Beginning in 2015 we started reporting our environmental capital expenditures for the St. Clair ethanol plant.

Economic

Filter display

Indicator	Unit	Footnote	GRI Disclosures	2011	2012	2013	2014	2015
Investments								
Capital and exploration expenditures	$ millions		G4-EC1	6	1	1	3	1

St. Clair ethanol plant economy footnotes

Wind energy

Suncor is involved in six operating wind power facilities. Performance data presented here only reflects facilities operated by Suncor.

Expand all | Collapse all

Environment[1]

Filter display

In the "Footnote" column, click on the down-arrow symbol to display the footnote.

Indicator	Unit	Footnote	GRI Disclosures	2012	2013	2014	2015
Production							
Net production	MWh	A	OG3	335,145	326,953	320,720	313,283
Air emissions							
Greenhouse gas (GHG)	thousands tonnes CO_2e	B	G4-EN15 G4-EN16	0.10	0.16	0.48	0.39
Sulphur dioxide (SO_2)	tonnes		G4-EN21	0	0	0	0
Nitrogen oxides (NO_x)	tonnes		G4-EN21	0.07	0.11	0.12	0.09
Volatile organic compounds (VOCs)	tonnes		G4-EN21	0	0.01	0.01	0
Energy consumption							
Total energy use	million GJ	C	G4-EN3 G4-EN4	-0.89	-1.17	-1.15	-1.12

• Direct energy use	million GJ	C	G4-EN3	0	0	0	0
• Indirect energy use	million GJ	C	G4-EN4	-0.89	-1.18	-1.15	-1.12
Water use							
Total water withdrawal	m^3	D	G4-EN8	78	128	260	170
Waste management							
Non-hazardous waste generated	tonnes	E	G4-EN23	<1	<1	0	0
Compliance							
Regulatory contraventions	#		G4-EN29	0	0	0	0
Regulatory fines	$ thousands		G4-EN29	0	0	0	0
Reportable spills	#		G4-EN24	0	0	0	0
Total volume of spills	m^3		G4-EN24	0	0	0	0
EH&S management							
EH&S professionals on staff	#		G4-EN31	0	0	0	0
Environmental capital expenditures	$ millions		G4-EN31	0	0	0	0

Wind environment footnotes

1 For the purposes of this report, only environmental performance data from Suncor operated facilities has been included. In 2014, this was Kent Breeze and Wintering Hills for full year operation. 2015 data includes Adelaide and partial year for Kent Breeze and Wintering Hills, up to their date of sale (see 2015 GHG Performance for more information)

A Total net production refers to electrical production, in megawatt hours, from the following Suncor wind facilities:

- Partial year production until date of sale: Kent Breeze (total capacity of 20MW)
- Partial year production until date of sale: Wintering Hills (total capacity of 88MW) in partnership with Teck
- Full year production: Adelaide (commissioned in 2015 with a total capacity of 40 MW)

Total net production from these facilities is not adjusted for ownership. Electrical production is not included in the Suncor corporate wide production metric at this time due to the definition of this metric.

B Greenhouse gas (GHG) emissions are calculated using a facility-specific methodology which utilizes various reference methodologies that have been accepted by the relevant jurisdictions each facility is required to report its GHG emissions. Methodology has been followed where a jurisdiction has a prescribed one and if none exists, then the most applicable and accurate methods available are used to quantify each emission source. Beginning in 2014 until its sale in 2015, electricity use for the Wintering Hills facility has been accounted for. 2012 and 2013 emissions are slightly lower as only Kent Breeze electricity use was included. No credit is taken for generated wind offsets.

C Total energy is the sum of direct and indirect energy.

Direct energy is primary energy consumed on-site by Suncor-operated facilities, which includes natural gas consumed in backup generators.

Indirect energy includes electricity consumed for field offices, which includes natural gas consumed in backup generators. Electricity that is sold to provincial grids is converted to an equivalent amount in GJs and deducted from the total indirect energy. This explains why Wind's indirect energy is reported as a negative value since the wind operations export more electricity than they consume.

D Water withdrawal for our operated wind facilities is comprised of water purchases from municipality for domestic purposes, and is subject to variability.

E Non-hazardous waste for our operated wind facilities is primarily composed of domestic landfill waste.

Major Projects

The Major Projects business area is responsible for providing project management, procurement and construction expertise for large growth projects across the company. Performance data for Major Projects is limited to selected indicators.

Expand all | Collapse all

Environment

Filter display

In the "Footnote" column, click on the down-arrow symbol to display the footnote.

