

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, 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 2021	December 31 2021	No	<Not Applicable>

C0.3

(C0.3) Select the countries/areas in which you operate.

- 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

C0.8

(C0.8) Does your organization have an ISIN code or another unique identifier (e.g., Ticker, CUSIP, etc.)?

Indicate whether you are able to provide a unique identifier for your organization	Provide your unique identifier
Yes, an ISIN code	CA8672241079
Yes, a Ticker symbol	XTSE: SU
Yes, a CUSIP number	867224107

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	A key duty of the board is to review and monitor Suncor's purpose and objectives and the plans for achieving them. Suncor's management and the board have an annual meeting dedicated exclusively to strategy. The board reviews annual business plans and capital budget, thereby endorsing the strategies reflected in the plans, including capital outlook. It tests Suncor's strategy against various climate scenarios. In 2021 the board undertook a comprehensive review and update of Suncor's business strategy, resulting in several strategic objectives, including our objective to be a net-zero company by 2050. The EHS&SD Committee reviews and makes recommendations to the board regarding ESG-related strategic objectives and progress. The board monitors risks to Suncor's business, including Suncor's Enterprise Risk Management program. It ensures there are systems in place to identify, manage and monitor the principal risks of Suncor's business and to mitigate their impact. A principal risk is an exposure that has the potential to materially impact Suncor's ability to meet its strategic objectives. Suncor identified carbon as a principal risk to our business in 2016. Thus, carbon risk is already integrated into many aspects of our business planning and decision-making processes and requires the full board to review external trends, scenarios and risk management plans, at least annually. The EHS&SD Committee of the board reviews carbon risk quarterly. The Audit Committee reviews the governance of Suncor's ERM program and ensures each principal risk has an executive sponsor and is mapped to a board committee or the full board as appropriate for oversight.
Chief Executive Officer (CEO)	With respect to Suncor's strategic objectives the role of the executive leadership team (ELT) is to identify and implement corporate strategies, and effectively navigate risks and opportunities. The ELT establishes operational objectives, sets financial direction to support strategies and integrates climate change and other sustainability considerations into business planning and decision making. In 2022 Suncor reframed its project portfolio development and execution risk to emphasize strategic agility in its journey to net-zero, as climate-related risks and opportunities feature more prominently in our business planning and risk management activities. As a board member, Suncor's president and CEO is a key link between management and the board. The CEO keeps the board fully informed of the company's progress toward achieving its climate strategies and objectives and the board evaluates the performance of executive management toward these achievements.

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	Scope of board-level oversight	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	<Not Applicable>	One of the Board’s major duties is to review with management Sunco’s purpose, objectives and goals and the strategies and plans for achieving them. The Board also monitors Sunco’s progress toward its strategic goals and plans, and revises Sunco’s direction where warranted. The Board oversees Sunco’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 Sunco has an effective strategic planning process, and on an annual basis reviews Sunco’s annual business plan (including Sunco’s annual capital budget) and in doing so endorses the strategies reflected in Sunco’s long-range plan. The Governance Committee provides input on key strategic initiatives and long-range planning and budgeting process.

C1.1d

(C1.1d) Does your organization have at least one board member with competence on climate-related issues?

	Board member(s) have competence on climate-related issues	Criteria used to assess competence of board member(s) on climate-related issues	Primary reason for no board-level competence on climate-related issues	Explain why your organization does not have at least one board member with competence on climate-related issues and any plans to address board-level competence in the future
Row 1	Yes	ESG is embedded in director recruitment, board evaluation and committee representation. The board’s skills matrix was revised in 2021. One of the competencies and skills is in Environment Health and Safety (EHS), which is described as: significant experience in the areas of environment (including climate risk management), health and safety, including knowledge of industry regulations and a commitment to best practices for workplace safety. Ten board members have competence in EHS. Sunco’s board practices regarding performance evaluation and compensation consider ESG factors by: <ul style="list-style-type: none"> • evaluating senior executive performance annually against goals that support and reinforce our business objectives, including climate performance • considering our performance against enterprise-wide sustainability goals related to safety, environmental (including greenhouse gas), to determine the annual incentive payment amounts for the CEO and the rest of the executives. 	<Not Applicable>	<Not Applicable>

