Welcome to your CDP Climate Change Questionnaire 2021

C0. Introduction

C0.1

(C0.1) Give a general description and introduction to your organization.

Suncor is an integrated energy company headquartered in Calgary, Alberta, Canada. Suncor's long-life, low-decline asset base, strong balance sheet and integrated model, with our connection to end consumers through our retail network, sets us apart from our peers. These advantages are complemented by our long-standing approach to sustainability, operational excellence, capital discipline, technology and innovation. Suncor's integrated operations include oil sands development and upgrading, onshore and offshore oil and gas production, petroleum refining, renewables and product marketing under the Petro-Canada™ brand. As Canada's leading integrated energy company, we believe environmental and social progress and economic performance are intertwined and integral to our success.

The terms "Suncor" or "the company" in these responses are used herein for simplicity of communication and only mean that there is an affiliation with Suncor Energy Inc., without necessarily identifying the specific nature of the affiliation. The use of such terms in any response herein does not mean that they apply to Suncor Energy Inc. or any particular affiliate, and does not waive the corporate separateness of any affiliate. For further clarity, Suncor Energy Inc. does not directly operate or own assets in the United States.

C0.2

(C0.2) State the start and end date of the year for which you are reporting data.

	Start date	End date	Indicate if you are providing emissions data for past reporting years	Select the number of past reporting years you will be providing emissions data for
Reporting year	January 1, 2020	December 31, 2020	Yes	1 year

C0.3

(C0.3) Select the countries/areas for which you will be supplying data.

Canada

United States of America

C0.4

(C0.4) Select the currency used for all financial information disclosed throughout your response.

CAD

C0.5

(C0.5) Select the option that describes the reporting boundary for which climate-related impacts on your business are being reported. Note that this option should align with your chosen approach for consolidating your GHG inventory.

Operational control

C-OG0.7

(C-OG0.7) Which part of the oil and gas value chain and other areas does your organization operate in?

Row 1

Oil and gas value chain

Upstream

Downstream

Other divisions

Biofuels

Grid electricity supply from gas

Grid electricity supply from renewables

Carbon capture and storage/utilization

C1. Governance

C1.1

(C1.1) Is there board-level oversight of climate-related issues within your organization?

Yes

C1.1a

(C1.1a) Identify the position(s) (do not include any names) of the individual(s) on the board with responsibility for climate-related issues.

Position of individual(s)	Please explain

Board-level committee	Suncor's Board of Directors and Executive Leadership Team is responsible for approving strategy, company-wide objectives and goals and implementing strategies for achieving them. The board oversees our Enterprise Risk Management (ERM) program, and annually reviews principal risks. Principal risks have the potential to impact or impair Suncor's ability to meet its strategic objectives. Carbon risk is one of these principal risks, requiring the full board to review external trends, carbon risk pathways, and Suncor's mitigation plans at least once a year. By ensuring the full board is responsible for carbon risk, we can be sure that our leaders have fluency in climate risk to enable the whole board to provide oversight of our decisions. The Environment, Health, Safety and Sustainable Development Committee (EHS&SD) of the board reviews carbon risk quarterly. Its oversight responsibilities include monitoring the effectiveness and integrity of Suncor's internal controls related to operational risks, physical assets and other sustainability matters. The committee also reviews policies and practices respecting operational risks as they relate to climate change. In addition to overseeing principal risks, the board annually reviews business plans (including capital budget), and in doing so endorses the strategies reflected in long-range plans. The board's Governance Committee also annually assesses Suncor's planning and budgeting process. Suncor's board practices on performance evaluation and compensation consider various environmental, social and governance factors by: • evaluating senior executive performance annually against well-defined goals that support and reinforce our value drivers • considering our performance against enterprise-wide sustainability goals related to safety, environmental (including GHGs) and social performance in determining the amount of annual incentive payments to the Chief Executive Officer.
Chief Executive Officer (CEO)	As a member of the board, our Chief Executive Officer (CEO) leads an executive leadership team (ELT) that builds and implements a strategy to identify and realize high-quality opportunities while mitigating risks. Collectively, our ELT establishes strategic financial direction and operational objectives, and integrates climate change and other sustainability considerations into business planning and processes. The ELT also ensures we effectively deliver value chain integration, pursue technology development, support public policy and government interaction, and establish and maintain valuable external relationships. To help inform the execution of our strategy, our leadership team also receives guidance through several internal collaborative groups which help guide decisions by providing advice and input on innovation and technology investments.

C1.1b

(C1.1b) Provide further details on the board's oversight of climate-related issues.

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Please explain
Scheduled – some meetings	Reviewing and guiding strategy Reviewing and guiding major plans of action Reviewing and guiding risk management policies Reviewing and guiding annual budgets Reviewing and guiding business plans Setting performance objectives Monitoring implementation and performance of objectives Overseeing major capital expenditures, acquisitions and divestitures Monitoring and overseeing progress against goals and targets for addressing climate-related issues	One of the Board's major duties is to review with management Suncor's purpose, objectives and goals and the strategies and plans for achieving them. The Board also monitors Suncor's progress toward its strategic goals and plans, and revises Suncor's direction where warranted. The Board oversees Suncor's Enterprise Risk Management Program (the "ERM Program"). In accordance with this program, the CEO and senior management undertake an enterprise-wide process to identify, assess and mitigate significant risks. The Board undertakes an annual review of those risks identified by the ERM program as principal risks (exposure that has the potential to impact or impair the ability of the company to meet its strategic objectives) which includes carbon risk. The Board monitors risk management actions for these risks throughout the year. In addition to Board oversight of risk management efforts, each principal risk is mapped to a Board Committee. Carbon risk is mapped to the Environment, Health, Safety and Sustainable Development Committee of the Board, and this committee receives quarterly reports from management. The Board is also responsible for ensuring Suncor has an effective strategic planning process, and on an annual basis reviews Suncor's annual business plan (including Suncor's annual capital budget) and in doing so endorses the strategies reflected in Suncor's long-range plan. The Governance Committee provides assistance to the Board by annually assessing Suncor's planning and budgeting process.

C1.2

(C1.2) Provide the highest management-level position(s) or committee(s) with responsibility for climate-related issues.

Name of the position(s) and/or committee(s)	Responsibility	Frequency of reporting to the board on climate-related issues
Chief Sustainability Officer (CSO)	Both assessing and managing climate-related risks and opportunities	Quarterly
Chief Executive Officer (CEO)	Both assessing and managing climate-related risks and opportunities	Quarterly
Chief Financial Officer (CFO)	Both assessing and managing climate-related risks and opportunities	Quarterly

C1.2a

(C1.2a) Describe where in the organizational structure this/these position(s) and/or committees lie, what their associated responsibilities are, and how climate-related issues are monitored (do not include the names of individuals).

Describe where in the organization the position/committee lies:

The Chief Sustainability Officer (CSO) and Chief Financial Officer (CFO) are members of the executive leadership team that reports directly to the CEO and President of Suncor. The CSO provides regular updates to the Environment, Health, Safety & Sustainable Development (EHS&SD) Committee of the Board of Directors.

A number of management councils support of Suncor's operational and strategic planning processes. One such council is the Asset Development and Execution Council (ADEC) that helps drive increased capital discipline, integration and alignment across Suncor; from planning to execution to benefit realization. The ADEC prioritizes Technology, Innovation & Sustainability and stewards the capital planning and technology portfolios to meet Suncor's net-zero goal.

Provide a clear rationale for why responsibility lies with that position/committee:

The CSO is the highest-level management position below the board level where the most significant climate-related issues ultimately are managed. Suncor's inclusion of a CSO within its corporate organization structure, demonstrates the highest level of commitment to have significant and dedicated resources responsible for the material sustainability issues facing Suncor, including climate-related issues.

Provide a description of responsibility that position/committee has within Suncor:

Suncor's Chief Sustainability Officer (CSO) helps to elevate sustainability considerations and ensure they are properly represented in decision-making. This position reports directly to our CEO and collaborates with other ELT colleagues in strategy, operations and other departments, with focused climate-related accountabilities, including:

- communicating Suncor's carbon risk and mitigation measures to the board

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

The CFO is responsible for directing Suncor's financial operations, including controllers, investor relations, treasury, tax, internal audit and enterprise risk management. His efforts are focused on the integrity and reporting of all financial, management and risk information, ensuring that Suncor has the financial strength necessary to execute the company's strategic plans and engaging with shareholders and the broader investment community.

Provide a description of the specific climate-related issues and monitoring process that position/committee has:

An example of one of the CSO's monitoring processes occurs within the EHS&SD committee at Suncor. This committee is responsible for the review of the policies and practices of Suncor in terms of operational risks, including more related to climate change. This includes assessing the risks and impacts of climate change issues on the Corporation's current business and growth plans, reviewing the impacts of emerging climate legislation and regulations and reviewing the Company's disclosures on carbon risk.

In 2020, the CFO progressed the development of strategic options for profitable growth and ESG related activities.

C1.3

(C1.3) Do you provide incentives for the management of climate-related issues, including the attainment of targets?

	Provide incentives for the management of climate-related issues	Comment
Row 1	Yes	Incentive-based pay is designed to reward successful short-, medium-, and long-term performance in key areas. Incentive-based pay is designed to reward successful short-, medium- and long-term performance in key areas. These areas include safety, sustainability, base business, strategic initiatives.

C1.3a

(C1.3a) Provide further details on the incentives provided for the management of climate-related issues (do not include the names of individuals).

Entitled to incentive	Type of incentive	Activity inventivized	Comment

Corporate executive team	Monetary reward	Emissions reduction project	We incentivize GHG performance by progressing projects that get us closer to our GHG goal (e.g. fuel switching, in situ pilots, renewables) and these are reflected in the business unit “strategic initiatives” component of the AIP. Additionally, ESG performance is a component of Suncor’s executive compensation to date with further integration to come.
Business unit manager	Monetary reward	Emissions reduction project	We incentivize GHG performance by progressing projects that get us closer to our GHG goal (e.g. fuel switching, in situ pilots, renewables) and these are reflected in the business unit “strategic initiatives” component of the AIP. Additionally, ESG performance is a component of Suncor’s executive compensation to date with further integration to come.
Other, please specify Facility Managers	Monetary reward	Emissions reduction project	We incentivize GHG performance by progressing projects that get us closer to our GHG goal (e.g. fuel switching, in situ pilots, renewables) and these are reflected in the business unit “strategic initiatives” component of the AIP. Additionally, ESG performance is a component of Suncor’s executive compensation to date with further integration to come.

C2. Risks and opportunities

C2.1

(C2.1) Does your organization have a process for identifying, assessing, and responding to climate-related risks and opportunities?

Yes

C2.1a

(C2.1a) How does your organization define short-, medium- and long-term time horizons?

	From (years)	To (years)	Comment
Short-term	0	5	Risk time horizons are consistent with Suncor’s Risk Management Standard.
Medium-term	5	10	Risk time horizons are consistent with Suncor’s Risk Management Standard.
Long-term	10	50	Risk time horizons are consistent with Suncor’s Risk Management Standard.

C2.1b

(C2.1b) How does your organization define substantive financial or strategic impact on your business?

Suncor is committed to a proactive program of enterprise risk management intended to enable decision-making through consistent identification and assessment of risks inherent to its assets, activities and operations.

Suncor defines risk as the effect on the achievement of organizational objectives and encompasses both positive opportunities and negative threats to the business. Suncor's risk assessment includes a quantitative and qualitative review of consequence and likelihood of five receptors including health & safety, financial, environmental, reputational, and regulatory impacts on Suncor's business.

Suncor uses a six-by-six risk matrix to determine risk level through the combination of Likelihood and Consequence of the risk occurring. The six levels of Likelihood are based on the frequency the risk may occur (e.g. Level 5 likelihood – risk occurs between 1 and 10 years). The six levels of Consequence are specific to each receptor in the assessment (e.g. a Level 3 Health & Safety consequence – one or more injuries requiring medical treatment or a Level 3 Financial consequence of $10 million to $250 million).

Likelihood ranges from Level 1 (consequence seen once or twice in the industry) to Level 6 (consequence is expected to occur more than once per year).
Financial consequence ranges from Level 1 (less than $100,000) to Level 6 (greater than $1 billion). The most significant risks are those that would have the combination of a high consequence (Level 5 or 6) and potential to occur more frequently (Level 5 of 6).

Following the assessment of likelihood and consequence and factoring in mitigation, residual risks are categorized from Level IV (lowest potential significance) to Level 1+ (highest significance) and assigned to the appropriate organization level for management.

Our most significant risks (opportunities and threats) are considered Principal Risks and are outlined in Suncor's 2020 Management Discussion & Analysis (MD&A). These risks could have a material impact on Suncor's ability to meet or support its strategic business objectives, financial condition, reserves and results of operations. The CEO is accountable for principal risk management. Further, Suncor's Board of Directors ensures there are systems in place to effectively identify, manage, and monitor the principal risks of Suncor's business, and to mitigate their impact.

Suncor considers carbon to be a principal risk.

C2.2

(C2.2) Describe your process(es) for identifying, assessing and responding to climate-related risks and opportunities.

Value chain stage(s) covered

Direct operations

Risk management process

Integrated into multi-disciplinary company-wide risk management process

Frequency of assessment

More than once a year

Time horizon(s) covered

Short-term
Medium-term
Long-term

Description of process

Suncor undertakes a corporate-wide process to identify, assess and report on significant risks including carbon as a principal risk. Carbon risk receives oversight from the full Board and executive management and systems are in place to mitigate potential impacts. Our assessment is supported by a carbon price outlook, which highlights regulations and their expected trajectory, as they apply to our assets, our upstream suppliers and our downstream products.

Suncor's Enterprise Risk Management (ERM) process employs a corporate risk matrix to assess and prioritize all risks/opportunities using a measure of likelihood and consequence including reputational, financial and environmental impacts. To prioritize the risks and opportunities, our investments and capital decisions are tested against a range of variables, including alternative future energy scenarios and our carbon price outlook to ensure an expectation of a competitive rate of return over the asset life.

Suncor assesses specific risks to its physical assets considering various potential operational hazards to which those assets may be subject, including the risk of extreme weather events in the areas where we operate. Extreme events include, among other things, icebergs, hurricanes, fires (including forest fires), severe winter climate conditions, prolonged periods of extreme cold or extreme heat, flooding, droughts, and other extreme weather conditions. Operational plans, business continuity plans, and insurance are all tools used to mitigate these risks.
As an example, Suncor currently mitigates pack ice and iceberg risk through the design of its facilities and with its emergency response system. A continuous monitoring system tracks iceberg locations and makes projections of the expected course of the icebergs. Where an iceberg cannot be diverted, an emergency response system allows for the floating platform to be disengaged and moved to safer water, protecting the asset but resulting in production disruption. These methods lessen the likelihood and magnitude of the risk. For tropical cyclones, a continuous weather tracking service monitors storm systems in the North Atlantic.

One activity to support the assessment of transitional risks and opportunities is Suncor's use of four long-term energy futures scenarios. Each scenario is plausible and could affect our operating environment and business strategy in markedly different ways. Signposts and milestones are monitored to identify critical shifts in the external context. Signposts include changes in global energy demand and supply mix, political and economic indicators, climate data and policy trends, as well as technology advances and consumer trends.

An internal process for project and asset development incorporates a review of climate change implications early in the process and prior to a commitment of significant resources. An environmental engineering team, corporate technology development team, corporate strategy team and capital portfolio management team coordinate company-wide strategy for energy efficiency and advancing carbon reduction technology.

Business units assess key business risks/opportunities at the facility level, including climate change. The output of this process escalates to the corporate & ERM process. Potential physical risks posed by the effects of climate change are addressed at a facility level. GHG emission forecasts are developed by facilities to understand the potential impact of identified risks allowing them to optimize their planning.

Value chain stage(s) covered

Upstream

Risk management process

Integrated into multi-disciplinary company-wide risk management process

Frequency of assessment

More than once a year

Time horizon(s) covered

Short-term
Medium-term
Long-term

Description of process

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Suncor's Enterprise Risk Management (ERM) process employs a corporate risk matrix to assess and prioritize all risks/opportunities using a common measure of impact and consequence; these include reputational, financial and environmental. To prioritize the

risks and opportunities, our investments and capital decisions are tested against a range of variables, including alternative future energy scenarios and our carbon price outlook to ensure an expectation of a competitive rate of return over the asset life.

One activity to support the assessment of transitional risks and opportunities is Suncor's use of four long-term energy futures scenarios. Each scenario is plausible and could affect our operating environment and business strategy in markedly different ways. Signposts and milestones are monitored to identify critical shifts in the external context. Signposts include changes in global energy demand and supply mix, political and economic indicators, climate data and policy trends, and also include technology advances and consumer trends.

An internal process for project and asset development incorporates a review of climate change implications early in the process and prior to a commitment of significant resources. An environmental engineering team, corporate technology development team, corporate strategy team and capital portfolio management team coordinate company-wide strategy for energy efficiency and advancing carbon reduction technology.

Value chain stage(s) covered

Downstream

Risk management process

Integrated into multi-disciplinary company-wide risk management process

Frequency of assessment

More than once a year

Time horizon(s) covered

Short-term
Medium-term
Long-term

Description of process

Suncor undertakes a corporate-wide process to identify, assess and report on significant risks including carbon as a principal risk. Carbon risk receives oversight from the full Board and executive management and systems are in place to mitigate potential impacts. Our assessment is supported by a carbon price outlook, which highlights regulations and their expected trajectory, as they apply to our assets, our upstream suppliers and our downstream products.

Suncor's Enterprise Risk Management (ERM) process employs a corporate risk matrix to assess and prioritize all risks/opportunities using a common measure of impact and consequence; these include reputational, financial and environmental. To prioritize the risks and opportunities, our investments and capital decisions are tested against a range

of variables, including alternative future energy scenarios and our carbon price outlook to ensure an expectation of a competitive rate of return over the asset life.

One activity to support the assessment of transitional risks and opportunities is Suncor's use of four long-term energy futures scenarios. Each scenario is plausible and could affect our operating environment and business strategy in markedly different ways. Signposts and milestones are monitored to identify critical shifts in the external context. Signposts include changes in global energy demand and supply mix, political and economic indicators, climate data and policy trends, and also include technology advances and consumer trends.

C2.2a

(C2.2a) Which risk types are considered in your organization's climate-related risk assessments?

	Relevance & inclusion	Please explain
Current regulation	Relevant, always included	Existing and future laws and regulations can impose significant liabilities on a failure to comply with their requirements. Concerns over climate change and fossil fuel extraction could lead governments to enact additional or more stringent laws and regulations applicable to Suncor and other companies in the energy industry in general. Each year, a carbon price outlook is developed, accounting for existing regulations and the expected trajectory of those regulations as they apply to our assets. Investments and capital decisions are tested against a range of variables, including our carbon price outlook, to ensure an expectation of a competitive rate of return over the asset life. Examples of current legislation imposing a cost on carbon include the Alberta Technology Innovation and Emissions Reduction (TIER) Regulation. The cost of this legislation is built into Suncor's economic evaluations.
Emerging regulation	Relevant, always included	Future laws and regulations may impose significant liabilities on a failure to comply with their requirements. Concerns over climate change and fossil fuel extraction could lead governments to enact additional or more stringent laws and regulations applicable to Suncor and other companies in the energy industry in general. Each year, a carbon price outlook is developed, accounting for existing regulations and the expected trajectory of those regulations as they apply to our assets. Investments and capital decisions are tested against a range of variables, including our carbon price outlook, to ensure an expectation of a competitive rate of return over the asset life. New carbon pricing and clean fuel regulations are being developed in several jurisdictions in which Suncor operates.