Indicator	Unit	Footnote	GRI Disclosures	2011	2012	2013	2014	2015
Compliance								
Regulatory contraventions	#	A	G4-EN29	3	2	13	0	2
Regulatory fines	$	B	G4-EN29	0	0	0	0	0
Volume of spills	cubic metres (m^3)		G4-EN24	0	0.63	1.06	0	3.41
Environment, Health & Safety (EH&S) management								
EH&S professionals on staff	#	C	G4-EN31	27	36	51	51	-

Major Projects environmental footnotes

A In 2015, there were two contraventions that occurred at a wind farm construction site related to tree clearing outside the approved boundary and equipment installed outside the approved boundary.

B Data includes regulatory fines related to environmental, health and safety contraventions paid during the stated year.

In 2015, the four largest spills were related to a generator coolant spill (0.7 m^3), two unplanned sewage releases (0.7 m^3), and a propane release (0.3 m^3).

C Professionals dedicated to environment, health or safety matters. Professional Service Agreements (PSAs) and non-positioned contractors are not included in this total. Beginning in 2015, the number of EH&S professionals is reported at a Suncor-wide level only.

Economic

Filter display

In the "Footnote" column, click on the down-arrow symbol to display the footnote.

Indicator	Unit	Footnote	GRI Disclosures	2011	2012	2013	2014	2015
Purchases								
Goods and services	$ millions	D		2,422	2,755	2,098	2,236	1,984
Goods and services purchased in or from:								
• Canada	$ millions	D	G4-EC9	2,247	2,632	1,972	2,010	1,720

Major Projects economic footnotes

D Goods and services purchased from local and Aboriginal businesses are reported in Suncor-wide performance data. Purchases in Canada represent a sub-set of the total goods and services purchased.

Social

Filter display

In the "Footnote" column, click on the down-arrow symbol to display the footnote.

Indicator	Unit	Footnote	GRI Disclosures	2011	2012	2013	2014	2015
Health and safety								
Employee lost-time injury frequency		E	G4-LA6	0	0	0	0	0
Contractor lost-time injury frequency		E	G4-LA6	0.03	0.09	0	0.64	0
Employee recordable injury frequency		F	G4-LA6	0.17	0	0	0	0
Contractor recordable injury frequency		F	G4-LA6	0.83	0.83	1.07	0.61	0.58
Fatalities			G4-LA6	0	0	0	0	0

Major Projects social footnotes

E A lost time injury requires medical attention and results in an employee being absent from work on the next regularly-scheduled workday or any subsequent workday. Lost time injury frequency is the number of such injuries per 200,000 hours worked, divided by the number of exposure hours.

F Recordable injuries include lost time injuries as well as medical aid injuries. Medical aid injuries require medical attention but do not result in an employee being absent from work. Recordable injury frequency is the sum of lost time and medical aid injuries per 200,000 hours worked, divided by the number of exposure hours.

GRI content index

> This Report on Sustainability has been prepared in accordance with the Global Reporting Initiative (GRI) G4 guidelines and Oil and Gas Sector Disclosures to the 'Core' option.

Additionally, our 2016 Communication on Progress, detailing our commitment and implementation of the United Nations Global Compact (UNGC) principles has been integrated throughout this report.

The tables below provide information about:

- G4 standard disclosures and material issues (aspects) covered in this report
- UNGC principles addressed
- where to find additional information, either within this report, or other public disclosures, and
- G4 standard disclosures that have been externally assured

Read more about:

- GRI
- UNGC

General standard disclosures

These general standard disclosures describe our organization and sustainability reporting processes.

Expand all | Collapse all

Strategy and analysis

General	Link or direct answer	External	UNGC

Standard Disclosures		Assurance	
G4-1	• CEO message • Vision and strategy	-	
G4-2	• Breaking barriers • Climate change • Economic (All sections) • Contribution to the economy • Environment (All sections) • Goals and progress • Managing enterprise risk • Social (All sections)	-	

Organizational profile

General Standard Disclosures	Link or direct answer	External Assurance	UNGC
G4-3	Suncor Energy Inc.	-	
G4-4	Our operations	-	
G4-5	Calgary, Alberta Canada	-	
G4-6	Our operations	-	
G4-7	Our operations	-	
G4-8	Our operations	-	
G4-9	Our operations [Performance data > Economic > Revenues, market capitalization]: • Suncor-wide [Performance data > Social > Suncor employees and contractors]: • Suncor-wide	-	
G4-10	Total workforce by employment type, contract, and region, and gender by total workforce, by location are reported in the following pages in this report: [Performance data > Social > Suncor employees and contractors]: • Suncor-wide • Oil Sands • In Situ • East Coast Canada • Refining & Marketing No data management system is currently in place to report all employment types by gender (contractors). We anticipate fully reporting this indicator in 2017.	-	6
G4-11	[Performance data > Social > Workforce unionized]: • Suncor-wide • Oil Sands • In Situ • East Coast Canada • Refining & Marketing For additional information related to our employees and collective agreements, see our Annual Information Form dated February 25, 2016, p. 24 (PDF, 94 pp., 353 KB)	-	3
G4-12	Contribution to economy	-	
G4-13	Performance data	-	
G4-14	Vision and strategy	-	
G4-15	• Land and biodiversity • Partnerships and collaboration • Public policy participation	-	