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)	Reporting line	Responsibility	Coverage of responsibility	Frequency of reporting to the board on climate-related issues
Chief Sustainability Officer (CSO)	<Not Applicable>	Both assessing and managing climate-related risks and opportunities	<Not Applicable>	Quarterly
Chief Executive Officer (CEO)	<Not Applicable>	Both assessing and managing climate-related risks and opportunities	<Not Applicable>	Quarterly
Chief Financial Officer (CFO)	<Not Applicable>	Both assessing and managing climate-related risks and opportunities	<Not Applicable>	Quarterly
Other C-Suite Officer, please specify (Chief Climate Officer (CCO))	<Not Applicable>	Both assessing and managing climate-related risks and opportunities	<Not Applicable>	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).

The Chief Sustainability Officer (CSO), Chief Financial Officer (CFO) and Chief Climate Officer (CCO) are members of the executive leadership team that reports directly to the Chief Executive Officer (CEO) and President of Suncor.

This year Suncor created the role of CCO, the first appointment of its kind in Canada’s energy industry. By dedicating more executive leadership to climate and energy, this role creates capacity to provide leadership on climate and energy issues. The CCO plays a critical role in developing and championing Suncor’s climate-related strategies, initiatives and positions. The CCO helps advance and navigate climate-related issues within Canada and globally and is a key part of Suncor’s strategic planning process, providing essential external context and advice.

The CSO integrates climate and sustainability matters into all areas of Suncor’s business. Together with the CCO, the role serves as a link to the Environment, Health, Safety and Sustainable Development (EHS&SD) Committee of the board, which stewards carbon risk. The CSO plays a critical role in developing and championing Suncor’s sustainability initiatives, positions and strategies, supporting public policy and government engagement, improving Indigenous and stakeholder relationships and collaboration, and navigating the evolving ESG reporting landscape. Through the CSO and CCO roles, Suncor has elevated critical sustainability issues and climate leadership, underscoring the importance of these issues to our company.

Suncor’s CSO and CCO help to elevate sustainability considerations and ensure they are properly represented in decision-making. These positions report 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 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
- embedding ESG performance as a component of Suncor’s executive compensation (specifically climate performance)

The CSO serves as the bridge between Management and the Board on carbon risk. As such, the CSO has the responsibility of communicating Suncor’s carbon risk and mitigation measures to the Board and, conversely, translating the strategic direction from the Board into corporate action. The CSO presents regularly to the EHS&SD Committee, which is a committee of the Board of Directors. The EHS&SD Committee’s responsibilities include monitoring the effectiveness and integrity of Suncor’s internal controls as they related to operational risks of the Corporation’s physical assets and other matters relating to the environment, health, safety and sustainable development. The Committee is also responsible for the review of the policies and practices of the Corporation respecting operational risks, of which climate is listed as a principal risk. Suncor’s CSO is currently the executive sponsor of carbon risk, which is mapped to the full board and the EHS&SD Committee. We are reviewing the ownership of this risk to reflect our updated strategy and the addition of the CCO role. 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.

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	Executive compensation plans are a principal component of board oversight and are closely tied to our strategy execution and business and sustainability performance. Starting in 2022 we strengthened the link between the compensation of our executives and Suncor’s sustainability performance; we introduced a component of executive compensation that will be directly determined by progress relative to the company’s climate initiatives. By linking long-term executive compensation to climate-related initiatives, we are reinforcing Suncor’s objective of attaining net-zero emissions by 2050. This long-term incentive will be issued annually with vesting based on a rolling three-year performance period beginning in 2022. Success will be based on specific milestones that measure progress toward our 2030 target to reduce annual GHG emissions by 10 megatonnes across our value chain.