Technology	Relevant, always included	Technology is included in the annual risk assessment process of Suncor. Suncor incorporates technology into scenario planning and uses four scenarios encompassing different degrees of technological change. A review of the existing portfolio of GHG reduction technologies is also included in the annual risk assessment process. In 2020, Suncor invested approximately $535 million in technology development and deployment and digital technologies as part of a robust strategy to optimize current assets and develop next-generation facilities.
Legal	Relevant, always included	Suncor undertakes a corporate-wide process to identify, assess and report on significant risks including carbon as a principal risk. Our assessment is supported by a carbon price outlook, which highlights regulations and their expected trajectory, as they apply to our assets. The risk assessment includes a review of financial, reputational, and regulatory impacts on Suncor's business, including the potential implications of climate litigation.
Market	Relevant, always included	As part of its ongoing business planning, Suncor assesses potential future costs associated with CO2 emissions in its operations and the evaluation of future projects, based on the company's outlook for the carbon price under current and pending GHG regulations. Suncor evaluates the potential impact of future carbon-constrained scenarios on its business strategy. The annual assessment of carbon risk as a principal risk takes into account demand destruction of fossil fuels due to changing societal trends and alternative energy incentives and mandates.
Reputation	Relevant, always included	Suncor undertakes a corporate-wide process to identify, assess and report on significant risks including carbon as a principal risk. The risk assessment includes a review of financial, reputational, and regulatory impacts on Suncor's business, including increasing public opposition to fossil fuels, and oil sands in particular.
Acute physical	Relevant, always included	In general, Suncor's operations are subject to operational hazards and risks such as, among other things, icebergs, hurricanes, fires (including forest fires), severe winter conditions, prolonged periods of extreme cold or extreme heat, flooding, droughts, and other extreme weather conditions. Operational plans, business continuity plans, and insurance are all tools used to mitigate these risks. As an example, Suncor currently mitigates pack ice and iceberg risk through the design of its facilities and with its emergency response system. A continuous monitoring system tracks iceberg locations and makes projections of the expected course of the icebergs. Where an iceberg cannot be diverted, an emergency response system allows for the floating platform to be disengaged and moved to safer water, protecting the asset but resulting in production disruption. These

		methods lessen the likelihood and magnitude of the risk. For tropical cyclones, a continuous weather tracking service monitors storm systems in the North Atlantic.
Chronic physical	Not relevant, explanation provided	Chronic risks such as rising sea level and region changes in rainfall and temperature do not pose a risk to Suncor's operations. The risks of constraints such as water withdrawal restrictions due to drought have been evaluated and not considered to be a risk to operations.

C2.3

(C2.3) Have you identified any inherent climate-related risks with the potential to have a substantive financial or strategic impact on your business?

Yes

C2.3a

(C2.3a) Provide details of risks identified with the potential to have a substantive financial or strategic impact on your business.

Identifier

Risk 1

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Current regulation

Carbon pricing mechanisms

Primary potential financial impact

Increased direct costs

Company-specific description

Suncor's operations in British Columbia are subject to a carbon tax which is set at $45/tCO2e for 2021 (unchanged from 2020).

Suncor's Alberta operations are subject to the Technology Innovation and Emissions Reduction Regulation (TIER) in 2021 which imposes a carbon price of $40/tCO2e on emissions beyond ambitious government-set performance targets for each facility. Facilities that perform better than the target can generate and sell credits within this system. Where physical GHG reductions cannot be made at the facility, compliance may be achieved through a combination of offsets, emission performance credits or payment into a provincial technology innovation fund. Alberta oil sands facilities are also subject to a combined Emissions Limit of 100 Mt, which is driving increased investment in and deployment of new technology to collectively remain under the cap.

Suncor's Ontario facilities (including the Sarnia refinery and St. Clair ethanol plant) are subject to the federal Greenhouse Gas Pollution Pricing Act (GGPPA). The GGPPA includes an economy-wide consumer carbon levy on use of fossil fuels and an Output Based Pricing System applied to industrial sectors that face international competition. The 2021 carbon price under the GGPPA is $40/tCO2e (Ontario is scheduled to switch to a provincial regulation in 2022).

In 2021, Suncor's refinery in Quebec is regulated under a cap-and-trade program linked to the Western Climate Initiative (WCI) cap and trade program. Regulated refining facilities receive an allowance allocation that aligns with a benchmark performance and considers competitiveness in a trade-exposed context. Fuel suppliers are required to purchase allowances to cover the tail pipe emissions of all fuel sold, the cost of which is largely passed through to the consumer, thus acting as a carbon price on fuel consumption.

In Newfoundland and Labrador, the provincial carbon pricing program includes performance standards for large industrial facilities. Performance standards for large industrial facilities are legislated under the Management of Greenhouse Gas Act and associated regulations, which apply to all facilities that emit 15,000 tCO2e or more per annum. This includes Suncor's operated Terra Nova offshore operation. Consistent with the Canadian federal carbon pricing scheme, the 2021 Newfoundland and Labrador carbon price is $40/tCO2e.

Time horizon

Short-term

Likelihood

Virtually certain

Magnitude of impact

Medium-low

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

65,000,000

Potential financial impact figure – maximum (currency)

310,000,000

Explanation of financial impact figure

Based on the outlook for new emissions regulations, we have updated our cost estimates. The after-tax cost per barrel of our upstream net production over the next ten years is estimated at an average of $0.46 cents per barrel. The estimated average after-

tax cost per barrel of our downstream saleable yield over this same period is $0.38 cents per barrel.

Cost of response to risk

2,000,000

Description of response and explanation of cost calculation

Suncor's GHG goal of 10 Mt of GHG reductions in the energy system by 2030 drives energy efficiency, fuel switching opportunities, and technology advancement. Suncor's technology strategy is driving step-change innovation to reduce GHG intensity in bitumen production and processing. COSIA's GHG technology strategy is to accelerate deployment of step-change technology. We continue to generate offset credits from our wind and cogeneration assets to reduce GHG compliance costs at other facilities. Where efficiency improvements and Emission Performance Credits from our other operations do not cover compliance requirements, Suncor purchases compliance instruments at competitive prices.

Comment

Risk Name: Escalating Climate-Related Regulatory Costs and Constraints

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Identifier

Risk 2

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Reputation

Increased stakeholder concern or negative stakeholder feedback

Primary potential financial impact

Decreased revenues due to reduced production capacity

Company-specific description

Changes in public perception of integrated oil and gas companies and their operations may pose issues related to development and operating approvals or market access risk for products, which may have a material adverse effect on Suncor's business, financial condition, results of operations and cash flow. Based on data presented by Environment and Climate Change Canada, notwithstanding that Canada's oil sands proportionate share of global emissions is less than 0.2%, the development of the oil sands has figured prominently in politics, media and activist commentary on the subject of climate change. According to an IHS study, while emissions intensity has decreased over the past decade for oil sands production, oil sands refined products range between 1% - 19% higher carbon intensity on a well-to-wheels basis than products from conventional crudes. Planned growth projects to meet global energy demand may increase Suncor's absolute emissions in the next decade. Reputational damage related to GHG emissions may directly or indirectly affect the profitability of our current oil sands projects and the

viability of future oil sands projects in a number of ways, including: a) creating regulatory uncertainty that challenges economic modelling of future projects and potentially delays sanctioning; b) motivating more onerous emissions regulation of those projects that could result in changes to facility design and operating requirements, thereby potentially increasing the cost of construction and operation; and c) legislation or policy that limits the purchase of oil sands crude oil by governments and other institutional consumers that, in turn, limits the market for this crude oil and reduces its price.

Time horizon

Medium-term

Likelihood

Likely

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

0

Potential financial impact figure – maximum (currency)

12

Explanation of financial impact figure

A potential cost to the oil sands industry associated with climate change reputation risk is the price differential between bitumen & lighter oils caused by delays in approval of new pipelines intended to provide access of oil sands bitumen to tidewater and international markets.

Please note that the range "0 to 12" identified in the potential financial impact is $0/bbl to $12/bbl.

Cost of response to risk

2,000,000

Description of response and explanation of cost calculation

Market access risk is substantially mitigated by Suncor's integrated business model where we process much of our bitumen in our own upgraders & refineries thereby avoiding the bitumen discount. Reputational risk is best managed through improved environmental performance. Our oil sands operation's energy efficiency initiatives have demonstrated tangible reduction in energy intensity since 1990. We continue to make long term tech investments towards step changes in in-situ production emissions intensity. Activities include various efforts to collaborate in industry initiatives (e.g.

COSIA); our support of various academic & engineering research organizations to understand the lifecycle emissions of oil sands products; and consistent engagement with media/public to deliver factual and balanced information in a relevant and understandable format. These actions allow us to create a space for balanced dialogue. Studies have demonstrated that oil sands refined products, on a well-to-wheels basis, are on average 1% - 19% higher carbon intensity than average conventional crude-based refined products. Hence, oils sands refined products are on par with the refined products made from many international heavy crude oils including Venezuela and California.

Comment

Risk Name: Increased Stakeholder Expectations

Identifier

Risk 3

Where in the value chain does the risk driver occur?

Downstream

Risk type & Primary climate-related risk driver

Market

Changing customer behavior

Primary potential financial impact

Decreased revenues due to reduced demand for products and services

Company-specific description

Suncor produces refined products, marketed through our Petro-Canada retail network. Potential for consumer behaviour changes, as a result of increasing availability of non-fossil fuel alternatives such as electric vehicles, could reduce the demand for Suncor's fossil fuel based refined products.

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

Mitigating this trend, we expect that older, inefficient refining capacity will be taken out of commission in the future, somewhat balancing North American supply and demand. Retention of market share in refined product sales will become critical, likely resulting in

tight retail margins in North America. However, both refined products and crude oils are easily transported into global markets.

Time horizon

Medium-term

Likelihood

More likely than not

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

0

Potential financial impact figure – maximum (currency)

288,000,000

Explanation of financial impact figure

In 2020, our refining and marketing business contributed net earnings of $866 million, making it a significant contributor to the company's profitability. Some of this margin would be at risk if demand for refined product decreases.

Cost of response to risk

0

Description of response and explanation of cost calculation

Suncor does not incur direct costs associated with increasing market access for our products. Costs associated with supporting marketing and monitoring transportation fuel developments and demand are integral to our business and not material. Our renewables business is operated as a revenue-generating business.

Suncor has a diversified portfolio which includes a renewable energy business. Suncor supports initiatives to gain access to new international markets in the next 5-10 yrs for our crude oil and refined products. Activities: We operate Canada's largest ethanol plant by volume & as of the end of 2020 are involved in 4 operational wind projects (111MW capacity) with an addition 200MW sanctioned. Our renewables business provides first-mover advantage as consumer behaviour changes increase demand for renewable energy. We monitor alternative transportation technology and are well-positioned to invest in the provision of low-carbon transportation fuels once reliability, value and environmental attributes support consumer preference shift. Suncor has supported the development of pipeline infrastructure that would improve market access & operations flexibility for our oil sands bitumen. Suncor & other oil sands companies

have implemented rail as a bridging solution. The large-scale movement of oil by rail is more costly, more carbon intensive, and less safe than pipeline. Expanded pipeline links are the most efficient way to transport oil sands crude to market, given the sizable capacity advantage of pipelines, & their overall safety & reliability record.

Suncor has also completed a coast-to-coast Canadian EV charging network at more than 50 Petro-Canada stations to provide a retail offering to electric vehicle owners.

Cost of Management ($0) Note: Suncor does not incur direct costs associated with increasing market access for our products. Costs associated with supporting marketing and monitoring transportation fuel developments and demand are integral to our business and not material. Our renewables business is operated as a revenue-generating business.

Comment

Risk Name: Changing Consumer Behaviour

Identifier

Risk 4

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Acute physical

Other, please specify

Extreme events - wind storms, temperature extremes, icebergs, and wildfires

Primary potential financial impact

Decreased revenues due to reduced production capacity

Company-specific description

Suncor's oil sands facilities in the Athabasca region of Northern Alberta and Suncor's refineries in Montreal, Sarnia, Edmonton and Commerce City sometimes operate in harsh weather environments, subject to expected periods of extreme cold in the winter, heat waves in the summer, and increased wildfire risk. The risk to Suncor is that prolonged periods of extreme cold could force these facilities to reduce capacity for periods of time to ensure worker safety and prevent undue stress on equipment. Prolonged periods of extreme heat may lead to production cuts if adequate supply of cooling water is not available. Suncor's refineries at Montreal and Sarnia have access to extremely large bodies of cooling water, so are far less exposed. In some instances, extreme weather events may cause interruptions in production. This risk exists now and into the very long term > 50 yrs.

Time horizon

Long-term

Likelihood

Unlikely

Magnitude of impact

Medium-high

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

0

Potential financial impact figure – maximum (currency)

22,800,000

Explanation of financial impact figure

Prolonged periods of extreme weather have the potential of disrupting production, costing millions of dollars in lost revenue. The likelihood of extreme weather events remains unknown, but through our risk management processes, we expect the magnitude of impact to remain low-medium for the foreseeable future, even if increases in extreme temperature or weather variations occur. The estimated financial impact is based on extreme weather causing a shut down of Base Plant operations. Based on the average 2020 daily production and the 2020 average cost of oil (both from our Annual Report), the estimated daily impact on revenue is $22.8M per day.

Cost of response to risk

1,000,000

Description of response and explanation of cost calculation

There are no additional costs for action to protect against temperature extremes. The cost of management of the operations' physical risk mitigation is in place for the life of the asset. As these programs are applicable to multiple risks it is difficult to apportion a specific cost to managing climate-specific physical risk. The cost of wildfire management is shared with the province and other operators in the area.

Many of Suncor’s facilities routinely operate in an annual temp range of -40 to +40 degrees C and facilities are built to withstand extreme weather events. However, in the event of more frequent or prolonged temp extremes, additional capital expenditure may be required to install more robust equipment, warming sheds, or water cooling processes. Physical risks are primarily managed by the operations at a business-unit and facility level. We also maintain insurance, as appropriate, for damage to, or loss of, assets as well as production interruption, with the exception of insurance coverage for Named Windstorms.

The estimated cost of response is based on the cost of earthworks and vegetation

management in the event of a nearby wildfire, in order to prevent impacts on Suncor's facilities in the Athabasca region.

Comment

Type of Financial Impact: Increased operating costs (e.g., inadequate water supply for hydroelectric plants or to cool nuclear and fossil fuel plants)

Potential Financial Impact ($0/day to $22.8M/day) Note: This is a range of daily cost based on the loss of production due to Base Plant completely shutting down their production.

Cost of Management ($1,000,000) Note: There are no additional costs for action to protect against temperature extremes. The cost of management of the operations' physical risk mitigation is in place for the life of the asset. As these programs are applicable to multiple risks it is difficult to apportion a specific cost to managing climate-specific physical risk. The cost of management is based on earthworks and vegetation management in response to a nearby wildfire in the Athabasca region.

C2.4

(C2.4) Have you identified any climate-related opportunities with the potential to have a substantive financial or strategic impact on your business?

Yes

C2.4a

(C2.4a) Provide details of opportunities identified with the potential to have a substantive financial or strategic impact on your business.

Identifier

Opp1

Where in the value chain does the opportunity occur?

Downstream

Opportunity type

Products and services

Primary climate-related opportunity driver

Development and/or expansion of low emission goods and services

Primary potential financial impact

Increased revenues through access to new and emerging markets

Company-specific description

Suncor continues to evaluate new opportunities across Canada to further build on its renewable energy portfolio. Wind power generation creates business opportunities for merchant sale of power to the grid and generation of carbon offset credits that can be used by Suncor or sold on the market. Currently, in Alberta, a wind development protocol exists which allows the developer to generate offset credits to be sold or used as a compliance option under the Alberta TIER Regulation. Of Suncor's 111 MW installed wind energy capacity, 60 MW are situated in Alberta. Suncor has also sanctioned an additional 200 MW with the Forty Mile Wind Project in Alberta. The TIER regulation provides the opportunity for Suncor to create offsets which reduce the compliance costs for other operations under this regulation through its renewable energy operations. Additionally, carbon pricing in major Canadian jurisdictions is making wind power more profitable as jurisdictional targets add additional renewable power. At the same time, the cost of wind power generation continues to decrease, making unsubsidized wind power cost-competitive in most jurisdictions.

Time horizon

Medium-term

Likelihood

Very likely

Magnitude of impact

Medium-low

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

1,600,000

Potential financial impact figure – maximum (currency)

2,400,000

Explanation of financial impact figure

In 2020, Suncor and our partners have an interest in four wind power facilities. Combined, these facilities have a gross generating capacity of 111MW, enough to power about 52,000 Canadian homes and avoid approximately 110,000 tonnes of carbon emissions each year. The offsets produced by our wind facilities in Ontario and Saskatchewan are retained by the government. The financial value of our offsets in Alberta Is approximately $1.6 million to $2.4 million/year. These offsets can be used by Suncor to offset its compliance costs.

Cost to realize opportunity

0

Strategy to realize opportunity and explanation of cost calculation

In 2020, compliance obligations for our oil sands facilities were met partially through internally generated wind energy offset credits from Suncor's wind energy projects in Alberta, generating revenue for the renewables business. Each year, Suncor calculates the tonnage of offsets generated under the protocol and submits an application under the protocol. This management method highlights the benefit of Suncor's integrated value chain as the value of offsets has been increasing with time.

Comment

Name of Opportunity: Increasing Renewable Energy Demand

Cost of Management Note: Wind operations area profit generating business. We experience minimal management costs associated with creating the offset credit (measurement, documentation, application) because the power is metered.

Identifier

Opp2

Where in the value chain does the opportunity occur?

Downstream

Opportunity type

Products and services

Primary climate-related opportunity driver

Development and/or expansion of low emission goods and services

Primary potential financial impact

Increased revenues resulting from increased demand for products and services

Company-specific description

Suncor complies with all Renewable Fuel Standards (RFS) in the jurisdictions within which we operate and markets fuel products. Regulatory requirements for renewable fuel such as the RFS present potential revenue opportunities for Suncor in biofuels. Governments across North America are mandating the use of ethanol in transportation fuels. Canadian regulations require an average 5% renewable fuel content in gasoline; proposed Canadian regulations also require an average annual 2% renewable content in diesel fuel. Some provincial regulations require a higher percentage blending, and others have introduced other systems such as a Low Carbon Fuel Standard or a Cap and Trade system. Suncor owns and operates the largest ethanol plant in Canada, and virtually all of the output is blended into gasoline and marketed under the Petro-Canada brand. In 2019, we invested in Enerkem Inc. which manufactures biofuels and renewable chemical products from household garbage that would otherwise be landfilled. In addition to a financial investment, a number of Suncor employees have been seconded to Enerkem's pilot facility in Edmonton.