G4-16	Partnerships and collaboration	-	

Identified material aspects and boundaries

General Standard Disclosures	Link or direct answer	External Assurance	UNGC
G4-17	Suncor Energy Inc. Annual Report 2015, pp. 21-22 (PDF, 136 pp. 2.8 MB) For more information about the entities not covered in this report, refer to the performance data page(s).	-	
G4-18	Materiality review	-	
G4-19	Materiality review	-	
G4-20	• Materiality review • Performance data	-	
G4-21	• Materiality review • Performance data	-	
G4-22	Any re-statements of information provided in earlier reports and reasons for re-statements can be found throughout the performance data pages and accompanying footnotes for specific indicators that have been restated.	-	
G4-23	Significant changes from previous reporting periods in scope, boundary or measurement methods can be found on the performance data page as well as introductory statements for specific business segment performance data pages.	-	

Stakeholder engagement

General Standard Disclosures	Link or direct answer	External Assurance	UNGC
G4-24	Social responsibility	-	
G4-25	Social responsibility	-	
G4-26	• Materiality review • Social responsibility	-	
G4-27	• Air quality • Climate change • Land and biodiversity • Materiality review • Tailings management • Water use	-	

Report profile

General Standard Disclosures	Link or direct answer	External Assurance	UNGC
G4-28	January 1 – December 31, 2015	-	
G4-29	July, 2015	-	
G4-30	Annual	-	
G4-31	1-866-SUNCOR-1 (1-866-786-2671) or email us	-	

G4-32	'In accordance' – Core • GRI content index • Performance data	-	
G4-33	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.	-	

Governance

General Standard Disclosures	Link or direct answer	External Assurance	UNGC
G4-34	Corporate governance For additional information about our corporate governance structure, and committees of the Board, refer to Schedule E: Corporate Governance Summary of our 2016 Management Proxy Circular (PDF, 106 pp., 909 KB).	-	
G4-35	Suncor Energy Inc. Management Proxy Circular 2016 (PDF, 106 pp., 909 KB) (Schedule E: Corporate Governance Summary - Risk Oversight, pp. E-3 to E-4) 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.	-	
G4-36	We have several senior leadership positions whose roles include sustainability oversight in the organization, including: • Executive Vice President, Business Services (directly reports to the CEO) • Sub-committee of the Executive Leadership Team (provides strategic oversight ensuring we have robust sustainability strategies and goals) • Vice President, Sustainability & Communications • General Manager, Sustainability	-	
G4-37	Social responsibility For additional information about stakeholder feedback with our Board of Directors, refer to our 2016 Management Proxy Circular (PDF, 106 pp., 909 KB) (Schedule E: Corporate Governance Summary – Communications/Disclosure Policy and Stakeholder Feedback, p. E-5)	-	
G4-38	Suncor Energy Inc. Annual Information Form dated February 25, 2016 (PDF, 94 pp., 353 KB) (Directors and executive officers, pp. 67-72)	-	
G4-39	Suncor Energy Inc. Management Proxy Circular 2016 (PDF, 106 pp., 909 KB) (Schedule F: Position description for independent board chair)	-	
G4-40	Suncor Energy Inc. Management Proxy Circular 2016 (PDF, 106 pp., 909 KB) (Schedule E: Corporate Governance Summary, pp. E-13 to E-16)	-	
G4-41	Suncor Energy Inc. Management Proxy Circular 2016 (PDF, 106 pp., 909 KB) (Schedule E: Corporate Governance Summary – Conflicts of Interest, p. E-10)	-	
G4-42	Suncor Energy Inc. Management Proxy Circular 2016 (PDF, 106 pp., 909 KB) (Schedule H: Board Terms of Reference – Part IV: Mandate of the Board of Directors, pp. H-4 to H-6)	-	
G4-43	Suncor Energy Inc. Management Proxy Circular 2016 (PDF, 106 pp., 909 KB) (Schedule E: Corporate Governance Summary – Orientation and Continuing Education, pp. E-8 to E-9) Additionally, our Board of Directors receive periodic reports from our Vice President, Sustainability & Communications. The Environment, Health, Safety & Sustainability Committee of the Board also receives quarterly updates and stewardship on our priority sustainability issues.	-	
G4-44	The Board completes an annual self-evaluation. For details, see the Suncor Energy Inc. Management Proxy Circular 2016 (PDF, 106 pp., 909 KB)(Schedule E: Corporate Governance Summary – Assessment of Directors, pp. E-14 to E-15) Specific information about topics reviewed and action plans that are developed are confidential and not reported.	-	