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 incentivized	Comment
Corporate executive team	Monetary reward	Emissions reduction target	We incentivize GHG performance by progressing projects that get us closer to our GHG objectives. Executives receive climate performance share units (CPSUs), which are a new form of PSU that will vest based on progress relative to the company's climate initiatives. CPSUs will be granted under Suncor's current PSU plan and are designed to reinforce the company's objective of attaining net zero emissions by 2050 by linking long-term executive compensation to climate-related initiatives. CPSU awards were granted in 2022 under Suncor's current PSU plan, but are separate and distinct from all other PSUs and will measure climate performance against objectives.
Management group	Monetary reward	Emissions reduction target	We incentivize GHG performance by progressing projects that get us closer to our GHG objectives. The program is applicable to individuals in vice president or higher roles and is in addition to safety and sustainability measures included in the annual incentive plan. These managers receive climate performance share units (CPSUs), which are a new form of PSU that will vest based on progress relative to the company's climate initiatives. CPSUs will be granted under Suncor's current PSU plan and are designed to reinforce the company's objective of attaining net zero emissions by 2050 by linking long-term executive compensation to climate-related initiatives. CPSU awards were granted in 2022 under Suncor's current PSU plan, but are separate and distinct from all other PSUs and will measure climate performance against objectives.

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 2021 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. Climate risks and opportunities are embedded throughout the organizational structure and processes of both our management and Board of Directors, including strategy development, business planning, project development, risk oversight, scenario analysis, executive compensation, skills development and external engagement. 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. Thus, carbon risk is already integrated into many aspects of our business planning and decision-making processes and requires the full board to review external trends, scenarios and Suncor's risk management plans, at least annually.

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
Upstream
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 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 our physical assets, including the risk of acute or chronic extreme weather events, which are possible in the areas where we operate. We manage these risks through facility design and operational procedures and maintain insurance for damage to, or loss of, assets. Physical risks associated with climate change may manifest as acute (or event-based) and chronic (or gradual). They may occur over different geographic scales and time horizons, sometimes exceeding normal business planning and investment time frames. Suncor operates in regions of Canada and internationally that have always had extremes in weather and weather-related events, including extremes in temperatures, as well as wildfires and flood risks. Operational plans, business continuity plans, and insurance are all tools used to mitigate these risks.

We consider key transition risks, such as new policies and regulations, evolving market forces and changes in consumer preferences, using four future scenarios and the integration of carbon pricing into strategic plans and capital allocation decisions. 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.

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 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 2021, Suncor invested approximately \$565 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	Physical risks associated with climate change may manifest as acute (or event-based). They may occur over different geographic scales and time horizons, sometimes exceeding normal business planning and investment time frames. Suncor operates in regions of Canada and internationally that have always had extremes in weather and weather-related events. 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. Our consideration of acute risk is focused on the potential range of intensity and frequency of these types of events and potential long-term conditions that may impact our physical infrastructure or the behaviour of the natural environments in which we operate. Many of our facilities routinely operate in an annual temperature range of -40°C to +40°C and are built to mitigate extreme weather events. Operational plans, business continuity plans, and insurance are all tools used to mitigate these risks. Additional information is detailed in Suncor's 2022 Climate Report.
Chronic physical	Relevant, sometimes included	Physical risks associated with climate change may manifest as chronic (or gradual). They may occur over different geographic scales and time horizons, sometimes exceeding normal business planning and investment time frames. Chronic risks associated with climate change are evident in conditions such as coastal erosion from sea level change, shifting ranges of plant and animal species and long-term changes in the water flow of glacier-fed streams. Suncor's initial assessment of chronic risks shows that, over the long term, there may be some effects on our operations in terms of the base flow of water bodies that feed into our operations or geographic shifts in biomes and habitats that may affect the way in which we reclaim our operations, which require further risk assessment and analysis. Additional information is detailed in Suncor's 2022 Climate Report.

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
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Primary potential financial impact

Increased direct costs

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description

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

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/tCO_{2e}.

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 tCO_{2e} 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/tCO_{2e}.

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)

<Not Applicable>

Potential financial impact figure – minimum (currency)

71000000

Potential financial impact figure – maximum (currency)

508000000

Explanation of financial impact figure

Based on the outlook for new emissions regulations, we have updated our cost estimates. The estimated 10-year average, before-tax cost of carbon is \$0.64 per barrel for our upstream net production and \$0.41 per barrel for our downstream saleable yield. These financial figures are based on the 10 year estimated cost per barrel * 2021 production.