Time horizon

Medium-term

Likelihood

Likely

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

97,000,000

Potential financial impact figure – maximum (currency)

187,000,000

Explanation of financial impact figure

In 2020, Suncor biofuel operations produced 336 million litres of ethanol. Throughout 2020, the spot price for ethanol ranged from CAD$0.29 to CAD$0.55. The resulting revenue opportunity ranged from $97 million to $187 million CAD in 2020.

Cost to realize opportunity

0

Strategy to realize opportunity and explanation of cost calculation

Suncor expects that RFS will be amended to increase the required level of biofuel, creating a stable and increasing market for biofuels. Suncor manages this opportunity by continuously evaluating business and technology opportunities to expand into next generation biofuels markets to take advantage of renewable fuel standards and reduced carbon intensity. This could help to increase the magnitude of biofuels production/blending over the medium-long term (5-10 yr timeframe). Suncor has been blending ethanol in our retail fuels since 1992; Suncor's St. Clair Ethanol plant expanded capacity to 400 million litres per year in an effort to meet this growing North American demand.

Comment

Name of Opportunity: Increasing Biofuels Demand

Cost to Realize Opportunity Note: Suncor's biofuels business is a profit generating business. There is no net management cost.

Identifier

Opp3

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Products and services

Primary climate-related opportunity driver

Development and/or expansion of low emission goods and services

Primary potential financial impact

Increased revenues resulting from increased demand for products and services

Company-specific description

Suncor supports the use of offsets as compliance mechanisms under existing and proposed climate change regulations. Suncor has actively engaged in the development of offset protocols where it sees opportunities to either purchase quality offsets in the market, or create offsets in our own operations. In addition to the renewable energy production (see Renewable Energy Demand opportunity in section C2.4a, above), Suncor uses natural gas cogeneration (80% efficient) to provide combined steam and power to their own facilities and exporting surplus power to the grid to displace more carbon-intensive coal-fired generation or natural gas combined cycle generation (40% efficient). Suncor operates 1.1 GW of cogeneration with surplus capacity sold to the power grid. Where surplus power is exported to the grid, Suncor is able to earn offset credits on the difference between a grid intensity level reflecting the efficiency of the cogeneration unit and a regulated performance standard. This presents an opportunity for Suncor through reduction of compliance costs because these offset credits may be used as compliance instruments under Alberta's TIER regulation. Additionally, due to the must-run nature of our operations, the cogenerated power sold to the grid is highly reliable compared to other forms of generation, reducing the overall pool price for power benefiting Alberta residents. Over the past few years, Suncor has developed its internal carbon marketing capability which has helped to reduce our overall compliance cost. Suncor has an opportunity with cap and trade schemes to stimulate research and innovation in energy efficiency; earn revenue from investments made to reduce our own emissions; improve the economics of the reduction project; and develop internal capability to understand the carbon trading markets.

Time horizon

Short-term

Likelihood

Virtually certain

Magnitude of impact

Low

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

0

Potential financial impact figure – maximum (currency)

39,070,000

Explanation of financial impact figure

Suncor's facilities occasionally generate carbon offset credits. The bulk of these credits are generated and used in the Alberta carbon market for Suncor's oil sands and in situ operations.

With ongoing policy changes, the range of the financial impact represents our experience with emission performance credits (EPCs).

Cost to realize opportunity

400,000

Strategy to realize opportunity and explanation of cost calculation

Suncor manages this opportunity through measurement, reporting, and receipt of emission performance credits, as well as a regular review of its operations for the potential to generate additional offset credits. The deployment of cogeneration technology in Suncor's in-situ facilities continues to have a significant positive impact such that Suncor can directly control its production, maintain energy security, earn emission performance credits through the sale of competitively priced surplus power and reduce the carbon intensity of the provincial electricity grid. The power sales opportunity has led to the establishment of a real time power trading desk to capture full value of the power sold to the electricity grid.

Comment

Name of Opportunity: Carbon Credit Offset Generation

Cost to Realize Opportunity Note: Internal capability is provided by corporate and facility based personnel with multiple duties. Total workload is approximately 2 FTE.

Identifier

Opp4

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Resource efficiency

Primary climate-related opportunity driver

Use of more efficient production and distribution processes

Primary potential financial impact

Reduced direct costs

Company-specific description

There is a natural incentive to reduce energy use. The acceleration of technological innovation to substantially change production processes and reduce GHG emissions in our operations is expected to lower energy use and, therefore, lower energy costs. The same technology that reduces energy consumption could also allow for easier and more cost effective extraction of complex unconventional resources.

Time horizon

Medium-term

Likelihood

More likely than not

Magnitude of impact

Medium-high

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

60,500,000

Potential financial impact figure – maximum (currency)

121,000,000

Explanation of financial impact figure

Energy costs are the single largest input cost in our business. We estimate that a fuel efficiency improvement of 10% to 20% will reduce natural gas costs in Suncor's production of bitumen (mining and in situ) by $60.5M to $121M per year. Technology improvements have the possibility of reducing other costs, as well, such as GHG compliance costs, water treatment costs, etc.

Cost to realize opportunity

535,000,000

Strategy to realize opportunity and explanation of cost calculation

One method Suncor utilizes for managing technological advancements is by being a strong advocate for carbon policy that promotes accelerated technology development. Suncor is a founding member of COSIA, a 9 member organization seeking to develop and share intellectual property on environmental technology in the oil sands. Through collaboration centered around a common interest like environment and technology stewardship, Suncor and partners are able to pool resources with the goal of making significant advancement over acting alone. As a result, we expect to see advancements benefiting the environment over the next 2-10 yrs. For example, we have been working with COSIA, to advance a regional approach to industry-wide water management practices. Over the last several years we made significant progress in taking our water

strategy from the planning stage to implementation.
Suncor is an active member of the CRIN, which aims to position Canada as a global leader in producing clean hydrocarbon energy from source to end use. The network brings together the oil and gas industry, innovators, investors, start-ups, policy-makers, incubators and accelerators, researchers and students. It facilitates the connections to advance technologies for use in Canada and with the potential for export to global markets emphasizing the potential impact that our country can make to help address global challenges.

Comment

Name of Opportunity: Low-Carbon Technology With Adjacent Industries and development of new technologies

Cost to Realize Opportunity Note: Suncor invested approximately $535 million in technology development and deployment, and digital technologies as part of a robust strategy to optimize current assets and develop next-generation facilities in 2020.

Identifier

Opp5

Where in the value chain does the opportunity occur?

Downstream

Opportunity type

Products and services

Primary climate-related opportunity driver

Development and/or expansion of low emission goods and services

Primary potential financial impact

Increased revenues through access to new and emerging markets

Company-specific description

With increasing consumer uptake of EVs, there is an opportunity to offer customers EV supercharging and increase traffic in Petro-Canada's convenience stores.
Completed in 2019, Suncor has the first cross-Canada network of more than 50 fast-charging electric vehicle (EV) chargers at Petro-Canada™ stations. These stations are positioned no further than 250 kilometres apart, ensuring an EV charging station is within range on this electric highway and eliminating one of the significant barriers to EV adoption.

Time horizon

Short-term

Likelihood

Virtually certain

Magnitude of impact

Low

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

In 2021, Suncor completed 57 EV fast charging stations at existing Petro-Canada stations along the TransCanada Highway, from coast-to-coast. Charging fees are determined by the minute.

Cost to realize opportunity

Strategy to realize opportunity and explanation of cost calculation

Comment

C3. Business Strategy

C3.1

(C3.1) Have climate-related risks and opportunities influenced your organization's strategy and/or financial planning?

Yes

C3.1b

(C3.1b) Does your organization intend to publish a low-carbon transition plan in the next two years?

	Intention to publish a low-carbon	Intention to include the transition plan as a scheduled	Comment

	transition plan	resolution item at Annual General Meetings (AGMs)	
Row 1	Yes, in the next two years	No, we do not intend to include it as a scheduled AGM resolution item	In May 2021, Suncor announced our updated strategy to focus on increasing shareholder returns and accelerating progress in reducing GHG emissions with an objective to be net-zero by 2050. Our new strategy is: To be Canada's leading energy company by growing our business in low greenhouse gas (GHG) fuels, electricity, and hydrogen while sustaining and optimizing our existing hydrocarbon business and transforming our GHG footprint; all enabled by our expertise, long-life resources, integrated business model, strong connection to customers, and world-class environment, social and governance (ESG) performance. Our new strategy is underpinned by six strategic objectives: 1- Grow long term returns on invested capital. Achieved through: 6-8% cash return to shareholders through dividends and share buybacks; 3-5% free funds flow growth with long-term annual growth of $2B annual free funds flow growth by 2025; mid-teens+ return on capital for new investments. 2- Be a net-zero GHG emissions company by 2050 and substantially contribute to society's net zero goals. By 2030, reduce annual emissions by 10 megatonnes (MT) across our energy value chain. 3- Sustain and improve our base business while improving its cost and carbon competitiveness. 4- Grow low GHG emissions businesses that will materially contribute to earnings and cash flow. Achieved through expansion of the businesses we are in today: renewable fuels, electricity and hydrogen. 5- Grow our customer connection through new low carbon products and services. Help customers contribute to a net-zero world. 6- Achieve world-class ESG performance and disclosure while being recognized as a leader in sustainability and the energy transition. For more information, please visit: https://www.suncor.com/en-ca/about-us/strategy

C3.2

(C3.2) Does your organization use climate-related scenario analysis to inform its strategy?

Yes, qualitative and quantitative

C3.2a

(C3.2a) Provide details of your organization's use of climate-related scenario analysis.

Climate-related scenarios and models applied	Details
2DS	Suncor's 2°C scenario (2DC), developed in 2019 with IHS Markit is informing our long-term business planning and corporate strategy and allows us to understand what a pathway could entail to keep global temperatures from rising 2°C, or less, by 2100 compared with pre-industrial levels. Developing this scenario pushed us to think critically about the characteristics of a plausible, relevant and consistent view of the future. The process was valuable and provided us with several key takeaways including the need for coordinated global action on climate change, the power of carbon pricing to incentivize low GHG technology, and the changing energy mix required to power the world's economies amidst a growing population. Key insights - Peak emissions are reached following a combination of cost and generational pressures, technological innovation, and political unity that bring enough of the world together to take dramatic and unified action to change the trajectory of GHG emissions. - Aggressive emissions reduction is required in all sectors, and solutions to remove GHGs from the atmosphere are required to reduce the total concentration of CO2 by 2100. - An international alliance with a shared 2°C ambition, along with transparent collaboration in technology, trade and environmental approaches is established. - A broad-based price on carbon throughout the economy is required to reduce consumption and incent the adoption and improvement of low GHG technology. - In conjunction with carbon pricing, governments encourage market-based solutions within the alliance, including open carbon markets to buy, sell and trade offsets across a vast economy. Expected impact on Suncor - Grow our business in low GHG fuels, electricity and hydrogen. - Sustain and optimize our existing hydrocarbon business and transform our GHG footprint. - Continue our participation in early-stage investments in innovation, technology

	and clean energy venture capital funds to reduce GHG emissions. - Play a unique role, along with other large organizations, in climate change solution scaling and commercialization.
Other, please specify IHS Markit	We use three energy future scenarios to 2050 to test and assess the resiliency of our business strategy against inherent uncertainty. All scenarios are developed using distinct, challenging, relevant and plausible world trajectories. The three energy future scenarios to 2050 use variables adjusted in an internally consistent manner. Some of the aspects we consider in our scenario development include demographics, economics, environment, geopolitics, legal, social and cultural, and technology. Our scenarios are used annually by the CEO, the executive leadership team and the Board of Directors to assess business and growth strategy and identify alternative strategic directions. The scenarios are also used by internal teams to evaluate projects and opportunities. This process continues to be a useful tool for stress-testing our business on several key dimensions, including climate risk. Under each of these scenarios, we believe a substantial amount of oil will be required for decades to come as the world gets on track to meet its climate ambitions. This view is also supported by organizations such as the International Energy Agency (IEA) and the U.S. Energy Information Administration. These scenarios confirm the need to continually lower costs and carbon throughout our business. However, as the energy system transitions away from carbon intensive sources of energy, we believe some level of hydrocarbons will continue to be needed for consumer products, transportation, agriculture and industrial uses. Each scenario has an implied crude oil price range and climate change regulatory impact. Two of the three reflect the current global aspiration toward reducing carbon emissions; what differentiates the scenarios is the context, pace and scale at which that comes about. Of the three energy future scenarios, “Autonomy” represents the technology and policy context that would progress closest to achieving the aspiration of limiting global warming to 2°C or less vs. pre-industrial levels. In 2020, we adopted IHS Markit’s “Discord” scenario naming convention, replacing “Vertigo”. Discord focuses less on extreme volatility and more on enduring disunity, uncertainty, long-term market weakness and nationalism. Summary of energy future scenarios to 2050: - Autonomy: Revolutionary change in social and political attitudes toward energy, climate and the environment. - Rivalry: Population growth, urbanization and growing middle class drive energy demand – diverse supply is required to satisfy demand, with intense competition for market share between energy sources.

	- Discord: A world with economic and political fragmentation and market uncertainty and weakness. Along with scenarios, we also develop and annually update our signposts, which are milestones to identify critical shifts in the external context. The world is in a constant state of change, sometimes moving faster than we expect; 2020 being a prime example with the COVID-19 pandemic paired with oil market turmoil. Tracking the pace and direction of the change is an integral part of our scenario work and helps us develop and evaluate strategic alternatives for our business by incorporating both global and Canadian current events, trends and actions. Signposts include changes in global energy demand and supply mix, political and economic indicators, climate data, policy and consumer trends, and technology advances. For further information please see sustainability.suncor.com

C3.3

(C3.3) Describe where and how climate-related risks and opportunities have influenced your strategy.

	Have climate-related risks and opportunities influenced your strategy in this area?	Description of influence
Products and services	Yes	In alignment with our Purpose to provide trusted energy that enhances people's lives while caring for each other and the earth, and informed by our scenario analysis, we have updated our strategy to focus on increasing shareholder returns and accelerating progress in reducing GHG emissions with an objective to be net-zero by 2050. Our strategy: To be Canada's leading energy company by growing our business in low greenhouse gas (GHG) fuels, electricity, and hydrogen while sustaining and optimizing our existing hydrocarbon business and transforming our GHG footprint; all enabled by our expertise, long-life resources, integrated business model, strong connection to customers, and world-class environment, social and governance (ESG) performance. As part of our six strategic objectives, we will be working to grow low GHG emissions businesses that will materially contribute to earnings and cash flow (via expansion of the businesses we are in today, renewable fuels, electricity and

		hydrogen) and to grow our customer connection through new low carbon products and services (e.g. first cross-Canada network of more than 50 fast-charging electric vehicle (EV) chargers at Petro-Canada™ stations). Other examples include: - Equity stakes in renewable fuels projects with Enerkem in Quebec - Investing in LanzaJet, Inc., which is expected to produce sustainable aviation fuel - New partnership with ATCO on the early stages design and engineering for a potential clean hydrogen project near Fort Saskatchewan, Alberta (which could produce more than 300,000 tonnes per year of clean hydroge and reduce Alberta's CO2 emissions by more than two million tonnes per year) - Participating in the Alberta Zero Emissions Truck Electrification Collaboration (AZETEC) project, involving design, manufacture and test of long-range hydrogen fuel cell trucks fro operation year-round between Calgary and Edmonton. The 18-month pilot will serve as an initial step on a path to developing economically viable commercial hydrogen transport fueling stations.
Supply chain and/or value chain	Yes	In 2020, we continued work to identify baseline risks and opportunities within our supply chain. Through the supplier prequalification process, we now gather data and screen potential suppliers based on sustainability-related criteria. Annually we review our critical suppliers' sustainability reports, codes of conduct and CDP Climate Change responses. We have mapped our suppliers on a global basis and are working to better understand the sustainability risks and opportunities available. In addition, we have added a supply chain sustainability risk to our risk register. In early 2020, our senior leaders met with our key supplier community and industry partners to signal Suncor's intentions to transform relationships to accelerate innovation and sustainability performance. The event, called FORGE, created an opportunity to collaborate across the breadth of Suncor's supply chain. We intend to build off the efforts of FORGE to embed sustainable practices to our supply chain, create opportunities for cross-value-chain strategic supplier engagement and enable supply chain contributions to innovation.

		Another outcome of FORGE was the development of supplier relationship management structure. This innovative approach allows Suncor and our key suppliers to share best practices to achieve continuous improvement in sustainability performance throughout the value chain. These discussions contributed to the formalization of a supplier performance assessment survey that incorporates multiple sustainability factors, including questions to our suppliers related to emissions and allows Suncor to receive two-way feedback from our suppliers.
Investment in R&D	Yes	Technology and innovation are critical to achieving our goals and executing on our strategy and strategic objectives. In 2020, we invested $535M in technology development, deployment and digitalization. Going forward, our technology investments will largely be focused on: - Sustain and optimize our base business while improving its cost and carbon competitiveness - develop next generation processes with GHG reductions through energy efficiency improvements, fuel switching, solvents, non-aqueous extraction, upgrading innovations and transformational technologies for power, steam, hydrogen and carbon capture, utilization and storage - Grow low GHG emissions businesses - advance low GHG fuels, electricity and hydrogen through strategic investments - Harness the digital transformation - use artificial intelligence, machine learning, advanced analytics and remote sensing technologies to improve safety, reliability and sustainability - Partner on strategic investments and collaborations - work together within our industry, invest in global clean-tech venture capital funds and technology companies, including LanzaTech, LanzaJet Inc., Enerkem Inc. and Evok Innovations
Operations	Yes	We have evaluated the cost impacts for emerging and evolving emissions regulations and how they apply to GHG emissions (Scope 1 and 2), from the working interest in both our upstream and downstream assets. These estimates are split out to more accurately reflect the integrated nature of our business. The after-tax cost per barrel of our upstream net production over the next ten years is estimated at an average of $0.46 per barrel. The estimated average after-tax cost per barrel of our downstream saleable yield over this same period is $0.38 per barrel. These figures reflect our best understanding of carbon emissions regulations,

		policy impacts and production forecasts at the time of publication, many of which are in flux with a high degree of uncertainty. Upstream includes Oil Sands and Exploration & Production segments. Downstream includes Refining and Logistics and biofuels production, excluding distribution. Emission performance credits (EPCs) from cogeneration power exports are included in the upstream after-tax cost per barrel figures. Benefits from our renewable power projects are not included in our upstream and downstream estimated average after-tax cost per barrel figures. In future reporting we will look to describe the cost benefits of our low carbon lines of business.