G4-45	The Board oversees Suncor's Enterprise Risk Management Program. For details, see the Suncor Energy Inc. Management Proxy Circular 2016 (PDF, 106 pp., 909 KB) (Schedule E: Corporate Governance Summary – Risk Oversight, pp. E-3 to E-4)	-	
G4-46	The Board oversees Suncor's Enterprise Risk Management Program. For details, see the Suncor Energy Inc. Management Proxy Circular 2016 (PDF, 106 pp., 909 KB) (Schedule E: Corporate Governance Summary – Risk Oversight, pp. E-3 to E-4)	-	
G4-47	The Board oversees Suncor's Enterprise Risk Management Program. For details, see the Suncor Energy Inc. Management Proxy Circular 2016 (PDF, 106 pp., 909 KB) (Schedule E: Corporate Governance Summary – Risk Oversight, pp. E-3 to E-4)	-	
G4-48	Our Executive Leadership Team, including the CEO, review and approve this report prior to publication.	-	
G4-49	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.	-	
G4-50	Throughout 2015, key issues 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.	-	
G4-51	Executive pay For more information, see the Suncor Energy Inc. Management Proxy Circular 2016 (PDF, 106 pp., 909 KB) (Board of Directors Compensation and Executive Compensation, pp. 38-43)	-	
G4-52	Suncor Energy Inc. Management Proxy Circular 2016 (PDF, 106 pp., 909 KB) (Board of Directors Compensation and Executive Compensation, pp. 33-38)	-	
G4-53	Suncor Energy Inc. Management Proxy Circular 2016 (PDF, 106 pp., 909 KB) (Advisory Vote on Approach to Executive Compensation, p. 15)	-	

Ethics and integrity

General Standard Disclosures	Link or direct answer	External Assurance	UNGC
G4-56	Ethical business conduct	-	10
G4-57	Ethical business conduct	-	10
G4-58	Ethical business conduct	-	10

Specific standard disclosures

These specific standard disclosures provide context for our management of and performance related to issues identified through our materiality review process.

Expand all | Collapse all

Category: Economic

DMA and Indicators	Link or direct answer *[Performance data section > Data category > Indicator]* *• Company total and/or by business area*	Omissions	External Assurance	UNGC
	Aspect: Economic performance			
G4-DMA	Economic		-	
G4-EC1	[Performance Data > Economic > Economic value generated and		-	

	distributed]: • Suncor-wide • Oil Sands • North America Onshore • East Coast Canada • Refining & Marketing • St. Clair ethanol plant [Performance Data > Social > Community Investment]: • Suncor-wide			
G4-EC2	• Breaking barriers • CEO message • Climate change action plan • Environment • Social responsibility • Suncor's 2016 CDP Climate Change submission, (pp. CC5 and CC6)			
G4-EC3	Suncor Energy Inc. Annual Report 2015, (pp. 98-101) (PDF, 136 pp., 3 MB)		-	
	• _____			
	Aspect: Market Presence			
G4-DMA	Economic		-	
G4-EC5	[Performance Data > Social > Ratios of lowest and average wage to minimum wage]: • Oil Sands • East Coast Canada • Refining & Marketing		-	
	Aspect: Indirect Economic Impacts			
G4-DMA	Economic		-	
G4-EC7	• Community investment • Contribution to economy		-	
			-	
	Aspect: Procurement Practices			
G4-DMA	Economic		-	
G4-EC9	[Performance Data > Economic > Purchases]: • Suncor-wide For more information regarding spending on locally based suppliers, view our Economic page.		-	
OG1	[Performance Data > Environment > Production]: • Suncor-wide • Oil Sands • In Situ • North America Onshore • East Coast Canada • Refining & Marketing • St. Clair ethanol plant		Yes Performance Data	