Cost of response to risk

2000000

Description of response and explanation of cost calculation

Suncor's GHG target 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

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
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Primary potential financial impact

Decreased revenues due to reduced production capacity

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

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)

<Not Applicable>

Potential financial impact figure – minimum (currency)

0

Potential financial impact figure – maximum (currency)

14.75

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 14.75" identified in the potential financial impact is \$0/bbl to \$14.75/bbl.

Cost of response to risk

2000000

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
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Primary potential financial impact

Decreased revenues due to reduced demand for products and services

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

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)

<Not Applicable>

Potential financial impact figure – minimum (currency)

0

Potential financial impact figure – maximum (currency)

360000000

Explanation of financial impact figure

In 2021, our refining and marketing business contributed net earnings of \$718 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. 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 57 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**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)
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Primary potential financial impact

Decreased revenues due to reduced production capacity

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description

Suncor operates in regions of Canada and internationally that have always had extremes in weather and weather-related events, including extremes in temperatures, as well as wildfires and flood risks. Suncor's oil sands facilities 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)

<Not Applicable>

Potential financial impact figure – minimum (currency)

0

Potential financial impact figure – maximum (currency)

36400000

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 2021 daily production and the 2021 average cost of oil (both from our 2021 Annual Report), the estimated daily impact on revenue is \$36.4 Million per day.

Cost of response to risk

1000000

Description of response and explanation of cost calculation

Over the last decade, Suncor experienced unexpected costs in response to the 2013 floods in Calgary, Alberta and the 2016 wildfires in Alberta's Fort McMurray region, including lost revenue from business interruption. These risks and outcomes were incorporated into Suncor's ERM system to inform future business planning. Given the

location of Suncor's assets and the range of conditions for which they were designed, Suncor does not expect to incur chronic financial costs due to climate change beyond those already incorporated into the design of resilient infrastructure. Our business planning process includes the potential impacts of a broad range of climate conditions and effects on our facilities. Examples of plans being considered include water storage and modified water management in the Wood Buffalo region to mitigate extended periods of drought.

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 \$36.4M/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 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. Over the past decade, we've made strategic investments in promising advanced-generation biofuel technologies that create ethanol and methanol from waste streams such as non-recyclable municipal waste, industrial forestry and agricultural waste biomass. We have invested in leading biofuels companies and continue to progress a handful of key projects, designed to be readily scalable and replicable to take advantage of emerging growth opportunities, subject to attractive economics. These investments are critical to developing cost-effective ways to meet future blending requirements while keeping Suncor at the forefront of technology and helping to meet our GHG objectives. 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 addition, we are continuing to make modest, but targeted, investments in developing commercial-ready renewable fuel technologies that provide an early mover advantage and support future expansion (e.g., Enerkem, LanzaTech, LanzaJet and advanced generation waste-based feedstocks)

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)

<Not Applicable>

Potential financial impact figure – minimum (currency)

380000000

Potential financial impact figure – maximum (currency)

667000000

Explanation of financial impact figure

In 2021, Suncor biofuel operations produced 343.44 million litres of ethanol. Throughout 2021, the spot price for ethanol ranged from CAD\$1.11 to CAD\$1.94. The resulting revenue opportunity ranged from \$380 million to \$667 million CAD in 2021.

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

Opp2

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)

<Not Applicable>

Potential financial impact figure – minimum (currency)

0

Potential financial impact figure – maximum (currency)

48000000

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

400000

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

Opp3

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)

<Not Applicable>

Potential financial impact figure – minimum (currency)

87000000

Potential financial impact figure – maximum (currency)

174000000

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 \$87M to \$174M 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

565000000

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.

- 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 \$565 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 2021.

Identifier

Opp4

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. Suncor has the first cross-Canada network of more than 57 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?

Yes, an estimated range

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

0

Potential financial impact figure – maximum (currency)

284411

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. Suncor's revenue from the EV fast charging stations was \$284,411 in 2021. The potential financial impact is yet to be fully realized.