C3.4

(C3.4) Describe where and how climate-related risks and opportunities have influenced your financial planning.

	Financial planning elements that have been influenced	Description of influence
Row 1	Revenues Direct costs Indirect costs Capital expenditures Capital allocation Acquisitions and divestments Access to capital	Suncor's carbon price outlook (to assess all investments/projects) utilizes a carbon price range from $40/tonne to $170/tonne on an increasing percentage of emissions to ensure projects are expected to provide a competitive IRR under expected carbon regulations. Stress testing is done as appropriate. While carbon pricing has increased operating costs, the current regulations have not materially impacted Suncor's revenues. Materiality of impact on revenue may increase with tightening regulations. The greatest impact on revenue will arise from oil price and oil demand. From an opportunity perspective, Suncor is already active in wind power and biofuels. Carbon pricing or cap and trade regulations apply in most of the jurisdictions in which Suncor operates assets. These prices have increased operating costs (although at some facilities, carbon credit generation has offset the cost of compliance). Financial risks associated with increasing carbon prices are affecting investment decisions within Suncor. The portfolio of growth options is being prioritized to take into account the carbon-intensity of the proposed operation and of the energy product. Demand for oil products, commodity prices, and opportunities to reduce

		operating costs of some existing operations are currently the greatest drivers regarding the value and rate of return of Suncor's portfolio of assets. Carbon intensity and associated carbon costs of assets are considered during potential acquisitions and divestitures. The current initiatives toward divestment of oil & gas commitments have caused certain investors and insurers to either reduce or eliminate their exposure to the sector. Notwithstanding the efforts of those few to divest from oil & gas, some new investors have entered oil and gas positions and some remaining investors have been willing to increase their investment in oil and gas, so the net impact on Suncor is negligible at this time. Risks and opportunities that influence financial planning range from short- to long-term.

C3.4a

(C3.4a) Provide any additional information on how climate-related risks and opportunities have influenced your strategy and financial planning (optional).

Suncor' Climate Report, discloses Suncor's best assessment of the business risks associated with climate change and the transition to a low-carbon economy – as well as strategies Suncor is taking to mitigate those risks. In alignment with our Purpose to provide trusted energy that enhances people's lives while caring for each other and the earth, and informed by our scenario analysis, we have updated our strategy to focus on increasing shareholder returns and accelerating progress in reducing GHG emissions with an objective to be net-zero by 2050.

Through our purpose, we continue to produce the reliable energy the world needs, while taking to become a net-zero company by 2050, and significantly contribute to society's net zero goals. To get there, we've updated our strategy to ensure our long-term resilience as a sustainable energy company and we've developed supporting strategic objectives that are integrated and related by:

- Optimizing our base business by developing next generation processes with 50-70% potential GHG reductions through energy efficiency improvements, fuel switching, solvents, non-aqueous extraction, upgrading innovations and transformational technologies for power, steam, hydrogen and carbon capture, utilization and storage
- Expand low emissions business by: allocating approximately 10% (or $500 million) of our annual

capital budget in the mid-term on investments that advance our low GHG energy offerings, increasing our renewable fuels production capacity, increasing our low GHG electricity capacity to market and expanding our electric highway and including clean hydrogen production to market.

This report is publicly available on Suncor's website (https://sustainability.suncor.com/en/downloads).

C4. Targets and performance

C4.1

(C4.1) Did you have an emissions target that was active in the reporting year?

Intensity target

C4.1b

(C4.1b) Provide details of your emissions intensity target(s) and progress made against those target(s).

Target reference number

Int 1

Year target was set

2015

Target coverage

Company-wide

Scope(s) (or Scope 3 category)

Scope 1+2 (location-based)

Intensity metric

Metric tons CO2e per unit of production

Base year

2014

Intensity figure in base year (metric tons CO2e per unit of activity)

0.42

% of total base year emissions in selected Scope(s) (or Scope 3 category) covered by this intensity figure

99

Target year

2030

Targeted reduction from base year (%)

30

Intensity figure in target year (metric tons CO2e per unit of activity) [auto-calculated]

0.294

% change anticipated in absolute Scope 1+2 emissions

0

% change anticipated in absolute Scope 3 emissions

0

Intensity figure in reporting year (metric tons CO2e per unit of activity)

0.437

% of target achieved [auto-calculated]

-13.4920634921

Target status in reporting year

Underway

Is this a science-based target?

No, but we anticipate setting one in the next 2 years

Target ambition

Please explain (including target coverage)

In 2020, Suncor's goal is a 30% reduction in GHG emissions intensity by 2030 (scope 1 and 2 emissions only). If current production remained flat, we would expect a similar reduction in absolute emissions. However, planned production growth during this timeframe would result in negligible change in absolute scope 1 and 2 emissions due to a lower GHG emissions intensity.

With the continuous improvement of emission calculation methodology, the data quality has been continuously improved (e.g. previously missing sources are added in the inventory).

C4.2

(C4.2) Did you have any other climate-related targets that were active in the reporting year?

No other climate-related targets

C-OG4.2d

(C-OG4.2d) Indicate which targets reported in C4.1a/b incorporate methane emissions, or if you do not have a methane-specific emissions reduction target for your oil and gas activities, please explain why not and forecast how your methane emissions will change over the next five years.

In addition to participating in a voluntary methane emission reduction program, Suncor has incorporated methane emissions into the company-wide goal to reduce total GHG emission intensity of the production of oil and petroleum products by 30% by 2030. As a result of having our methane-specific emissions already incorporated in the company wide GHG intensity reduction goal, the need to have an additional methane goal is redundant. Progress on our

GHG intensity goal by 2030 requires emissions reductions, including methane, across our facilities. Efforts and technologies specific to managing methane emissions are pursued through a dedicated group within Suncor, in support of the 2030 GHG goal. This group is looking at technologies to better understand area fugitive emissions of methane (i.e. from tailings ponds and mine faces) and identify opportunities to reduce these sources of methane.

C4.3

(C4.3) Did you have emissions reduction initiatives that were active within the reporting year? Note that this can include those in the planning and/or implementation phases.

Yes

C4.3a

(C4.3a) Identify the total number of initiatives at each stage of development, and for those in the implementation stages, the estimated CO2e savings.

	Number of initiatives	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	2	23,830
To be implemented*	6	69,117
Implementation commenced*	3	128,286
Implemented*	3	37,296
Not to be implemented	0	0

C4.3b

(C4.3b) Provide details on the initiatives implemented in the reporting year in the table below.

Initiative category & Initiative type

Energy efficiency in production processes

Waste heat recovery

Estimated annual CO2e savings (metric tonnes CO2e)

2,629

Scope(s)

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

37,300

Investment required (unit currency – as specified in C0.4)

500,000

Payback period

1-3 years

Estimated lifetime of the initiative

6-10 years

Comment

Montreal refinery: Upgraded compressor and had electrical saving J-5120 and J-5130

Initiative category & Initiative type

Energy efficiency in production processes

Waste heat recovery

Estimated annual CO2e savings (metric tonnes CO2e)

16,013

Scope(s)

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

1,094,719

Investment required (unit currency – as specified in C0.4)

500,000

Payback period

1-3 years

Estimated lifetime of the initiative

3-5 years

Comment

Oil sands base plant: hot process water optimization

Initiative category & Initiative type

Energy efficiency in production processes

Waste heat recovery

Estimated annual CO2e savings (metric tonnes CO2e)
13

Scope(s)
Scope 1

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
872

Investment required (unit currency – as specified in C0.4)
500,000

Payback period
1-3 years

Estimated lifetime of the initiative
3-5 years

Comment
Oil sands base plant: fuel gas utilization optimization to reduce flaring

C4.3c

(C4.3c) What methods do you use to drive investment in emissions reduction activities?

Method	Comment
Dedicated budget for low-carbon product R&D	Our pursuit of new oil sands extraction technology and process innovation is one method that is used to manage the potential cost of complying with emerging carbon regulations and policy frameworks. The development of low carbon technologies is also a key aspect of Suncor's efforts to meet its GHG goal. In 2020, Suncor spent approximately $535 million on technology development and deployment and digital technologies targeting the reduction of capital expenditures, lowering operating costs and environmental performance improvements. The unique nature of our processes could afford us the opportunity to fundamentally reduce our emissions intensity and enhance the way we responsibly develop Canada's oil sands resources. For example, we are piloting innovative technologies for bitumen resource recovery that use electromagnetic heating in combination with solvent dilution, potentially reducing the need for water and significantly reducing the energy (GHG) required from steam generation. Another technology under development that uses no water instead uses vaporized hydrocarbon solvents to heat a

	bitumen reservoir. The solvent dilutes and mobilizes bitumen for efficient and effective extraction.
Employee engagement	Suncor employees take individual accountability for reducing waste and improving energy efficiency as part of our employee engagement initiative and Green Ambassador Program. This initiative extends from lunchtime sessions on energy conservation to recognizing employees for energy efficiency and special recognition for GHG emission reduction projects through Suncor Excellence Awards. Additionally, initiatives are underway to engage with business units and employees in regard to methods of meeting our GHG goal, including presentations at internal conferences and articles in internal communication channels (e.g. website, email updates).
Internal price on carbon	An internal carbon price is applied in the annual business planning process for each of our facilities to understand the impact that the expected carbon regulations will have on our operating costs. The internal cost of carbon is also applied to all of our potential growth projects and strategies to assess the viability of the projects over the long term.
Internal incentives/recognition programs	We incentivize GHG performance by progressing projects that get us closer to our GHG goal (e.g. fuel switching, in situ pilots, renewables) and these are reflected in the business unit “strategic initiatives” component of the executive annual incentive pay.
Marginal abatement cost curve	Suncor applies internal and external marginal abatement cost curves to prioritize mitigation projects and rank specific opportunities. The carbon price outlook is used to evaluate abatement economics.
Partnering with governments on technology development	Suncor collaborates with the following government-based organizations: Emissions Reduction Alberta supports projects that help Alberta to reduce greenhouse gas emissions and adapt to climate change. Alberta Innovates - to help drive research and accelerate technologies that improve overall environmental performance.
Other Partnering with Academia	Suncor provides in-kind and/or funding support toward academic research in the areas of energy systems, energy & climate change policies, carbon lifecycle modelling and analysis, technology development and carbon sequestration initiatives.
Other Energy Management Systems (EMS)	Energy is one of Suncor’s largest inputs creating a natural incentive for us to continue to reduce our overall energy use and the related emissions. The EMS includes both installed energy monitoring equipment as well as a process followed at each of our key operating facilities that provides real time energy information to operators, allowing them to correct and optimize energy inputs on a continuous basis.
Other	Operational Reliability and Continuous Improvement driven by Suncor’s focus on operational excellence is another method used by our

Operational Reliability and Continuous Improvement	company to increase our efficiency and thereby reducing Suncor's emissions. Suncor's operational excellence extends through our integrated business, applying consistent stringent standards and practices to improve overall performance. GHG benefits include reduced downtime and start-up.

C4.5

(C4.5) Do you classify any of your existing goods and/or services as low-carbon products or do they enable a third party to avoid GHG emissions?

Yes

C4.5a

(C4.5a) Provide details of your products and/or services that you classify as low-carbon products or that enable a third party to avoid GHG emissions.

Level of aggregation

Product

Description of product/Group of products

Cogeneration Power

Are these low-carbon product(s) or do they enable avoided emissions?

Low-carbon product

Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions

Other, please specify

Electricity Grid Factors – Environment Canada National Inventory Report , 1990-2017, Part 3, Annex 13 Electricity in Canada: Summary and Intensity Tables In 2019, we used the updated GWP's released in the IPCC fourth assessment report (2007).

% revenue from low carbon product(s) in the reporting year

0.44

Comment

With the cogeneration operations in Upstream facilities, Suncor is amongst the largest power producers in Alberta. Suncor facilities use cogeneration to produce combined steam and power, providing considerable energy efficiency gains. These facilities also export a surplus of power to the Alberta provincial power grid, reducing end user power customers by displacing coal power generation and less efficient natural gas generation with cleaner generation. 0.44% is the % revenue value associated with cogeneration as a portion of total revenue in 2020.

Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions: Other, please specify:
Electricity Grid Factors – Environment Canada National Inventory Report , 1990-2017, Part 3, Annex 13 Electricity in Canada: Summary and Intensity Tables

Global Warming Potentials – Environment Canada Global Warming Potentials
http://www.ec.gc.ca/ges-ghg/default.asp?lang=En&n=CAD07259-1
For the 2019 reporting year we have used the updated GWP's released in the IPCC fourth assessment report (2007).

Level of aggregation

Product

Description of product/Group of products

Wind/Renewable Power

Are these low-carbon product(s) or do they enable avoided emissions?

Low-carbon product

Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions

Other, please specify

Electricity Grid Factors – Environment Canada National Inventory Report , 1990-2017, Part 3, Annex 13 Electricity in Canada: Summary and Intensity Tables In 2019, we used the updated GWP's released in the IPCC fourth assessment report (2007).

% revenue from low carbon product(s) in the reporting year

0.09

Comment

Suncor produces renewable wind energy. The use of this power enables end users to avoid scope 2 emissions that would have otherwise been consumed through reliance on fossil-fuel power generation. The wind projects in Alberta, Saskatchewan and Ontario reduce the regional grid intensity factor. 0.09% is calculated based on revenue from renewable power sales as a portion of total revenue in 2020.

Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions: Other, please specify:
Electricity Grid Factors – Environment Canada National Inventory Report , 1990-2016, Part 3, Annex 13 Electricity in Canada: Summary and Intensity Tables

Global Warming Potentials – Environment Canada Global Warming Potentials
http://www.ec.gc.ca/ges-ghg/default.asp?lang=En&n=CAD07259-1
For the 2020, reporting year we have used the updated GWP's released in the IPCC fourth assessment report (2007).

Assumptions – Capacity factors for each contributing wind farm are assumed calculated to be 35% (average of all wind farms).

Level of aggregation

Product

Description of product/Group of products

Renewable Fuels

Are these low-carbon product(s) or do they enable avoided emissions?

Low-carbon product

Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions

Other, please specify

For the 2020 reporting year we have used the updated GWP's released in the IPCC fourth assessment report (2007).

% revenue from low carbon product(s) in the reporting year

0.86

Comment

Suncor's Ethanol Plant (St. Clair, Ontario) produces biofuel that is blended into gasoline and diesel to reduce the carbon intensity of the fuel purchased by our customers in our downstream operations. Suncor avoids close to 0.6 million tonnes of CO2e per year through the development, deployment and operation of renewable energy facilities. These avoided emissions are not currently deducted from our reported corporate wide GHG totals. 0.86% is calculated based on revenue from ethanol sales as a portion of total revenue from our St. Clair Ethanol plant (excluding government funding) in 2020.

Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions: Other, please specify:
Global Warming Potentials – Environment Canada Global Warming Potentials
http://www.ec.gc.ca/ges-ghg/default.asp?lang=En&n=CAD07259-1

C-OG4.6

(C-OG4.6) Describe your organization's efforts to reduce methane emissions from your activities.

Suncor's methane reduction efforts begin with all registered facilities being surveyed annually for leaks. All detected leaks to atmosphere are immediately fixed as a safety hazard. We also do not vent gas streams such as associated gas, tank blankets, compressor vents or compressor starters; we conserve when we can (if a low pressure system exists that we can tie

into) and flare the gas as a minimum. Some small remote sites without electrical power use natural gas to run pneumatics, but these are gradually being replaced by small instrument air or solar powered control packages. An additional source of methane emissions is from tailings ponds and exposed mine surfaces at Suncor's oil sands facilities. New monitoring technology is being developed to help the industry better understand the locations and timing of methane emissions form these sources. Monitoring technology development includes open path sensors that can measure methane concentrations along a line over the source areas, methane concentration sensors mounted on drones or fixed wing airplanes that can measure the concentrations of methane along screens or boxed downwind of facilities, and satellite-mounted sensors that measure methane in the air column above facilities. These detection technologies will help Suncor to better understand where and when methane emissions come from areal sources, helping allow for improved reduction efforts. Methane reduction efforts being examined in regards to emissions from tailings ponds include looking into froth treatment technologies and tailings handling techniques that may reduce the precursors to methane building up in tailings ponds.

C-OG4.7

(C-OG4.7) Does your organization conduct leak detection and repair (LDAR) or use other methods to find and fix fugitive methane emissions from oil and gas production activities?

Yes

C-OG4.7a

(C-OG4.7a) Describe the protocol through which methane leak detection and repair or other leak detection methods, are conducted for oil and gas production activities, including predominant frequency of inspections, estimates of assets covered, and methodologies employed.

Our upstream oil and gas facilities comply with provincial and federal methane regulations - Regulations Respecting Reduction in the Release of Methane and Certain Volatile Organic Compounds (Upstream Oil and Gas Sector) published by the Canadian federal government in 2018, as applicable for leak detection and repair (LDAR). Methodologies employed are both optical gas imaging (OGI) camera inspections and US EPA Method 21. Leak repair confirmation is done by US EPA Method 21. The frequency of inspections is as required by the regulations. Our upgraders and refineries meet the requirements of their regulatory approvals and operate in compliance with the Canadian Council of Ministers of Environment (CCME) Environmental Code of Practice for the Measurement and Control of Fugitive VOC Emissions From Equipment Leaks (Oct 1993).

In addition to complying with existing regulatory requirements, Suncor works with COSIA to develop new methods of detecting fugitive methane emissions. Regulators follow these research efforts to improve methane emissions technologies, standards, and regulations continuously. One recent example of an innovative methane emissions detection technology is a satellite-based methane detection sensor that can quantify methane concentrations directly above industrial facilities at a spatial resolution of approximately 50m.

C-OG4.8

(C-OG4.8) If flaring is relevant to your oil and gas production activities, describe your organization's efforts to reduce flaring, including any flaring reduction targets.

Intermittent flaring during process fluctuations is part of the process in Suncor's oil production activities. Suncor does not have a separate goal for reducing flaring in operations. However, as flaring is included in Scope 1 emissions, Flaring Reduction Programs are currently covered within the scope of Suncor's GHG intensity reduction goal. This reduction goal aims to reduce total GHG emission intensity of the production of oil and petroleum products by 30% by 2030, and as a result of this goal, GHG intensive processes, such as flaring, are encouraged to be reduced through energy efficiency goals applied to the business unit level. These energy efficiency goals will help contribute to Suncor's companywide GHG goal, and ultimately help lower the intensity of Suncor's production by 2030.

In Flaring Reduction Programs, Suncor is making efforts to manage and minimize the flaring. For example, at Suncor's Terra Nova offshore petroleum facility, flare management practices are implemented that are consistent with the World Bank Global Flaring Initiative. In Suncor upstream oil sands facility, great efforts have been put in fuel gas optimization which includes developing better fuel gas blending controller and utilization. The implementation of those projects has allowed a better fuel gas distribution within the plant and therefore minimize implementation of those projects has allowed a better fuel gas distribution within the plant and therefore minimizes fuel gas and hydrogen flaring.