Category: Environmental

DMA and Indicators	Link or direct answer *[Performance data section > Data category > Indicator]* *• Company total and/or by business area*	Omissions	External Assurance	UNGC
	Aspect: Energy			
G4-DMA	Environment		-	
G4-EN3	[Performance Data > Environment > Energy use]: • Suncor-wide • Oil Sands • In Situ • North America Onshore • East Coast Canada • Refining & Marketing • St. Clair ethanol plant • Wind energy Suncor's 2016 CDP Climate Change Response, (p. CC11)		-	7, 8
G4-EN4	[Performance Data > Environment > Energy use]: • Suncor-wide • Oil Sands • In Situ • North America Onshore • East Coast Canada • Refining & Marketing • St. Clair ethanol plant • Wind energy Suncor's 2016 CDP Climate Change Response, (p. CC11)		-	8
G4-EN5	[Performance Data > Environment > Energy use]: • Suncor-wide • Oil Sands • In Situ • North America Onshore • East Coast Canada • Refining & Marketing • St. Clair ethanol plant • Wind energy		-	8
G4-EN6	[Performance Data > Environment > Reduction in energy consumption]: • In Situ • North America Onshore • East Coast Canada • Refining & Marketing		-	8,9
G4-EN7	• Renewables • Technology development		-	8,9
OG2	Suncor's 2016 CDP Climate Change Response, (p. OG6.1 and OG6.2)		-	8,9
OG3	[Performance Data > Environment > Production]: • Wind energy		-	8,9
	Aspect: Water			
G4-DMA	Environment		-	
G4-EN8	[Performance Data > Environment > Water withdrawal]: • Suncor-wide • Oil Sands • In Situ • North America Onshore • East Coast Canada • Refining & Marketing		Yes Performance Data	7, 8

	• [redacted] • [redacted]			
G4-EN9	Water stewardship Suncor's 2016 CDP Water response, (pp. CC1.2a, CC5.1 and CC5.1a)		-	8
	Aspect: Biodiversity			
G4-DMA	Environment		-	
G4-EN11	[Performance Data > Environment > Land holdings for potential and approved development]: • Oil Sands • In Situ Additional information: • Land and biodiversity		-	8
G4-EN12	[Performance Data > Environment > Total land disturbed]: • Oil Sands • In Situ Additional information: • Land and biodiversity		Yes Performance Data	8
G4-EN13	[Performance Data > Environment > Land reclaimed]: • Oil Sands • North America Onshore • In Situ Additional information: • Reclamation		Yes Performance Data	8
OG4	Land and biodiversity		-	
	Aspect: Emissions			
G4-DMA	Environment		-	
G4-EN15	[Performance Data > Environment > GHG emissions]: • Suncor-wide • Oil Sands • In Situ • North America Onshore • East Coast Canada • Refining & Marketing • St. Clair ethanol plant • Wind energy Additional information: • 2015 GHG performance • Suncor's 2016 CDP Climate Change Response, (pp. CC8-CC10)		Yes Performance Data	7, 8
G4-EN16	[Performance Data > Environment > GHG emissions]: • Suncor-wide • Oil Sands • In Situ • North America Onshore		Yes Performance Data	7, 8

	• East Coast Canada • Refining & Marketing • St. Clair ethanol plant • Wind energy Additional information: • 2015 GHG performance • Suncor's 2016 CDP Climate Change Response, (pp. CC8-CC10)			
G4-EN17	[Performance Data > Environment > GHG emissions]: • Suncor-wide		-	7, 8
G4-EN18	[Performance Data > Environment > GHG emissions]: • Suncor-wide • Oil Sands • In Situ • North America Onshore • East Coast Canada • Refining & Marketing • St. Clair ethanol plant • Wind energy		Yes Performance Data	8
G4-EN19	• Climate change action plan • Suncor's 2016 CDP Climate Change Response, (pp. CC3.2 and CC3.3)		-	8, 9
G4-EN20	[Performance Data > Environment > Ozone depleting substances]: • Oil Sands		-	7, 8
G4-EN21	[Performance Data > Environment > SO_2,NO_x and VOC emissions]: • Suncor-wide • Oil Sands • In Situ • North America Onshore • East Coast Canada • Refining & Marketing • St. Clair ethanol plant		-	7, 8
	Aspect: Effluents and waste			
G4-DMA	Environment		-	
G4-EN22	[Performance Data > Environment > Water discharge quality]: • Suncor-wide • Oil Sands • In Situ • North America Onshore • East Coast Canada • Refining & Marketing • St. Clair ethanol plant These reported water effluent discharges are planned and the water quality parameters must be analyzed and reported as per regulatory requirements. Unplanned water discharges are rare in normal operating conditions. We currently report the number of unplanned water discharge events as well as the number of effluent/wastewater limit exceedances for applicable business units (reported to regulators).	This information is currently unavailable. We are looking into collecting data to report the quantity and quality of unplanned water discharge events and whether water discharges are reused by another organization and expect to fully report on this indicator by 2017.	-	8
G4-EN23	[Performance Data > Environment > Hazardous and non-hazardous waste generated]: • Suncor-wide • Oil Sands • In Situ • North America Onshore • East Coast Canada • Refining & Marketing		-	8

	• St. Clair ethanol plant Additional information: • Tailings management			
G4-EN24	[Performance Data > Environment > Spills]: • Suncor-wide • Oil Sands • In Situ • North America Onshore • East Coast Canada • Refining & Marketing • St. Clair ethanol plant		-	8
G4-EN26	• Land and biodiversity • Tailings management • Water stewardship • Water quality monitoring		-	8
OG5	[Performance Data > Environment > Produced water]: • In Situ • North America Onshore • East Coast Canada		-	
OG6	Flared volumes are reported on the following pages: [Performance Data > Environment > Flared gas]: • Oil Sands • In Situ • North America Onshore • East Coast Canada • Refining & Marketing	We do not report vented gas as it is not material due to the operational practices we have in place to limit venting, such as vapour recovery units that are used on some of our storage tanks.	-	
OG7	[Performance Data > Environment > Drilling waste]: • In Situ • North America Onshore		-	
	Aspect: Products and services			
			-	
G4-EN27	[Performance Data > Environment > Ethanol blended into gasoline]: • Refining & Marketing Petro-Canada retail stations sell gasoline containing up to 10% ethanol in most markets. In addition, Petro-Canada fuels are Top Tier certified. Use of Top Tier qualified gasolines promotes cleaner engines, reduced emissions and optimal fuel economy. At our upgrader and all of our refining facilities, we have introduced ultra-low sulphur diesel (15 parts per million (ppm) sulphur or less) production to meet Canadian legislative requirements. Suncor supplies renewable content in diesel fuel, meeting a 2% federal mandate, a 4% mandate in British Columbia, 2% mandate in Ontario, and 2% mandates in Alberta, Saskatchewan and Manitoba. Renewable diesel fuel reduces carbon monoxide as well as particulate emissions, which contribute to smog. We also have a biodiesel mixing facility at our Fort McMurray facility (ATT Terminal), seasonally supplying the mine and the local market with up to 5% biodiesel. Note that the mine operates on ultra-low sulphur diesel with sulphur content of less than 15 ppm.		-	7-9
OG8	[Performance Data > Environment > Sulphur content in fuels]: • Refining & Marketing		-	
	Aspect: Compliance			
G4-DMA	Environment		-	
G4-EN29	[Performance Data > Environment > Regulatory contraventions and fines]: • Suncor-wide		-	8

	• Oil Sands • In Situ • North America Onshore • East Coast Canada • Refining & Marketing • St. Clair ethanol plant • Major Projects			
	Aspect: Overall			
G4-DMA	Environment		-	
G4-EN31	[Performance Data > Environment > EH&S management]: • Suncor-wide		-	
	Aspect: Environmental grievance mechanisms			
G4-EN34	In 2015, 36 grievances related to environmental impacts were documented through our formal grievance mechanism, most of which concerned turbine noise from wind power projects in Southern Ontario. 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. This is the first year we have reported grievances since implementing the grievance mechanism.		-	8

Category: Social

Expand all | Collapse all

Sub-category: Labour practices and decent work

DMA and Indicators	Link or direct answer *[Performance data section > Data category > Indicator]* *• Company total and/or by business area*	Omissions	External Assurance	UNGC
	Aspect: Employment			
G4-DMA	Our employees		-	
G4-LA1	[Performance Data > Social > New employee hires and employee turnover]: • Suncor-wide • Oil Sands • In Situ • East Coast Canada • Refining & Marketing		-	6
G4-LA2	Information about our approach to compensation and benefits can be found on our careers page at Suncor.com		-	
G4-LA3	[Performance Data > Social > Return to work and retention rates]: • Suncor-wide		-	6
	Aspect: Labour/management relations			
G4-DMA	Our employees		-	
G4-LA4	Skilled Labour		-	
	Aspect: Occupational health and safety			