C5. Emissions methodology

C5.1

(C5.1) Provide your base year and base year emissions (Scopes 1 and 2).

Scope 1

Base year start

January 1, 2010

Base year end

December 31, 2010

Base year emissions (metric tons CO2e)

17,073,028

Comment

Direct emissions - definition and category aligned with Environmental Canada GHGRP guidance

Scope 2 (location-based)

Base year start

January 1, 2010

Base year end

December 31, 2010

Base year emissions (metric tons CO2e)

1,841,748

Comment

Purchased low-carbon electricity and steam use grid electricity emission factor and general steam emission factor

Scope 2 (market-based)

Base year start

January 1, 2010

Base year end

December 31, 2010

Base year emissions (metric tons CO2e)

1,313,469

Comment

Purchased low-carbon electricity and steam use supplier-specific emission factors

C5.2

(C5.2) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate emissions.

American Petroleum Institute Compendium of Greenhouse Gas Emissions Methodologies for the Oil and Natural Gas Industry, 2009
IPCC Guidelines for National Greenhouse Gas Inventories, 2006
The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)
US EPA Center for Corporate Climate Leadership: Indirect Emissions From Purchased Electricity
US EPA Center for Corporate Climate Leadership: Direct Emissions from Stationary Combustion Sources
US EPA Center for Corporate Climate Leadership: Direct Emissions from Mobile Combustion Sources
US EPA Mandatory Greenhouse Gas Reporting Rule
Other, please specify
Canada's National Inventory Report (NIR), 2019; WBCSD/WRI GHG Gas Protocol: A Corporate Accounting and Reporting Standard 2004; Canadian federal and provincial Greenhouse Gas Quantification regulations, WCI Final Essential Requirements, and others

C5.2a

(C5.2a) Provide details of the standard, protocol, or methodology you have used to collect activity data and calculate emissions.

- For Quebec facilities: Regulation respecting mandatory reporting of certain emissions of contaminants into the atmosphere 2020;
- For British Columbia facilities: Final Essential Requirements for Mandatory Reporting – Amended for Canadian Harmonization, 2011; Western Climate Initiative (WCI) Final Essential Requirements of Mandatory Reporting: Amended for Canadian Harmonization, 2013;
- For Ontario facilities: Canadian's Greenhouse Gas Quantification Requirements (Greenhouse Gas Reporting Program), 2020;
- For Alberta facilities: Alberta Greenhouse Gas Quantification Methodologies (Technology Innovation and Emission Reduction Regulation) (Version 2.1);
- For Newfoundland facilities: Management of Greenhouse Gas Reporting Regulations under the Management of Greenhouse Gas Act, 2017;
- For other Canadian facilities: Canadian's Greenhouse Gas Quantification Requirements (Greenhouse Gas Reporting Program), 2020;
- For US facilities: US EPA Mandatory Greenhouse Gas Reporting Rule

C6. Emissions data

C6.1

(C6.1) What were your organization’s gross global Scope 1 emissions in metric tons CO2e?

Reporting year

Gross global Scope 1 emissions (metric tons CO2e)

19,564,862

Start date

January 1, 2020

End date

December 31, 2020

Comment

Scope 1 (Direct Emission) are emissions from sources that are owned and controlled by Suncor. In 2020, Suncor's gross global Scope 1 emissions are calculated as per Environment Canada Facility Greenhouse Gas Reporting Program guidance, including reporting boundary, emission category, calculation methodology and global warming potentials.

Past year 1

Gross global Scope 1 emissions (metric tons CO2e)

Start date

End date

Comment

C6.2

(C6.2) Describe your organization's approach to reporting Scope 2 emissions.

Row 1

Scope 2, location-based

We are reporting a Scope 2, location-based figure

Scope 2, market-based

We are reporting a Scope 2, market-based figure

Comment

Scope 2 includes emissions from energy purchased or acquired and consumed by the reporting company. It includes the emissions from purchase electricity, steam, heat and cooling. Scope 2 emission are considered an indirect emissions source (along with Scope 3), because the emissions are a consequence of activities of the reporting organization but actually occur at sources owned or controlled by another organization (i.e. an electricity generator or utility).

In 2020, Suncor location-based Scope 2 emissions are calculated based on generic emission factors (i.e. grid electricity emission factor, natural gas boiler steam generation emission factor, and chilled water emission factor). Suncor market-based Scope 2 emissions are calculated by using supplier-specific emission factors for purchased commodity, or determined by developing facility-specific methodology.

C6.3

(C6.3) What were your organization's gross global Scope 2 emissions in metric tons CO2e?

Reporting year

Scope 2, location-based

1,290,990

Scope 2, market-based (if applicable)

1,226,367

Start date

January 1, 2020

End date

December 31, 2020

Comment

Indirect (Scope 2) includes emissions from energy purchased or acquired and consumed by the reporting company. It includes the emissions from purchase electricity, steam, heat and cooling.

For Suncor facilities, the difference between location-based and market-based emissions are from electricity and steam purchased from known specific sources (e.g. Cogen plants) (MacKay River In-situ, Sania Refinery, and Commerce City Refinery), and steam purchased from Hydrogen plant (Edmonton Refinery), and cooling water purchased from waste water treatment plant (Edmonton Refinery)

Past year 1

Scope 2, location-based

1,422,340

Scope 2, market-based (if applicable)

1,339,909

Start date

January 1, 2019

End date

December 31, 2019

Comment

C6.4

(C6.4) Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure?

No

C6.5

(C6.5) Account for your organization's gross global Scope 3 emissions, disclosing and explaining any exclusions.

Purchased goods and services

Evaluation status

Relevant, not yet calculated

Please explain

All upstream (cradle-to-gate) emissions of purchased goods and services are not currently calculated. Suncor does collect information on emissions from invoiced purchased hydrogen volumes from suppliers.

Capital goods

Evaluation status

Relevant, not yet calculated

Please explain

All upstream (cradle-to-gate) emissions of purchased capital goods are not currently calculated.

Fuel-and-energy-related activities (not included in Scope 1 or 2)

Evaluation status

Relevant, not yet calculated

Please explain

All upstream (cradle-to-gate) emissions of purchased fuels, purchased electricity, T&D losses, and generation of purchased electricity sold to end users are not currently calculated.

Upstream transportation and distribution

Evaluation status

Relevant, not yet calculated

Please explain

All transportation and distribution of products purchased are not currently calculated.

Waste generated in operations

Evaluation status

Relevant, not yet calculated

Please explain

Disposal and treatment of waste generated in operations (in facilities not owned or controlled) are not currently calculated.

Business travel

Evaluation status

Relevant, not yet calculated

Please explain

All transportation of employees for business-related activities (in vehicles not owned or operated) are not currently calculated. Suncor does collect information on emissions

from business travel through commercial flight for both upstream and downstream facilities. Data from third party flight booking company and Suncor internal aviation system. This also includes the fuel consumption in fleet.

Employee commuting

Evaluation status

Relevant, not yet calculated

Please explain

All transportation of employees between their homes and their worksites (in vehicles not owned or operated) are not currently calculated. Suncor does collect information on emissions from bus diesel fuel consumption for non-operation related activities.

Upstream leased assets

Evaluation status

Relevant, not yet calculated

Please explain

All emissions from operation of assets leased are not currently calculated. Suncor does collect information on emissions from primary office buildings metered electrical use and upstream camps natural gas consumption.

Downstream transportation and distribution

Evaluation status

Relevant, not yet calculated

Please explain

All emissions from transportation and distribution of products sold are not currently calculated.

Processing of sold products

Evaluation status

Relevant, not yet calculated

Please explain

All emissions from processing of intermediate products sold are not currently calculated. Suncor does collect information on emissions from CO2 produced and sold to third party companies.

Use of sold products

Evaluation status

Relevant, calculated

Metric tonnes CO2e

123,000,000

Emissions calculation methodology

The estimated range of emissions on use of sold products is between 23 - 123 MtCO2e. GHG emissions from the use of sold products (category 11) is by far the most material scope 3 category for Suncor, which is consistent with other integrated energy producers. Due to the integrated nature of Suncor's business, scope 3 (category 11) emissions can be calculated at various stages of production. The International Petroleum Industry Environmental Conservation Association, or IPIECA, provides guidance on methodologies, considerations and reporting elements that Suncor has considered in the calculation of our scope 3 emissions. We recognize that stakeholders are interested in understanding our emissions and to remain transparent, we have provided our scope 3 emissions using multiple methodologies (these are not additive). Estimates of Suncor's scope 3 emissions are based on three different calculation methodologies: Upstream production = 123Mt; Refining throughput = 58Mt; Branded sales = 23Mt

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

Suncor holds all the necessary information for the 'use of sold products' emissions estimate.

End of life treatment of sold products

Evaluation status

Not relevant, explanation provided

Please explain

Since Suncor assumes its hydrocarbon products are combusted, there are no further end of life treatments assumed.

Downstream leased assets

Evaluation status

Relevant, not yet calculated

Please explain

All emissions from operation of assets leased are not currently calculated.

Franchises

Evaluation status

Relevant, not yet calculated

Please explain

All emissions from operation of franchises are not currently calculated.

Investments

Evaluation status

Not relevant, explanation provided

Please explain

Our 'use of sold products' calculation includes hydrocarbon from our invested, but not operated, assets.

Other (upstream)

Evaluation status

Not evaluated

Please explain

Other (downstream)

Evaluation status

Not evaluated

Please explain

C6.7

(C6.7) Are carbon dioxide emissions from biogenic carbon relevant to your organization?

No

C6.10

(C6.10) Describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tons CO2e per unit currency total revenue and provide any additional intensity metrics that are appropriate to your business operations.

Intensity figure

0.000837584

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)

20,855,851

Metric denominator

unit total revenue

Metric denominator: Unit total

24,900,000,000

Scope 2 figure used

Location-based

% change from previous year

46.1

Direction of change

Increased

Reason for change

Emission decreased by 8.8%, revenue decreased by: 37.5%, results in increase of intensity figure in 2020 by 46.1%. Suncor's downstream refining and supply facilities had a significant lower production mainly due to reduced gasoline during the COVID-19 pandemic beginning in the first quarter of 2020 and with the Government of Alberta's mandatory production curtailments implemented during 2019, resulted in the higher GHG intensity compared to 2019.

Intensity figure

0.069896521

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)

20,855,851

Metric denominator

barrel of oil equivalent (BOE)

Metric denominator: Unit total

298,381,822

Scope 2 figure used

Location-based

% change from previous year

17.77

Direction of change

Increased

Reason for change

Emission decreased by 8.8%, production decreased by 15.1%, results in increase of intensity figure in 2020 by 17.77%. Suncor's downstream refining and supply facilities had a significant lower production mainly due to reduced gasoline during the COVID-19 pandemic beginning in the first quarter of 2020 and with the Government of Alberta's mandatory production curtailments implemented during 2019, resulted in the higher GHG intensity compared to 2019.

C-OG6.12

(C-OG6.12) Provide the intensity figures for Scope 1 emissions (metric tons CO2e) per unit of hydrocarbon category.

Unit of hydrocarbon category (denominator)

Thousand barrels of crude oil/ condensate

Metric tons CO2e from hydrocarbon category per unit specified

0

% change from previous year

100

Direction of change

Decreased

Reason for change

Terra Nova has been shut down since December 2019 with the Asset Life Extension (ALE) plan. The Terra Nova FPSO then left the field and went quayside for all of 2020. The TN facility was not producing in 2020 therefore the data shows: 0 production and 45.5 kt CO2e emissions related to preservation/vessel activities (no production activities). Suncor will be reporting these emissions to ECCC, as it meets the minimum 10 ktCO2e threshold, but these emissions are not production-related. In 2021, co-owners have reached an agreement in principle to restructure the project ownership and provide short-term funding toward continuing the development of the Asset Life Extension Project, with the intent to move to a sanction decision in fall 2021.

Comment

The denominator is Suncor E&P Terra Nova crude oil production

Unit of hydrocarbon category (denominator)

Thousand barrels of oil sands (includes bitumen and synthetic crude)

Metric tons CO2e from hydrocarbon category per unit specified

70.37

% change from previous year

3

Direction of change

Decreased

Reason for change

In 2020 Suncor upstream Oil Sands Base Plant Upgrader had comparable SCO production with 2019, while the Scope 1 emission decreased due to less flaring and less

consumption of high emission intensity fuels (i.e. coke), which leads to higher energy efficiency in Upgrading plants.

Comment

The denominator is Suncor upstream SCO production

Unit of hydrocarbon category (denominator)

Thousand barrels of oil sands (includes bitumen and synthetic crude)

Metric tons CO2e from hydrocarbon category per unit specified

64.32

% change from previous year

13

Direction of change

Increased

Reason for change

In 2020, the production and emissions at Suncor's Firebag steam assisted gravity drainage (SAGD) operations was comparable with 2019. Firebag expanded its capacity to 215 kbbls/day in Q4 2020, which offset the lower production due to COVID-19. Suncor's overall In Situ facility emission intensity was higher compared to 2019. The intensity increase was mainly due to fire and unexpected maintenance for four months at the MacKay River facility.

In 2020, Suncor Fort Hills Mining facility had a significant lower production with Secondary Extraction moving from 2 train to 1 train operations for 6 monghts due to pandemic and cost savings, which resulted in the higher GHG intensity compared to 2019.

Comment

The denominator is Suncor upstream In-situ bitumen and Fort Hills bitumen productions

Unit of hydrocarbon category (denominator)

Thousand barrels of refinery net production

Metric tons CO2e from hydrocarbon category per unit specified

25.16

% change from previous year

4

Direction of change

Increased

Reason for change

In 2020, Suncor downstream refining and supply facilities had a significant lower production mainly due to reduced gasoline demand during pandemic, which resulted in the higher GHG intensity compared to 2019.

Comment

The denominator is Suncor total downstream product to market

C-OG6.13

(C-OG6.13) Report your methane emissions as percentages of natural gas and hydrocarbon production or throughput.

Oil and gas business division

Upstream

Estimated total methane emitted expressed as % of natural gas production or throughput at given division

Estimated total methane emitted expressed as % of total hydrocarbon production or throughput at given division

0.03

Comment

The unit is tonne CH4 / m3 total upstream hydrocarbon production.
The methane emissions are the total combined gross Scope 1 methane emissions from Suncor upstream facilities (including vents, leaks, etc.).

Oil and gas business division

Downstream

Estimated total methane emitted expressed as % of natural gas production or throughput at given division

Estimated total methane emitted expressed as % of total hydrocarbon production or throughput at given division

0.003

Comment

The unit is tonne CH4 / m3 total downstream hydrocarbon production.
The methane emissions are the total combined gross Scope 1 methane emissions from Suncor upstream facilities (including vents, leaks, etc.).

C7. Emissions breakdowns

C7.1

(C7.1) Does your organization break down its Scope 1 emissions by greenhouse gas type?

Yes

C7.1a

(C7.1a) Break down your total gross global Scope 1 emissions by greenhouse gas type and provide the source of each used greenhouse warming potential (GWP).

Greenhouse gas	Scope 1 emissions (metric tons of CO2e)	GWP Reference
CO2	19,207,269	IPCC Fourth Assessment Report (AR4 - 100 year)
CH4	263,819	IPCC Fourth Assessment Report (AR4 - 100 year)
N2O	88,794	IPCC Fourth Assessment Report (AR4 - 100 year)
HFCs	1,122	IPCC Fourth Assessment Report (AR4 - 100 year)
PFCs	105	IPCC Fourth Assessment Report (AR4 - 100 year)
SF6	3,752	IPCC Fourth Assessment Report (AR4 - 100 year)

C-OG7.1b

(C-OG7.1b) Break down your total gross global Scope 1 emissions from oil and gas value chain production activities by greenhouse gas type.

Emissions category

Fugitives

Value chain

Upstream

Product

Oil

Gross Scope 1 CO2 emissions (metric tons CO2)

97,998

Gross Scope 1 methane emissions (metric tons CH4)

8,853

Total gross Scope 1 emissions (metric tons CO2e)

319,322

Comment

Upstream facilities include bitumen and crude oil producers

Emissions category

Fugitives

Value chain

Downstream

Product

Oil

Gross Scope 1 CO2 emissions (metric tons CO2)

Gross Scope 1 methane emissions (metric tons CH4)

95

Total gross Scope 1 emissions (metric tons CO2e)

2,367

Comment

Downstream facilities include refineries and renewable fuel producers, as well as pipeline and product terminals

Emissions category

Venting

Value chain

Upstream

Product

Oil

Gross Scope 1 CO2 emissions (metric tons CO2)

5,118

Gross Scope 1 methane emissions (metric tons CH4)

359

Total gross Scope 1 emissions (metric tons CO2e)

14,081

Comment

Suncor does not have gas production

Emissions category

Venting

Value chain

Downstream

Product

Oil

Gross Scope 1 CO2 emissions (metric tons CO2)

292,834

Gross Scope 1 methane emissions (metric tons CH4)

9

Total gross Scope 1 emissions (metric tons CO2e)

293,538

Comment

Emissions category

Flaring

Value chain

Upstream

Product

Oil

Gross Scope 1 CO2 emissions (metric tons CO2)

172,019

Gross Scope 1 methane emissions (metric tons CH4)

125

Total gross Scope 1 emissions (metric tons CO2e)

175,632

Comment

Emissions category
Flaring

Value chain
Downstream

Product
Oil

Gross Scope 1 CO2 emissions (metric tons CO2)
180,576

Gross Scope 1 methane emissions (metric tons CH4)
372

Total gross Scope 1 emissions (metric tons CO2e)
190,418

Comment

Emissions category
Combustion (excluding flaring)

Value chain
Upstream

Product
Oil

Gross Scope 1 CO2 emissions (metric tons CO2)
12,861,813

Gross Scope 1 methane emissions (metric tons CH4)
472

Total gross Scope 1 emissions (metric tons CO2e)
12,923,187

Comment

Emissions category
Combustion (excluding flaring)

Value chain

Downstream

Product

Oil

Gross Scope 1 CO2 emissions (metric tons CO2)

2,940,952

Gross Scope 1 methane emissions (metric tons CH4)

83

Total gross Scope 1 emissions (metric tons CO2e)

2,955,002

Comment

Emissions category

Process (feedstock) emissions

Value chain

Product

Oil

Gross Scope 1 CO2 emissions (metric tons CO2)

1,355,473

Gross Scope 1 methane emissions (metric tons CH4)

0

Total gross Scope 1 emissions (metric tons CO2e)

1,355,473

Comment

Emissions category

Other (please specify)

Emissions not elsewhere classified

Value chain

Product

Oil

Gross Scope 1 CO2 emissions (metric tons CO2)

1,300,486

Gross Scope 1 methane emissions (metric tons CH4)

185

Total gross Scope 1 emissions (metric tons CO2e)

1,335,841

Comment

Mainly from on-site transportation

C7.2

(C7.2) Break down your total gross global Scope 1 emissions by country/region.

Country/Region	Scope 1 emissions (metric tons CO2e)
Canada	18,690,230
United States of America	874,632

C7.3

(C7.3) Indicate which gross global Scope 1 emissions breakdowns you are able to provide.

By business division
By facility
By activity

C7.3a

(C7.3a) Break down your total gross global Scope 1 emissions by business division.

Business division	Scope 1 emissions (metric ton CO2e)
Upstream	15,388,334
Downstream	4,176,528

C7.3b

(C7.3b) Break down your total gross global Scope 1 emissions by business facility.

Facility	Scope 1 emissions (metric tons CO2e)	Latitude	Longitude
Oil Sands Base Plant	8,064,853	57.0033	-111.4661
In Situ Firebag	5,112,319	57.2297	-110.8325
In Situ MacKay River	261,600	57.03347	-111.88712
Terra Nova FPSO	0	46.2831	-48.2851

Edmonton Refinery	1,277,302	53.55558	-113.33275
Montreal Refinery	1,081,831	45.50806	-73.57111
Sarnia Refinery	761,493	42.9306	-82.4433
Commerce City Refinery	874,632	39.80168	-104.94698
Montreal Sulphur Plant	22,497	45.639381	-73.515457
Burrard Terminal	11,374	49.283	-122.85
Canadian Pipelines	5,934	57.1165	-111.1493
Renewables - St. Clair Ethanol Plant	140,693	42.9294	-82.4381
Renewables - Wind	6	49.71306	-112.78745
Fort Hills	1,949,563	57.39207	-111.56791
US Pipelines and Terminals	764	39.1779	-108.78052

C7.3c

(C7.3c) Break down your total gross global Scope 1 emissions by business activity.

Activity	Scope 1 emissions (metric tons CO2e)
Stationary combustion (for electricity generation)	3,873,764
Stationary combustion (for other heating use)	12,004,426
Process emissions	1,355,473
Fugitive emissions	321,690
Flaring and Venting emissions	673,669
Transportation	1,329,388
Other	6,453

C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4

(C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4) Break down your organization's total gross global Scope 1 emissions by sector production activity in metric tons CO2e.

	Gross Scope 1 emissions, metric tons CO2e	Comment

Oil and gas production activities (upstream)	15,388,334	
Oil and gas production activities (midstream)		
Oil and gas production activities (downstream)	4,176,528	

C7.5

(C7.5) Break down your total gross global Scope 2 emissions by country/region.

Country/Region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low-carbon electricity, heat, steam or cooling accounted for in Scope 2 market-based approach (MWh)
Canada	1,099,843	1,090,222	4,867,608	2,740,776
United States of America	191,147	136,145	0	0

C7.6

(C7.6) Indicate which gross global Scope 2 emissions breakdowns you are able to provide.

By business division
By facility
By activity

C7.6a

(C7.6a) Break down your total gross global Scope 2 emissions by business division.

Business division	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Upstream	455,971	357,580
Downstream	835,018	868,787

C7.6b

(C7.6b) Break down your total gross global Scope 2 emissions by business facility.

Facility	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Oil Sands Base Plant	6	6
In Situ Firebag	0	0

In Situ MacKay River	451,291	352,899
Terra Nova FPSO		
Fort Hills	4,675	4,675
Edmonton Refinery	445,162	418,093
Montreal Refinery	547	547
Sarnia Refinery	157,467	273,307
Commerce City Refinery	191,147	136,145
Montreal Sulphur Plant	12	12
Burrard Terminal	116	116
Canadian Pipelines	39,345	39,345
Renewables - St Clair Ethanol Plant	1,218	1,218
Renewables - Wind	5	5
US Pipelines and Terminals	0	0

C7.6c

(C7.6c) Break down your total gross global Scope 2 emissions by business activity.

Activity	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Purchased Electricity	602,497	610,831
Purchased Steam	688,433	614,906
Purchased Heat		
Purchased Cooling	59	631

C-CE7.7/C-CH7.7/C-CO7.7/C-MM7.7/C-OG7.7/C-ST7.7/C-TO7.7/C-TS7.7

(C-CE7.7/C-CH7.7/C-CO7.7/C-MM7.7/C-OG7.7/C-ST7.7/C-TO7.7/C-TS7.7) Break down your organization's total gross global Scope 2 emissions by sector production activity in metric tons CO2e.

	Scope 2, location-based, metric tons CO2e	Scope 2, market-based (if applicable), metric tons CO2e	Comment
Oil and gas production activities (upstream)	544,917	357,580	
Oil and gas production activities (midstream)			

Oil and gas production activities (downstream)	835,018	868,787	

C7.9

(C7.9) How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to those of the previous reporting year?

Decreased

C7.9a

(C7.9a) Identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined), and for each of them specify how your emissions compare to the previous year.

	Change in emissions (metric tons CO2e)	Direction of change	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption	4,544	Decreased	0.23	2020 emissions from two sources are quantified and compared to 2019: Biodiesel is consumed in Oil Sand Base Plant and Fort Hills for various conbustion equipments and heavy hauler/trucks for Mining site; Biogas which is generated from fermentation is consumed in Ethanol Plant in equipment.
Other emissions reduction activities	37,269	Decreased	1.86	A few projects were conduced in 2020 to improve energy efficiency and therefore decreased the Scope 1 emissions. These projects include process optimization to improve heat transfer and plant reliability.
Divestment				
Acquisitions				
Mergers				
Change in output				
Change in methodology				
Change in boundary				

Change in physical operating conditions				
Unidentified				
Other	1,960,922	Decreased	97.91	Scope 1 + 2 emissions decreased compared to 2019 primarily due to decreased production during pandemic with lower market demand, as well as planned/unplanned plant maintenance.

C7.9b

(C7.9b) Are your emissions performance calculations in C7.9 and C7.9a based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?

Location-based

C8. Energy

C8.1

(C8.1) What percentage of your total operational spend in the reporting year was on energy?

More than 10% but less than or equal to 15%

C8.2

(C8.2) Select which energy-related activities your organization has undertaken.

	Indicate whether your organization undertook this energy-related activity in the reporting year
Consumption of fuel (excluding feedstocks)	Yes
Consumption of purchased or acquired electricity	Yes
Consumption of purchased or acquired heat	No
Consumption of purchased or acquired steam	Yes
Consumption of purchased or acquired cooling	Yes

Generation of electricity, heat, steam, or cooling	Yes

C8.2a

(C8.2a) Report your organization's energy consumption totals (excluding feedstocks) in MWh.

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total (renewable and non-renewable) MWh
Consumption of fuel (excluding feedstock)	LHV (lower heating value)	52,174	87,523,207	87,575,381
Consumption of purchased or acquired electricity		0	1,803,216	1,803,216
Consumption of purchased or acquired steam		0	3,064,191	3,064,191
Consumption of purchased or acquired cooling		0	201	201
Consumption of self-generated non-fuel renewable energy				
Total energy consumption		52,174	92,390,814	92,442,988

C8.2b

(C8.2b) Select the applications of your organization's consumption of fuel.

	Indicate whether your organization undertakes this fuel application
Consumption of fuel for the generation of electricity	Yes
Consumption of fuel for the generation of heat	Yes
Consumption of fuel for the generation of steam	Yes
Consumption of fuel for the generation of cooling	No

Consumption of fuel for co-generation or tri-generation	Yes

C8.2c

(C8.2c) State how much fuel in MWh your organization has consumed (excluding feedstocks) by fuel type.

Fuels (excluding feedstocks)

Natural Gas

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

53,325,191

MWh fuel consumed for self-generation of electricity

19,261,836

MWh fuel consumed for self-generation of heat

13,198,893

MWh fuel consumed for self-generation of steam

20,864,462

MWh fuel consumed for self-cogeneration or self-trigeneration

25,455,474

Emission factor

0.00211

Unit

metric tons CO2e per m3

Emissions factor source

NG composition; Canadian's Greenhouse Gas Quantification Requirements (Greenhouse Gas Reporting Program), 2020

Comment

NG compositions are provided by NG producers (weighted average of upstream and downstream facilities)

Fuels (excluding feedstocks)

Fuel Gas

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

19,879,798

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

14,412,560

MWh fuel consumed for self-generation of steam

5,467,238

MWh fuel consumed for self-cogeneration or self-trigeneration

0

Emission factor

0.0018

Unit

metric tons CO2e per m3

Emissions factor source

Gas composition; Canadian's Greenhouse Gas Quantification Requirements (Greenhouse Gas Reporting Program), 2020

Comment

Fuel gas compositions are obtained from lab analysis (weighted average of upstream and downstream facilities)
Emission factor: 0.001804

Fuels (excluding feedstocks)

Diesel

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

5,716,193

MWh fuel consumed for self-generation of electricity

MWh fuel consumed for self-generation of heat

5,716,193

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-cogeneration or self-trigeneration
0

Emission factor
942.4

Unit
lb CO2e per barrel

Emissions factor source
Canadian's Greenhouse Gas Quantification Requirements (Greenhouse Gas Reporting Program), 2020

Comment
Default emission factors are applied

Fuels (excluding feedstocks)
Heavy Gas Oil

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
334,613

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
77,482

MWh fuel consumed for self-generation of steam
257,131

MWh fuel consumed for self-cogeneration or self-trigeneration
0

Emission factor
1,102.3

Unit
lb CO2e per barrel

Emissions factor source
Canadian's Greenhouse Gas Quantification Requirements (Greenhouse Gas Reporting Program), 2020

Comment
Default emission factors are applied

Fuels (excluding feedstocks)

Propane Liquid

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

41,030

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

41,030

MWh fuel consumed for self-generation of steam

MWh fuel consumed for self-cogeneration or self-trigeneration

0

Emission factor

542.5

Unit

lb CO2e per barrel

Emissions factor source

Canadian's Greenhouse Gas Quantification Requirements (Greenhouse Gas Reporting Program), 2020

Comment

Default emission factors are applied

Fuels (excluding feedstocks)

Petroleum Coke

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

6,713,152

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

2,391,396

MWh fuel consumed for self-generation of steam

4,321,756

MWh fuel consumed for self-cogeneration or self-trigeneration

0

Emission factor

2.738

Unit

metric tons CO2e per metric ton

Emissions factor source

Coke composition; Albeta Greenhouse Gas Quantification Methodologies (Technology Innovation and Emission Redeuction Regulation) (Version 2.1)

Comment

Coke compositions are obtained from lab analysis

Fuels (excluding feedstocks)

Biodiesel

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

51,592.1

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

51,592

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-cogeneration or self-trigeneration

0

Emission factor

869.2

Unit

lb CO2e per barrel

Emissions factor source

Albeta Greenhouse Gas Quantification Methodologies (Technology Innovation and Emission Redeuction Regulation) (Version 2.1)

Comment

Default emission factors are applied

Fuels (excluding feedstocks)

Biogas

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-cogeneration or self-trigeneration

0

Emission factor

0.04954

Unit

metric tons CO2e per GJ

Emissions factor source

Canadian's Greenhouse Gas Quantification Requirements (Greenhouse Gas Reporting Program), 2020

Comment

Default emission factors are applied

C8.2d

(C8.2d) Provide details on the electricity, heat, steam, and cooling your organization has generated and consumed in the reporting year.

	Total Gross generation (MWh)	Generation that is consumed by the organization (MWh)	Gross generation from renewable sources (MWh)	Generation from renewable sources that is consumed by the organization (MWh)

Electricity	7,754,997	6,562,338	96,952	0
Heat	28,711,317	28,711,317	140,764	140,764
Steam	22,108,583	22,108,583	0	0
Cooling	0	0	0	0

C8.2e

(C8.2e) Provide details on the electricity, heat, steam, and/or cooling amounts that were accounted for at a zero emission factor in the market-based Scope 2 figure reported in C6.3.

Sourcing method

Heat/steam/cooling supply agreement

Low-carbon technology type

Other, please specify

Cogeneration

Country/area of consumption of low-carbon electricity, heat, steam or cooling

Canada

MWh consumed accounted for at a zero emission factor

2,740,776

Comment

Cogeneration Power Emission factor: 0.2445 metric tons CO2e per MWh Cogeneration Steam Emission factor: 0.2001 metric tons CO2e per MWh

C9. Additional metrics

C9.1

(C9.1) Provide any additional climate-related metrics relevant to your business.

C-OG9.2a

(C-OG9.2a) Disclose your net liquid and gas hydrocarbon production (total of subsidiaries and equity-accounted entities).

	In-year net production	Comment

Crude oil and condensate, million barrels	0	2020 crude oil produced from Terra Nova FPSO is 0. Terra Nova has been shut down since December 2019 with the Asset Life Extension (ALE) plan. The Terra Nova FPSO then left the field and went quayside for all of 2020. Suncor is still determining an economically viable path forward for the safe and reliable return to operations.
Natural gas liquids, million barrels	0	No NGL produced from Suncor Facilities
Oil sands, million barrels (includes bitumen and synthetic crude)	181.1	2020 Bitumen and synthetic crude oil produced from Oil Sands facilities
Natural gas, billion cubic feet	0	No NG produced from Suncor Facilities

C-OG9.2b

(C-OG9.2b) Explain which listing requirements or other methodologies you use to report reserves data. If your organization cannot provide data due to legal restrictions on reporting reserves figures in certain countries, please explain this.

Suncor reports reserves in accordance with Canadian Securities Administrators' National Instrument 51-101 "Standards of Disclosure for Oil and Gas Activities" (NI 51-101). Suncor's reserves were evaluated by independent qualified reserves evaluators, GLJ and Sproule, in accordance with NI 51-101 and the Canadian Oil and Gas Evaluation (COGE) Handbook. Suncor reports 1P reserves in accordance with the Securities and Exchange Commission (SEC).

C-OG9.2c

(C-OG9.2c) Disclose your estimated total net reserves and resource base (million boe), including the total associated with subsidiaries and equity-accounted entities.

	Estimated total net proved + probable reserves (2P) (million BOE)	Estimated total net proved + probable + possible reserves (3P) (million BOE)	Estimated net total resource base (million BOE)	Comment
Row 1	6,658			Volumes and percentages based on NI 51-101. 101.

C-OG9.2d

(C-OG9.2d) Provide an indicative percentage split for 2P, 3P reserves, and total resource base by hydrocarbon categories.

	Net proved + probable reserves (2P) (%)	Net proved + probable + possible reserves (3P) (%)	Net total resource base (%)	Comment
Crude oil/ condensate/ natural gas liquids	4			Volumes and percentages based on NI 51-101.
Natural gas	0			
Oil sands (includes bitumen and synthetic crude)	96			Volumes and percentages based on NI 51-101.

C-OG9.2e

(C-OG9.2e) Provide an indicative percentage split for production, 1P, 2P, 3P reserves, and total resource base by development types.

Development type

Onshore

In-year net production (%)

0

Net proved reserves (1P) (%)

0

Net proved + probable reserves (2P) (%)

0

Net proved + probable + possible reserves (3P) (%)

Net total resource base (%)

Comment

Assets onshore In-year net production: 0.7% production numbers are as per the NI 51-101 methodology but are gross (before royalty) rather than net (after royalty). However, this distinction is, in all likelihood, immaterial to the distribution.

Development type

Shallow-water

In-year net production (%)

14

Net proved reserves (1P) (%)

4

Net proved + probable reserves (2P) (%)

4

Net proved + probable + possible reserves (3P) (%)

Net total resource base (%)

Comment

Assets in water depth < 150m In-year net production: 14.3% Net proved reserves: 1P = 3.5% Net proved + probable reserves: 2P = 3.8%. In year net production numbers are as per the NI 51-101 methodology but are gross (before royalty) rather than net (after royalty).

Development type

Deepwater

In-year net production (%)

0

Net proved reserves (1P) (%)

0

Net proved + probable reserves (2P) (%)

0

Net proved + probable + possible reserves (3P) (%)

Net total resource base (%)

Comment

Assets in water depth 150m – 1,500m In-year net production: 0% Net proved reserves: 1P = 0.2% Net proved + probable reserves: 2P = 0.2%. In year net production numbers are as per the NI 51-101 methodology but are gross (before royalty) rather than net (after royalty).

Development type

Oil sand/extra heavy oil

In-year net production (%)

85

Net proved reserves (1P) (%)

96

Net proved + probable reserves (2P) (%)

96

Net proved + probable + possible reserves (3P) (%)

Net total resource base (%)

Comment

Oil sand/extra heavy oil: Oil sands extraction by mining and in-situ methods and other assets that produce oil with an API gravity of less than 10°. In-year net production: 85% Net proved reserves: 1P = 96.3% Net proved + probable reserves: 2P = 96%. In year net production numbers are as per the NI 51-101 methodology but are gross (before royalty) rather than net (after royalty).

C-OG9.3a

(C-OG9.3a) Disclose your total refinery throughput capacity in the reporting year in thousand barrels per day.

	Total refinery throughput capacity (Thousand barrels per day)
Capacity	485.96

C-OG9.3b

(C-OG9.3b) Disclose feedstocks processed in the reporting year in million barrels per year.

	Throughput (Million barrels)	Comment
Oil	149.02	
Other feedstocks	10.04	
Total	159.07	

C-OG9.3c

(C-OG9.3c) Are you able to break down your refinery products and net production?

Yes

C-OG9.3d

(C-OG9.3d) Disclose your refinery products and net production in the reporting year in million barrels per year.

Product produced	Refinery net production (Million barrels) *not including products used/consumed on site
Gasolines	69.75
Diesel fuels	57.26
Fuel oils	22.82
Other, please specify Other distillates	8.97

C-CE9.6/C-CG9.6/C-CH9.6/C-CN9.6/C-CO9.6/C-EU9.6/C-MM9.6/C-OG9.6/C-RE9.6/C-ST9.6/C-TO9.6/C-TS9.6

(C-CE9.6/C-CG9.6/C-CH9.6/C-CN9.6/C-CO9.6/C-EU9.6/C-MM9.6/C-OG9.6/C-RE9.6/C-ST9.6/C-TO9.6/C-TS9.6) Does your organization invest in research and development (R&D) of low-carbon products or services related to your sector activities?

	Investment in low-carbon R&D	Comment
Row 1	Yes	In 2020, we invested C$535M in technology development, deployment and digitalization. Going forward, our technology investments will largely be focused on: - Sustain and optimize our base business while improving its cost and carbon competitiveness - develop next generation processes with 50-70% potential GHG reductions through energy efficiency improvements, fuel switching, solvents, non-aqueous extraction, upgrading innovations and transformational technologies for power, steam, hydrogen and carbon capture, utilization and storage - Grow low GHG emissions businesses - advance low GHG fuels, electricity and hydrogen through strategic investments - Harness the digital transformation - use artificial intelligence, machine learning, advanced analytics and remote sensing technologies to improve safety, reliability and sustainability - Partner on strategic investments and collaborations - work together within our industry, invest in global clean-tech venture capital funds and technology companies, including LanzaTech, LanzaJet Inc., Enerkem Inc. and Evok Innovations

C-CO9.6a/C-EU9.6a/C-OG9.6a

(C-CO9.6a/C-EU9.6a/C-OG9.6a) Provide details of your organization's investments in low-carbon R&D for your sector activities over the last three years.