G4-LA5	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.		-	
	[Performance Data > Social > Injury frequencies and fatalities]: • Suncor-wide • Oil Sands • In Situ • East Coast Canada • Refining & Marketing Occupational disease claims are also reported internally as well as to the regulators for the applicable jurisdiction. Suncor also reports internally on incidence rates for non-occupational illnesses through our Integrated Disability Management program on an enterprise-wide level as well as by business unit.		Yes Performance Data	
G4-LA7	Our operations are not in regions where our employees might inherently be at high risk to communicable diseases such as HIV/AIDS, malaria or tuberculosis, or other serious diseases. Read more about our approach to occupational health and wellness		-	
			-	
	Aspect: Training and education			
G4-DMA	Our employees		-	
G4-LA9	[Performance Data > Social > Training and development]: • Suncor-wide • Oil Sands • East Coast Canada • Refining & Marketing • St. Clair Ethanol plant	Data for the average hours of training per employee per year is currently unavailable. We recently transitioned to a new learning management system (LMS), allowing us to design, plan, deliver and track employee learning activities across the organization. This solution will allow us to report on this indicator fully by 2017.	-	6
G4-LA10	Building Talent		-	
G4-LA11	[Performance Data > Social > Employees receiving performance reviews]: • Suncor-wide • Oil Sands • In Situ • East Coast Canada • Refining & Marketing		-	6
	Aspect: Diversity and equal opportunity			
G4-DMA	Our employees		-	
G4-LA12	Directors and executive officers can be found in our Annual Information Form dated February 26, 2016 (PDF, 94 pp., 353 KB) (pp. 67-72) Employees by employee category are reported in the following performance data pages of this report: [Performance Data > Social > Minority group, gender and age indicators]: • Suncor-wide • Oil Sands • In Situ • East Coast Canada • Refining & Marketing		-	6

	Aspect: Equal remuneration for women and men			
G4-DMA	Our employees		-	
G4-LA13	[Performance Data > Social > Percentage of basic salary (women to men)]: • Suncor-wide		-	6

Sub-category: Society

DMA and Indicators	Link or direct answer *[Performance data section > Data category > Indicator]* *• Company total and/or by business area*	Omissions	External Assurance	UNGC
	Aspect: Indigenous Rights			
OG9	• Aboriginal Relations • Social responsibility		-	1, 2
	Aspect: Local communities			
G4-DMA	Social responsibility		-	
G4-SO1	• Social responsibility • Partnering with Aboriginal businesses		-	1
G4-SO2	Social responsibility		-	1
OG10	Social responsibility		-	
OG11	[Performance Data > Environment > Land disturbance & reclamation]: • In Situ • North America Onshore Additional information: • Reclamation		-	
	Aspect: Anti-corruption			
G4-DMA	Economic		-	
G4-SO3	Ethical business conduct Risks around bribery and corruption related to our foreign operations can be found in our Annual Information Form dated February 26, 2016 (PDF, 94 pp., 353 KB) (p. 61)		-	10
G4-SO4	• Economic • Ethical business conduct 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.		-	10
G4-SO5	No unlawful bribery or corruption incidents were recorded in 2015, nor were any such actions brought against Suncor.		-	10
	Aspect: Public policy			
G4-DMA	Public policy participation		-	
G4-SO6	[Performance Data > Economic > Political donations]: • Suncor-wide We provide financial donations to political parties at the provincial level in jurisdictions where we operate and where political contributions are permitted by law. In 2015, this included Alberta, British Columbia Ontario and Newfoundland. We do not make		-	10

	political contributions outside of Canada, or donate in-kind to political parties or individuals. We make political contributions to support the democratic process in Canada. Our Political Communications standard governs these contributions. All political contributions, including political fundraising events, are authorized and recorded by the vice president, government relations, within a pre-allocated budget approved by the executive vice president, business services. Contributions are reviewed annually by our executive leadership team.			
	Aspect: Anti-competitive behaviour			
G4-DMA	Economic		-	
G4-SO7	Ethical business conduct No regulatory enforcement actions were initiated for anti-competitive conduct against Suncor in 2015. 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.		-	
	Aspect: Compliance			
G4-DMA	Economic		-	
G4-SO8	There were no material fines or non-monetary sanctions levied on Suncor in 2015 for non-compliance with laws and regulations.		-	
	Aspect: Asset integrity and process safety			

Sub-category: Product responsibility

DMA and Indicators	Link or direct answer *[Performance data section > Data category > Indicator]* *• Company total and/or by business area*	Omissions	External Assurance	UNGC
OG14	[Performance Data > Environment > Net production] • St. Clair ethanol plant [Performance Data > Environment > Ethanol blended into gasoline] • Refining & Marketing	We currently do not have formal processes in place that establish sustainability criteria for the biofuels we produce or purchase. Sustainability criteria for our produced/purchased biofuels aren't material for Suncor and therefore are not reported.	-	8,9