Technology area	Stage of development in the reporting year	Average % of total R&D investment over the last 3 years	R&D investment figure in the reporting year (optional)	Comment
Enhanced Oil Recovery (EOR) techniques	Full/commercial-scale demonstration			Suncor is focused on solvents as an alternative to steam in recovering bitumen from in situ reservoirs. Our current focus in solvent recovery processes builds on our experience and background knowledge, gained from participation in experiments going back more than 20 years. In the solvent-based processes that Suncor is pursuing, a light hydrocarbon solvent such as propane or butane is used as the primary means to mobilize bitumen. The effectiveness of solvent-based recovery processes is significantly enhanced as the temperature of the reservoir is raised. The increased temperature promotes in situ solvent reflux which maximizes recovery efficiency by limiting the volume of solvent recycled back to surface facilities. Currently, Suncor is advancing, to the pilot phase, a suite of solvent technologies referred to as Solvent+, where the “+” refers to a range of heating technologies that can be coupled with solvent injection. These include: • wellbore heating • superheated solvent injection

				• electromagnetic heating If successful, Solvent+ offers the potential for significant environmental improvements over SAGD including: • reduction in GHG emissions intensity by 50 to 70% • elimination of process water • reduction in the surface footprint • reduction in transport diluent requirements • reduction in carbon content of produced oil • potential to unlock additional resources
Carbon capture and storage/utilisation	Applied research and development			As we move towards our net-zero by 2050 strategic objective, CCUS will be a critical component of our emissions reduction efforts. Earlier this year, Suncor invested in Svante Inc., which is developing a second-generation CO2 capture technology for the decarbonization of both combustion emissions and clean hydrogen production. This investment will support Svante in its efforts to accelerate the commercial scale deployment of a technology that has the potential to dramatically reduce the cost associated with carbon capture. With supportive fiscal and regulatory policies and on-going collaboration, we expect CCUS will be a key component of reducing emissions in our base business. It will also enable the production of clean

				hydrogen from natural gas as an energy product.
Other, please specify Subsurface steam enhancements and solvents	Pilot demonstration			As part of our efforts to improve the steam assisted gravity drainage (SAGD) process for our in situ assets, we are pursuing a number of surface and subsurface technologies to lower the cost and GHG intensity at our existing facilities. The technologies we are pursuing include: • Expanding Solvent SAGD (ES-SAGD) – By partially replacing steam with a solvent, we aim to accelerate bitumen production, and reduce the steam-to-oil ratio (SOR) to lower GHG intensity. In 2020, we completed the solvent injection phase of the pad-scale demonstration at Firebag and we're now in the monitoring phase post-injection, including solvent recovery. As we deploy ES-SAGD commercially, we plan to undertake additional commercial demonstration activities to further understand production performance and solvent recovery. • Extra Low Intensity Thermal Extraction (ELITE) – This subsurface steam enhancement technology focuses on driving down the SOR by operating at a significantly reduced temperature and pressure, reducing steam requirements and ultimately reducing the GHG intensity. We initiated this pilot at Firebag early

				in 2021 and expect it to last for approximately two years. • Heavy Oil Late Life Energy Recovery (HOLLER) – Reusing heat from mature SAGD operations to generate low-carbon power and drive down GHG emissions. We believe a combination of these three technologies has the potential to reduce emissions intensity in existing in situ operations by up to 30%. Additionally, we continue to test a range of hydrocarbon solvents and heating mechanisms to significantly lower the GHG intensity of our in situ operations by up to 70%. These technologies could include solvents paired with wellbore heating, super heating, or electromagnetic heating and the addition of steam. We are building on more than 20 years of experience and knowledge from participating in pilots and testing solvent recovery processes.
Other, please specify Cogeneration	Full/commercial-scale demonstration			Cogeneration is an established technology that improves the efficiency of our base business. By producing both industrial steam and electricity through a natural gas-fueled process, cogeneration is the lowest GHG-intensive form of hydrocarbon-based power generation. All our oil sands facilities use cogeneration, and we continue to recognize the value it brings to our operations. We

				are replacing the coke-fired boilers at our Oil Sands Base Plant with cogeneration units and anticipate the cogeneration facility to be commissioned late 2024. In addition to providing the facility with steam needed for operations and reducing direct GHG emissions at site, the cogeneration units will export an additional 800 megawatts (MW) of electricity to the provincial grid, equivalent to roughly 7% of Alberta's current electricity demand. The GHG intensity of the power produced from our cogeneration units is approximately 75% lower than coal-fired power generation. For example, our cokefired boiler replacement (CBR) project will reduce GHG emissions by approximately 5.1 megatonnes (Mt)1 per year in Alberta. This is equivalent to displacing over 1,000,000 cars from the road.
Other, please specify Fuel Switching	Full/commercial-scale demonstration			Fuel switching, whether from solid fuel, natural gas, electrification, or blending hydrogen with gas for combustion, is one way we can lower the intensity of our operations. For example, in addition to providing low-GHG power, our CBR project will also replace the coke combustion for steam generation with lower-carbon-intensity natural gas, reducing GHG emissions.
Other, please specify	Pilot demonstration			Through partnerships with equipment suppliers and

Non-aqueous extraction				research organizations, we are pursuing new technologies that reduce the need for water in bitumen extraction from mining operations. Currently, warm water is used to separate bitumen from sand. By replacing that water with a solvent, we could significantly reduce tailings, costs, and our GHG emissions. We have increased the size and scope of our non-aqueous extraction pilots with a number of partners that are helping advance the technology. We are working with COANDA Research and Development, InnoTech Alberta, CanmetENERGY, and Exergy Solutions, as well as several academic institutions.
Other, please specify Thermal bitumen conversion	Pilot demonstration			We are advancing thermal bitumen conversion technology to partially upgrade bitumen, which would increase value by decreasing the cost to upgrade and reducing the amount of diluent required to transport this product, and lower GHG intensity from extraction to the end user. We are also advancing conversion technologies to achieve high-yield, low-GHG intensity upgrading of bitumen to valuable end-products. The technologies when realized could also integrate with existing Suncor infrastructure.
Other, please specify Renewable fuels	Full/commercial-scale demonstration			In Canada, demand is increasing for renewable fuels driven by consumer preferences and the

				implementation of policy, e.g., the Clean Fuel Regulation (CFR). Since 2006, Suncor has been making a significant impact in Canada's emerging biofuels industry and we continue to expand our presence in this space. Our ethanol plant, the largest in Canada, provides ethanol for blended gasoline. We continue to research lower-carbon-intensity ethanol and are advancing a portfolio of projects with universities and companies aimed at producing advanced renewable fuels from waste, forestry and agricultural excess biomass, and refinery gases. Early investment in novel renewable fuel technologies helps Suncor develop a portfolio of commercial development opportunities. These renewable fuel projects have the potential to significantly reduce GHG emissions, increase revenues and provide expected rates of return in the mid-teens to shareholders. Examples include: • participating in the Alberta-Based Biorefinery (AB-Bio) project with Alberta Innovates to de-risk sustainable Alberta-based feedstocks to produce low-GHG fuels • increasing renewable fuel blending for our diesel and gasoline pools • investing in companies advancing next generation clean and renewable fuel technologies.

Renewable energy	Full/commercial-scale demonstration			Wind power: Wind power is one of the fastest-growing sources of electricity generation in the world. Suncor has been in the wind power business for more than 20 years and we are planning to build on that experience to deliver value for our shareholders. As a merchant power producer, we are selective in the jurisdictions. Solar power: In recent years, with technological advancements, solar has become a more commercially viable option. Solar technologies can complement our business through stand-alone projects, integration with existing facilities, and co-location with wind power. We continue to evaluate new opportunities across Canada to build our renewable energy portfolio. The Forty Mile Power Project is a renewable energy project planned to be developed in two phases; phase one, a 200 MW wind power project and phase two, a 220 MW solar power project. Phase one is expected to be completed and operational in late 2022 and upon completion of this phase, we will increase our wind generation capacity by almost three times. Phase two, the Forty Mile Solar Power Project, has commenced consultation activities and could be operational by late 2024.

Hydrogen	Applied research and development			Suncor is the largest producer and consumer of hydrogen in Canada. We view hydrogen as being a significant part of the future energy mix and recognize the opportunity for Alberta to be a global leader in the production of clean hydrogen. As such, we have partnered with ATCO to evaluate the potential for a world-scale clean hydrogen project near Fort Saskatchewan, Alta. If sanctioned, this project would produce more than 300,000 tonnes per year of clean hydrogen and reduce Alberta's CO2 emissions by more than 2 Mt per year. This is an equivalent to removing approximately 450,000 cars from the road annually. Further, by using advanced technology to capture over 90% of the emissions generated in the production of hydrogen, and then using the hydrogen in our refining processes and cogeneration, we would also reduce the carbon intensity of our refined products. To further reduce Alberta's emissions, approximately 20% of the clean hydrogen from the facility would be used in blending with Alberta's natural gas supply. This project is also expected to generate substantial economic activity and jobs across the province, and make a sizable contribution to Canada's net-zero ambition. If government support, policy and

				regulatory certainty is obtained to support a sanction decision, the facility could be operational as early as 2028. Additionally, we are pursuing other opportunities to advance the hydrogen economy in Canada. In June 2021, we announced a first-of-its-kind project, Alberta Zero Emissions Truck Electrification Collaboration (AZETEC), to design, manufacture and test long-range hydrogen fuel cell trucks for operation year-round between Calgary and Edmonton. This 18-month pilot with our partners will serve as an initial step on a path to developing economically viable commercial hydrogen transport fuelling stations.

C-OG9.7

(C-OG9.7) Disclose the breakeven price (US$/BOE) required for cash neutrality during the reporting year, i.e. where cash flow from operations covers CAPEX and dividends paid/ share buybacks.

45

C-OG9.8

(C-OG9.8) Is your organization involved in the sequestration of CO2?

No

C10. Verification

C10.1

(C10.1) Indicate the verification/assurance status that applies to your reported emissions.

	Verification/assurance status
Scope 1	Third-party verification or assurance process in place

Scope 2 (location-based or market-based)	Third-party verification or assurance process in place
Scope 3	No third-party verification or assurance

C10.1a

(C10.1a) Provide further details of the verification/assurance undertaken for your Scope 1 emissions, and attach the relevant statements.

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

2021-suncor-assurance-statement-en.pdf

Page/ section reference

Ernst & Young LLP Independent Assurance Statement

Relevant standard

ISAE3000

Proportion of reported emissions verified (%)

99

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Third party verification/assurance underway

Attach the statement

Verification Report - Suncor Energy Inc. Oil Sands - Suncor Energy Inc. Fort Hills TPV CR20.pdf

Page/ section reference

Technology Innovation and Emission Reduction Regulation - Fort Hills

Relevant standard

Other, please specify

Alberta Greenhouse Gas Quantification Methodologies (Technology Innovation and Emission Reduction Regulation) (Version 2.1)

Proportion of reported emissions verified (%)

100

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Third party verification/assurance underway

Attach the statement

Verification Report - Suncor Energy Inc. Oil Sands - Suncor Oil Sands Base Plant_2021 05 21.pdf

Page/ section reference

Technology Innovation and Emission Reduction Regulation - Base Plant

Relevant standard

Other, please specify

Alberta Greenhouse Gas Quantification Methodologies (Technology Innovation and Emission Reduction Regulation) (Version 2.1)

Proportion of reported emissions verified (%)

100

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Third party verification/assurance underway

Attach the statement

Verification Report - Suncor Energy Inc. Oil Sands - Suncor Energy Inc. Firebag In Situ_2021 05 18.pdf

Page/ section reference

Technology Innovation and Emission Reduction Regulation - Firebag

Relevant standard

Other, please specify

Alberta Greenhouse Gas Quantification Methodologies (Technology Innovation and Emission Reduction Regulation) (Version 2.1)

Proportion of reported emissions verified (%)

100

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Third party verification/assurance underway

Attach the statement

Verification Report - Suncor Energy Inc. Oil Sands - Suncor Energy Inc. MacKay River_2021 05 26.pdf

Page/ section reference

Technology Innovation and Emission Reduction Regulation - MacKay River

Relevant standard

Other, please specify

Alberta Greenhouse Gas Quantification Methodologies (Technology Innovation and Emission Reduction Regulation) (Version 2.1)

Proportion of reported emissions verified (%)

100

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Third party verification/assurance underway

Attach the statement

Verification Report - Suncor Energy Inc. Oil Sands - Suncor Energy -Edmonton.pdf

Page/ section reference

Technology Innovation and Emission Reduction Regulation - Edmonton

Relevant standard

Other, please specify

Alberta Greenhouse Gas Quantification Methodologies (Technology Innovation and Emission Reduction Regulation) (Version 2.1)

Proportion of reported emissions verified (%)

100

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Third party verification/assurance underway

Attach the statement

VERREPRT_RDOCÉCA_Suncor raffinerie 2020.pdf

Page/ section reference

Montreal Refinery GHG Verification

Relevant standard

Other, please specify

Quebec: Regulation respecting mandatory reporting of certain emissions of contaminants into the atmosphere

Proportion of reported emissions verified (%)

99

C10.1b

(C10.1b) Provide further details of the verification/assurance undertaken for your Scope 2 emissions and attach the relevant statements.

Scope 2 approach

Scope 2 market-based

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

2021-suncor-assurance-statement-en.pdf

Page/ section reference

Ernst & Young LLP Independent Assurance Statement

Relevant standard

ISAE3000

Proportion of reported emissions verified (%)

94

C10.2

(C10.2) Do you verify any climate-related information reported in your CDP disclosure other than the emissions figures reported in C6.1, C6.3, and C6.5?

Yes

C10.2a

(C10.2a) Which data points within your CDP disclosure have been verified, and which verification standards were used?

2021-suncor-assurance-statement-en.pdf

Disclosure module verification relates to	Data verified	Verification standard	Please explain
C4. Targets and performance	Other, please specify Greenhouse Gas (GHG) Scope 1 and 2 emissions	EY provided limited assurance in accordance with ISAE3000	
C4. Targets and performance	Other, please specify GHG emissions intensity	EY provided limited assurance in accordance with ISAE3000	

C11. Carbon pricing

C11.1

(C11.1) Are any of your operations or activities regulated by a carbon pricing system (i.e. ETS, Cap & Trade or Carbon Tax)?

Yes

C11.1a

(C11.1a) Select the carbon pricing regulation(s) which impacts your operations.

Alberta Carbon Competitive Incentive Regulation (CCIR) – ETS
BC carbon tax
Canada federal fuel charge
Canada federal Output Based Pricing System (OBPS) - ETS
Newfoundland and Labrador PSS - ETS
Prince Edward Island carbon tax
Québec CaT - ETS
Other carbon tax, please specify
Northwest Territories Carbon Tax
Other carbon tax, please specify
New Brunswick Carbon Tax

C11.1b

(C11.1b) Complete the following table for each of the emissions trading schemes you are regulated by.

Alberta Carbon Competitive Incentive Regulation (CCIR) – ETS

% of Scope 1 emissions covered by the ETS

100

% of Scope 2 emissions covered by the ETS

100

Period start date

January 1, 2020

Period end date

December 31, 2020

Allowances allocated

14,990,462

Allowances purchased

1,094,698

Verified Scope 1 emissions in metric tons CO2e

16,665,636

Verified Scope 2 emissions in metric tons CO2e

580,475

Details of ownership

Facilities we own and operate

Comment

Includes Oil Sands Base Plant, Firebag, MacKay River, Fort Hills and Edmonton Refinery.
Technology Innovation and Emmisions Reduction (TIER) Regulation replaced the Carbon Competitiveness Incentive Regulation (CCIR) on January 1, 2020

Canada federal OBPS - ETS

% of Scope 1 emissions covered by the ETS

100

% of Scope 2 emissions covered by the ETS

0

Period start date

January 1, 2020

Period end date

December 31, 2020

Allowances allocated

993,847

Allowances purchased

91,660

Verified Scope 1 emissions in metric tons CO2e

902,187

Verified Scope 2 emissions in metric tons CO2e

0

Details of ownership

Facilities we own and operate

Comment

Includes Sarnia Refinery and St. Clair Ethanol plant

Newfoundland and Labrador PSS – ETS

% of Scope 1 emissions covered by the ETS

100

% of Scope 2 emissions covered by the ETS

0

Period start date

January 1, 2020

Period end date

December 31, 2020

Allowances allocated

0

Allowances purchased

0

Verified Scope 1 emissions in metric tons CO2e

0

Verified Scope 2 emissions in metric tons CO2e

0

Details of ownership

Facilities we own and operate

Comment

Terra Nova has been shut down since December 2019 with the Asset Life Extension (ALE) plan. The Terra Nova FPSO then left the field and went quayside for all of 2020. Therefore there was no carbon compliance payment for 2020.

Québec CaT

% of Scope 1 emissions covered by the ETS

100

% of Scope 2 emissions covered by the ETS

0

Period start date

January 1, 2020

Period end date

December 31, 2020

Allowances allocated

1,010,805

Allowances purchased

70,701

Verified Scope 1 emissions in metric tons CO2e

1,081,506

Verified Scope 2 emissions in metric tons CO2e

0

Details of ownership

Facilities we own and operate

Comment

Includes Montreal Refinery

C11.1c

(C11.1c) Complete the following table for each of the tax systems you are regulated by.

BC carbon tax

Period start date

January 1, 2020

Period end date

December 31, 2020

% of total Scope 1 emissions covered by tax

97.25

Total cost of tax paid

201,677,665

Comment

Total carbon levy collected and paid to the provincial government in 2020

Canada federal fuel charge

Period start date

January 1, 2020

Period end date

December 31, 2020

% of total Scope 1 emissions covered by tax

77.98

Total cost of tax paid

571,211,738

Comment

Total carbon levy collected and paid to the government in 2020 in Manitoba, New Brunswick (Jan to Mar), Ontario, Saskatchewan and Yukon

Prince Edward Island carbon tax

Period start date

January 1, 2020

Period end date

December 31, 2020

% of total Scope 1 emissions covered by tax

0

Total cost of tax paid

2,945,272

Comment

Total carbon levy collected and paid to the provincial government in 2020

Other carbon tax, please specify

Period start date

April 1, 2020

Period end date

December 31, 2020

% of total Scope 1 emissions covered by tax

0

Total cost of tax paid

6,585,111

Comment

New Brunswick Carbon Tax: Total carbon levy collected and paid to the provincial government in 2020

Other carbon tax, please specify

Period start date

January 1, 2020

Period end date

December 31, 2020

% of total Scope 1 emissions covered by tax

0

Total cost of tax paid

620,739

Comment

Northwest Territories Carbon Tax: Total carbon levy collected and paid to the provincial government in 2020

C11.1d

(C11.1d) What is your strategy for complying with the systems you are regulated by or anticipate being regulated by?

Suncor follows a low-cost compliance strategy where cost-effective facility emissions reductions are pursued first, followed by retiring offset credits generated from either our wind facilities or cogeneration facilities, followed by offset purchases and secondary market purchases of allowances. Suncor also has refineries in Ontario and Quebec, both of which were covered by a Cap and Trade system in 2018. Suncor has joint ownership in UK North Sea assets but these assets are operated by another company whose responsibility includes compliance with the European Union Emissions Trading Scheme.

C11.2

(C11.2) Has your organization originated or purchased any project-based carbon credits within the reporting period?

Yes

C11.2a

(C11.2a) Provide details of the project-based carbon credits originated or purchased by your organization in the reporting period.

Credit origination or credit purchase

Credit origination

Project type

Wind

Project identification

Suncor's Alberta-based wind farms of Magrath and Chin Chute

Verified to which standard

Other, please specify

Alberta TIER offset protocols

Number of credits (metric tonnes CO2e)

81,211

Number of credits (metric tonnes CO2e): Risk adjusted volume

81,211

Credits cancelled

No

Purpose, e.g. compliance

Compliance

C11.3

(C11.3) Does your organization use an internal price on carbon?

Yes

C11.3a

(C11.3a) Provide details of how your organization uses an internal price on carbon.

Objective for implementing an internal carbon price

Change internal behavior
Drive energy efficiency
Drive low-carbon investment
Stress test investments
Identify and seize low-carbon opportunities

GHG Scope

Scope 1

Application

All business units

Actual price(s) used (Currency /metric ton)

30

Variance of price(s) used

$30/tonne CO2e in 2020 to $170/tonne CO2e by 2030

Type of internal carbon price

Shadow price

Impact & implication

As part of its ongoing business planning, Suncor assesses future costs associated with CO2 emissions in its operations and the evaluation of future projects, based on the company's outlook for the carbon price under current and pending GHG regulations, using a price range of $30 to $170/tonne of CO2e.

C12. Engagement

C12.1

(C12.1) Do you engage with your value chain on climate-related issues?

Yes, our suppliers

Yes, our customers

C12.1a

(C12.1a) Provide details of your climate-related supplier engagement strategy.

Type of engagement

Information collection (understanding supplier behavior)

Details of engagement

Collect climate change and carbon information at least annually from suppliers

% of suppliers by number

90

% total procurement spend (direct and indirect)

50

% of supplier-related Scope 3 emissions as reported in C6.5

Rationale for the coverage of your engagement

Suncor's supplier risk identification process begins with a pre-screening process through our prequalification tool, Avetta. This process ensures current and potential Contractors meet Suncor's minimum requirements in EH&S and regulatory, legal, quality and finance and sustainability.

Suncor has a Sustainability Supplemental which is used in the qualification and selection process. This supplemental is weighted at 15% of our overall qualification and includes questions related to: 1. Indigenous business,

2. Greenhouse gases and climate change
3. Community investment
4. Inclusion & diversity
5. Human Rights & Business Ethics

Impact of engagement, including measures of success

In 2020, 4,396 suppliers (which accounts for 90% of Suncor's suppliers) have subscribed to Suncor's prequalification program.

Comment

In 2018 Supply Chain Management (SCM) Sustainability formalized a SCM Sustainability Strategy. It was developed based on our materiality assessment. The process accounted internal and external inputs/material issues. This identified 6 priority areas for us and the systematic approach to gathering information based on risk at all step of our supply chain. The areas of focus are designed to progress sustainability strategy and align with our Corporate goals including Suncor's Social and GHG Goal.

C12.1b

(C12.1b) Give details of your climate-related engagement strategy with your customers.

Type of engagement

Education/information sharing

Details of engagement

Share information about your products and relevant certification schemes (i.e. Energy STAR)

% of customers by number

% of customer - related Scope 3 emissions as reported in C6.5

Please explain the rationale for selecting this group of customers and scope of engagement

Suncor remains committed to providing our customers with multiple low-carbon fueling choices. In addition to providing fast-charging EV infrastructure, we continue to reduce the emissions intensity of our liquid fuels in several other ways. One way is through biofuel blending. Suncor owns and operates the largest ethanol plant in Canada, which provides the ethanol we blend into our gasoline. Commercial customers occasionally inquire about Suncor's climate change position and actions; questionnaires are completed as required for commercial contracts and bids. PumpTalk is a blog created by Petro-Canada, a Suncor business, to share information and engage in discussion about a number of topics, such as fuel efficiency and product responsibility. In our weekly posts, we discuss subjects that we believe are important and are of interest to drivers everywhere. Here you'll find posts on gas prices, reducing fuel costs, sustainability, auto industry innovation, electric vehicle charging stations and vehicle safety and maintenance, as well as posts on climate change as it relates to the energy industry and our shared responsibility. Suncor's Report on Sustainability and its Climate Report are published to encourage further engagement with Suncor on its climate change position and actions.

Impact of engagement, including measures of success

While we continue to reduce the emissions intensity of our liquid fuels, we are evolving and expanding our current product offering to meet growing customer demand. Through our Petro-Canada™ brand, we completed construction in 2019 of Canada's Electric Highway™, a coast-to-coast electric vehicle (EV) fast-charging network spanning more than 50 Petro-Canada™ stations. These sites are positioned no further than 250 kilometres apart and provide universal charging options to a variety of electric vehicles. We invested in level three direct-current fast chargers, a step-change technology that is built beyond the needs of today's EV technology and positioned for the future of EV

charging in Canada. This exciting initiative supports customers wanting to reduce their carbon footprint with choices for their energy needs and enables us to learn more about this emerging market as we continue to evaluate options and respond to evolving customer needs.

C12.3

(C12.3) Do you engage in activities that could either directly or indirectly influence public policy on climate-related issues through any of the following?

Direct engagement with policy makers
Trade associations
Funding research organizations
Other

C12.3a

(C12.3a) On what issues have you been engaging directly with policy makers?

Focus of legislation	Corporate position	Details of engagement	Proposed legislative solution
Carbon tax	Support with minor exceptions	Sitting on a technical working group for the proposed Clean Fuel Standard, as well as providing written submissions to requests for feedback.	Set performance standards for carbon intensity of various liquid fuels used in transportation; achieve compliance by fuel switching (such as switching from bunker fuel to diesel or natural gas, and electrification) and using biofuels, then purchasing credits from others who have achieved a carbon intensity better than the standard.
Clean energy generation	Support with minor exceptions	Sitting on a technical working group for the proposed Clean Fuel Standard, as well as providing written submissions to requests for feedback.	British Columbia's Renewable and Low Carbon Fuel Requirement Regulation requires fuel suppliers to meet a provincial fuel pool carbon intensity target through blending incremental renewable fuel or investing in alternative fuels infrastructure. Federal and provincial renewable fuel standards mandate blending of ethanol into gasoline, and blending biodiesel into diesel. In addition, the federal government has recently proposed implementing a national Clean Fuels Standard, which remains under development.

C12.3b

(C12.3b) Are you on the board of any trade associations or do you provide funding beyond membership?

Yes

C12.3c

(C12.3c) Enter the details of those trade associations that are likely to take a position on climate change legislation.

Trade association

Canadian Alliance of Petroleum Producers

Is your position on climate change consistent with theirs?

Mixed

Please explain the trade association's position

In 2020, CAPP released a new set of climate principles designed to meet the challenge to mitigate climate change. CAPP does support carbon pricing mechanisms, when implemented properly however does not consistently and transparently support an emissions limit in a manner that is consistent with Suncor's approach. For more information please refer to https://www.capp.ca/energy/industrys-climate-commitment/

How have you influenced, or are you attempting to influence their position?

Suncor remains an active member of CAPP and our continued membership has helped to progress their position. Working to communicate our position of supporting carbon pricing, with considerations for trade exposed industries, and the Alberta provincial emissions limit on oil sands operations.

Trade association

Mining Association of Canada

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

"MAC and its members are committed to supporting an orderly transition toward a lower carbon future, and to being a constructive partner in the fight against climate change. MAC supports climate action that is consistent with the ambition of the Paris Agreement to limit global warming to well below 2 degrees Celsius (above pre-industrial levels) to ensure the long-term sustainability of our shared planet."

How have you influenced, or are you attempting to influence their position?

Suncor supports MAC's efforts toward effective climate change regulations for the mining industry.

C12.3d

(C12.3d) Do you publicly disclose a list of all research organizations that you fund?

No

C12.3e

(C12.3e) Provide details of the other engagement activities that you undertake.

Examples of these collaborations and highlights over the past year include:
- Partnering with the Energy Futures Lab, a multi-sector collaboration designed to convene a diverse range of stakeholders to help shape the energy future and strengthen Alberta and Canada's position as a global energy leader.
- Working collaboratively to support reconciliation with Indigenous Peoples through leadership development and building community capacity, including a focus on environmental priorities.
- Although we couldn't host our annual Ceres-facilitated stakeholder panel in 2020 due to COVID-19, we did continue to engage with both Ceres and Climate Action 100+ on climate-related issues and the role Suncor can play in the energy transition. Both groups provided helpful feedback as we worked on our climate objectives and encouraged us, among other things, to have clear metrics that could be tied to executive compensation. We look forward to continued engagement throughout 2021.
- Participation on several committees to advance sustainable energy development including participation on the Canadian Standards Association sustainable finance taxonomy and the Alberta ESG steering committee.

C12.3f

(C12.3f) What processes do you have in place to ensure that all of your direct and indirect activities that influence policy are consistent with your overall climate change strategy?

Suncor's Vice-President, Sustainability has accountability for energy and climate change policy and the processes to ensure that all Suncor engagement is consistent with overall corporate position. This team coordinates all policy related activities, whether direct engagement, or engagement through trade associations. The team has clear principles for climate change policy engagement, and also documents and provides guidance and key messages across organizations. This team supports reaching an aligned policy position among business units. In addition to cross-functional team collaboration, the team also uses the following Suncor tools: stakeholder information management system (SIMS); risk management process, Policy and Regulatory Issues Management (PRIM); and internal lobbying policy and guidelines. While Suncor actively influences the policy positions and statements of those associations of which it is a member or participant, those organizations exist as separate entities and may, from time to time, have positions that are not fully aligned with Suncor's. Our membership does not indicate that they speak on our behalf and, for further clarity; we outline our corporate positions on issues such as climate change on our own sustainability site on sustainability.suncor.com/en/. Government Relations is accountable for all relationships with governments, and ensuring communications to government go through the Government Relations department helps ensure consistency of the message.

C12.4

(C12.4) Have you published information about your organization's response to climate change and GHG emissions performance for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

Publication
In mainstream reports

Status
Complete

Attach the document
2020-annual-report-en (2).pdf

Page/Section reference
Pages: 4-12, 23-24, 30-32, 35, 41, 42, 52-53, 64-66

Content elements
Governance
Strategy
Risks & opportunities

Comment
2020 Annual Report

Publication
In mainstream reports

Status
Complete

Attach the document
2020-aif-en (2).pdf

Page/Section reference
Pages: 9-10, 28-29,51-59, 65-66, 72

Content elements
Strategy
Risks & opportunities

Comment

2020 Annual Information Form

Publication

In mainstream reports

Status

Complete

Attach the document

2021-management-proxy-circular-en (8).pdf

Page/Section reference

Pages: 23, 43, 63, B-9, B-10

Content elements

Governance
Strategy

Comment

2021 Management Proxy Circular

Publication

In voluntary sustainability report

Status

Complete

Attach the document

2021-report-on-sustainability-en.pdf

Page/Section reference

Throughout but focused on Pages 4, 14, 50-53

Content elements

Governance
Strategy
Risks & opportunities
Emissions figures
Emission targets

Comment

2021 Report on Sustainability

Publication

In voluntary sustainability report

Status

Complete

Attach the document

2021-climate-report-en.pdf

Page/Section reference

Throughout entire document

Content elements

Governance
Strategy
Risks & opportunities
Emissions figures
Emission targets

Comment

2021 Climate Report - Structured in line with the TCFD recommendations

C15. Signoff

C-FI

(C-FI) Use this field to provide any additional information or context that you feel is relevant to your organization's response. Please note that this field is optional and is not scored.

Forward-Looking Statements: These responses contain certain forward-looking statements and forward-looking information (collectively, forward-looking statements) based on Suncor's current expectations, estimates, projections and assumptions that were made by Suncor in light of information available at the time these responses were prepared. Some of the forward-looking statements may be identified by words like "expected", "will", "estimates", "could", "anticipates", "intends", "may", "forecasts", "potential", "strategy", "goal", "objective", "outlook", "target" and similar expressions. Forward-looking statements in these responses include references to: Suncor's expectations regarding its ERM program and Suncor's assessments of the various risks and opportunities it faces; statements surrounding Suncor's four long-term energy futures scenarios and its belief that each is plausible and the anticipated impacts each could have on Suncor, its operating environment and business strategy; expected regulatory changes and existing and future laws, the impact thereof, including compliance costs, and resulting opportunities for Suncor; Suncor's belief's relating to the time horizon, types of impact, the potential financial impact, likelihood, magnitude of impact of the disclosed risks, including escalating climate related regulatory costs and constraints, changing consumer behaviour, extreme weather events and increasing stakeholder expectations; the expected type of

financial impact, time horizon, likelihood, potential financial impact and magnitude of impact of the disclosed opportunities, including increasing renewable energy demand, increasing biofuels demand, carbon credit offset generation, exchanging low carbon technology with adjacent industries and development of new technology and the emerging demand for electric vehicle charging; statements and expectations regarding Suncor's 10Mt GHG reduction goal by 2030 and net-zero goal by 2050; expectations regarding the capacity of operational and sanctioned wind projects; the belief that RFS will be amended to increase the required level of biofuel, creating a stable and increasing market for biofuels; expectations regarding Suncor's investments in (or with) Enerkem Inc., LanzaJet, Inc., Svante Inc., ATCO and AZTEC, including the expected benefits of such investments; Suncor's estimate of the production weighted average after-tax cost per barrel of global production over the next ten years; the anticipated impact of Suncor's GHG goals; plans, expectations (including as to cost and timing) and results (including CO2e savings, monetary savings, payback period, investment required and lifetime) for projects, initiatives and activities undertaken by Suncor or in which Suncor is involved; the belief that technology and energy innovation has the potential to move emissions reduction from incremental to step change improvement and that the solution to lowering the carbon intensity of producing bitumen will be a hybrid of the technologies being progressed; Suncor's expectations regarding monitoring and detection technology and the impacts it may have on methane reduction; expectations regarding future technology investments and the impacts such technology may have; the expected benefits and impacts of Suncor's investments in low carbon R&D, including with respect to EOR techniques, carbon capture and storage, subsurface steam, cogeneration, fuel switching, non-aqueous extraction, thermal bitumen, renewable fuels and energy and hydrogen; statements and expectations regarding Suncor's coke fired boiler replacement project, the Forty Mile Wind Power Project, the Forty Mile Solar Project and the proposed hydrogen project with ATCO, including the timing and anticipated benefits thereof; the belief that concerns over climate change and fossil fuel extraction could lead governments to enact additional or more stringent laws and regulations; expectations for demand for oil and refined petroleum products and for refining capacity, and the assumptions for such expectations and expectations around the sources of such products; plans and expectations, including potential benefits, around technologies and technology development; Suncor’s carbon price outlook (including the anticipated benefits from using the outlook to assess investments and projects) as well as the expecting impact from carbon pricing; the expectation that the 2°C scenario will continue informing Suncor’s long-term business planning and corporate strategy and allows us to understand what a pathway could entail to keep global temperatures from rising 2°C, or less, by 2100 compared with pre-industrial levels; and estimated emissions intensities and absolute emissions levels.

Forward-looking statements are not guarantees of future performance and involve a number of risks and uncertainties, some that are similar to other oil and gas companies and some that are unique to our company. Suncor’s actual results may differ materially from those expressed or implied by our forward-looking statements and you are cautioned not to place undue reliance on them. Suncor’s Management’s Discussion & Analysis for the second quarter of 2021 and its most recently filed Annual Information Form/Form 40-F, Annual Report to Shareholders 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 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.

C15.1

(C15.1) Provide details for the person that has signed off (approved) your CDP climate change response.

	Job title	Corresponding job category
Row 1	Martha Hall Findlay, Chief Sustainability Officer	Chief Sustainability Officer (CSO)

SC. Supply chain module

SC0.0

(SC0.0) If you would like to do so, please provide a separate introduction to this module.

SC0.1

(SC0.1) What is your company's annual revenue for the stated reporting period?

	Annual Revenue
Row 1	24,900,000,000

SC0.2

(SC0.2) Do you have an ISIN for your company that you would be willing to share with CDP?

No

SC1.1

(SC1.1) Allocate your emissions to your customers listed below according to the goods or services you have sold them in this reporting period.

Requesting member

Vale SA

Scope of emissions

Scope 1

Allocation level

Facility

Allocation level detail

Edmonton Refinery

Emissions in metric tonnes of CO2e

106.6066

Uncertainty (±%)

10

Major sources of emissions

Fuel Combustion Emissions

Verified

Yes

Allocation method

Allocation based on the volume of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

In 2020, Vale purchased gasoline and diesel from our Plant in Regina. The fuels at the Plant were coming from inter plants - majority from Calgary Terminal. We used Edmonton Refinery emission intensities to provide an estimated emission number.

SC1.2

(SC1.2) Where published information has been used in completing SC1.1, please provide a reference(s).

N/A

SC1.3

(SC1.3) What are the challenges in allocating emissions to different customers, and what would help you to overcome these challenges?

Allocation challenges	Please explain what would help you overcome these challenges
Managing the different emission factors of diverse and numerous geographies makes calculating total footprint difficult	

SC1.4

(SC1.4) Do you plan to develop your capabilities to allocate emissions to your customers in the future?

Yes

SC1.4a

(SC1.4a) Describe how you plan to develop your capabilities.

With the continous improvement of emission calculation methodology.

SC2.1

(SC2.1) Please propose any mutually beneficial climate-related projects you could collaborate on with specific CDP Supply Chain members.

Requesting member

Vale SA

Group type of project

Change to supplier operations

Type of project

Emissions targeted

Actions that would reduce our own operational emissions (our scope 1 & 2)

Estimated timeframe for carbon reductions to be realized

3-5 years

Estimated lifetime CO2e savings

Estimated payback

Details of proposal

Ongoing energy efficiency projects and exploring fuel switching opportunities to reduce carbon intensity of the entire diesel and gasoline manufacture process including extraction, upgrading, and refining. Suncor does not have specific climate-related projects with our customers however our net-zero by 2050 objective includes both scope 1 and 2 emissions and helping reduce others' emissions (scope 3) by working with our suppliers, customers, governments and other stakeholders.

SC2.2

(SC2.2) Have requests or initiatives by CDP Supply Chain members prompted your organization to take organizational-level emissions reduction initiatives?

No

SC4.1

(SC4.1) Are you providing product level data for your organization's goods or services?

No, I am not providing data

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

	I am submitting to	Public or Non-Public Submission	Are you ready to submit the additional Supply Chain questions?
I am submitting my response	Investors Customers	Public	Yes, I will submit the Supply Chain questions now

Please confirm below

I have read and accept the applicable Terms