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Advisories

Advisories

Forward-looking statements

Suncor's 2016 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 2016 Report on Sustainability include references to: Suncor's mission, vision and strategies, including to strive to be the low-cost competitor in its sector without compromising environmental performance, to deliver long term value for shareholders, to achieve the highest returns possible from its operations, to keep costs down, and to increase reliability; Suncor's expectation that fossil fuels will remain a key source of reliable and affordable energy for the foreseeable future; Suncor's sustainability goals, including the goal to decrease overall greenhouse gas ("GHG") emissions intensity of its production of oil and petroleum products by 30% by 2030, the social goal relating to strengthening Suncor's relationships with Aboriginal Peoples of Canada, and Suncor's intention to create a long-term goal relating to water conservation; the expected impact of achieving the sustainability goals; Suncor's expectations (including anticipated results and advantages) and plans around technologies being introduced or that may be introduced across Suncor, including those related to electromagnetically assisted solvent extraction, surfactants, solvents, non-condensable gas co-injection, direct contact steam generation, produced water treatment, carbon capture, decarbonization, paraffinic froth treatment, tailings management, autonomous haulage systems, lubricants, land reclamation, flaring and coke capping; timelines and plans relating to technology development; the expected results of and timing for the Energy Management System; possible initiatives that could be undertaken to achieve Suncor's sustainability goals; Suncor's intention to continue to invest in technology development; the expectation that first oil from the Fort Hills project will be achieved in the fourth quarter of 2017 with 90% of its planned capacity being reached within 12 months thereafter; the expectation that the Fort Hills project will have a production capacity of 180,000 barrels per day of bitumen and that this will add over 3 megatonnes of CO_2e to Suncor's operated GHG emission profile; expected impacts of changing regulations; expectations for the Water Technology Development Centre and the timeline for opening it; expectations and timing for water use projects; and the expectation that the first commercial-scale biodiesel plant in which Suncor is participating will be operational in 2016. Some of the forward-looking statements and information may be identified by words like ''expects'', ''anticipates'', ''will'', ''estimates'', ''plans'', ''scheduled'', ''intends'', ''believes'', ''projects'', ''indicates'', ''could'', ''focus'', ''vision'', ''goal'', ''outlook'', ''proposed'', ''target'', ''objective'', ''continue'', ''should'', ''may'', ''aims'', ''strives'', ''would'', ''potential'' 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; capital efficiencies and cost-savings; applicable royalty rates and tax laws; future production rates; the sufficiency of budgeted capital expenditures in carrying out planned activities; the availability and cost of labour and services; and the receipt, in a timely manner, of regulatory and third-party approvals. Forward-looking statements and information 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; 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 taxes or changes to fees and royalties, such as the notices of reassessment ("NORs") received by Suncor from the Canada Revenue Agency, Ontario, Alberta and Quebec, relating to the settlement of certain derivative contracts, including the risk that: (i) Suncor may not be able to successfully defend its original filing position and ultimately be required to pay increased taxes, interest and penalty as a result; or (ii) Suncor may be required to post cash instead of security in relation to the NORs; changes in environmental and other regulations; the ability and willingness of parties with whom we have material relationships to perform their obligations to us; outages to third-party infrastructure that could cause disruptions to production; the occurrence of unexpected events such as 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 systems by computer hackers or cyberterrorists, and the unavailability or failure of such systems to perform as anticipated as a result of such breaches; 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; 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; 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 and the receipt of any required regulatory or other third-party approvals outside of Suncor's control that are customary to transactions of this nature; 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 2016 dated April 27, 2016 and its Annual Information Form, Form 40-F and Annual Report to Shareholders, each dated February 25, 2016, 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 2016 Report on Sustainability – namely cash flow from operations, operating earnings 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, 2015.

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

Reclamation at Suncor is a carefully monitored process with two distinct components: (i) transformation of the area, including tailings ponds, into a solid material that can support vegetation, wildlife and landscape restoration, which includes landform design and soil placement; and (ii) re-vegetation in a way that the reclaimed landscape can support vegetation and wildlife as a self-sustaining ecosystem. When Suncor claims that it has reclaimed land or plans to reclaim land, the reclaimed land will have met or is intended to meet the two distinct components identified in this paragraph.

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 boes, all values are subject to the same limitations as boes, noted above.

Certain ethanol volumes have been converted to cubic metres of oil equivalent. The Ethanol oil equivalent is 23.6 MJ/litre HHV and the Crude Oil equivalent is 38.5 MJ/litre HHV. This conversion is based on an energy equivalency conversion method and does not represent a value equivalency.

Suncor

References to “Suncor”, “we”, “our” and “the company” in Suncor’s 2016 Report on Sustainability mean Suncor Energy Inc., its subsidiaries, partnerships and joint arrangements, unless the context requires otherwise.

Partnerships

The use of “partnership” throughout Suncor’s 2016 Report on Sustainability does not necessarily mean a partnership in the legal context.

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