Cost to realize opportunity**Strategy to realize opportunity and explanation of cost calculation**

In 2021, the 57 EV fast charging stations provided customers with approximately 860,000 KWh which is equivalent to avoiding 610 tCO2e from entering the atmosphere. We are increasing our low-carbon electricity capacity and expanding Canada's Electric Highway™. As an integrated energy company, Suncor can influence the GHG profile of its entire value chain. In our wholesale and retail distribution business we provide customers with a variety of fuel and service offerings, including renewable fuel and low-carbon power. Consumer options are increasing, from traditional internal combustion engine vehicles to hybrid vehicles, battery electric vehicles and hydrogen fuel cell vehicles. As transportation options and infrastructure evolve, we will expand low-carbon offerings through our wholesale business, Petro-Canada™ retail brand and established relationships with millions of PetroPoints™ customers.

Comment**C3. Business Strategy****C3.1****(C3.1) Does your organization's strategy include a transition plan that aligns with a 1.5°C world?****Row 1****Transition plan**

Yes, we have a transition plan which aligns with a 1.5°C world

Publicly available transition plan

Yes

Mechanism by which feedback is collected from shareholders on your transition plan

We have a different feedback mechanism in place

Description of feedback mechanism

We have one on one meetings with key investors on a regular basis. If any investor has material questions or feedback on our strategy or transition plan we collect and respond to their feedback through these meetings.

Frequency of feedback collection

More frequently than annually

Attach any relevant documents which detail your transition plan (optional)

2022 Climate Report
2022-climate-report-en.pdf

Explain why your organization does not have a transition plan that aligns with a 1.5°C world and any plans to develop one in the future

<Not Applicable>

Explain why climate-related risks and opportunities have not influenced your strategy

<Not Applicable>

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

	Use of climate-related scenario analysis to inform strategy	Primary reason why your organization does not use climate-related scenario analysis to inform its strategy	Explain why your organization does not use climate-related scenario analysis to inform its strategy and any plans to use it in the future
Row 1	Yes, qualitative and quantitative	<Not Applicable>	<Not Applicable>

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

Climate-related scenario		Scenario analysis coverage	Temperature alignment of scenario	Parameters, assumptions, analytical choices
Transition scenarios	Bespoke transition scenario	Company-wide	1.6°C – 2°C	<p>2DC:</p> <ul style="list-style-type: none"> •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 emission reductions occur in all sectors and solutions to remove GHGs from the atmosphere are implemented to reduce the total concentration of CO2. •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 reduces consumption and incent the adoption and improvement of low-carbon technology. •In conjunction with carbon pricing, governments implement market-based solutions within the alliance, including open carbon markets to buy, sell and trade offsets across a vast economy. <p>Energy markets impact</p> <ul style="list-style-type: none"> •Oil plays a continued, albeit diminished, role to 2100, while renewables and nuclear power become more prominent post-2050. •In the power sector, the demand for coal faces sustained pressure globally because of its relatively high emissions intensity. Renewables continue to gain market share on improved cost profiles, dedicated policy support and the firm capacity offered by improved storage in the form of hydro, batteries and hydrogen. Nuclear power market penetration increases, given lower costs and new, safer technologies and policies. •In the transportation sector, the world shifts away from oil. Oil demand in the second half of the century transitions to demand for petrochemical feedstock. The decline is most pronounced in the light-duty vehicle segment where electrification, biofuel and hydrogen supply opportunities grow. The decline is slower in the heavy goods vehicle segment and hydrogen as a transportation fuel grows as costs decrease. <p>Expected impact on Suncor</p> <ul style="list-style-type: none"> •Some producing upstream assets may be retired before the end of their producing life. •We grow our business in renewable fuels, low-carbon power and hydrogen. •We sustain and optimize our existing hydrocarbon business, reducing its carbon footprint. •We play an enhanced role in decarbonization through scaling and commercialization, with strong partnerships and collaboration.
Transition scenarios	Bespoke transition scenario	Company-wide	Unknown	<p>Autonomy*:</p> <ul style="list-style-type: none"> •Pressure from stakeholders continues to push companies and governments toward faster action on ESG measures. •Greater international co-operation ensures sufficient progress on climate change. •Free and open markets in a technology-driven economy are strongly intertwined with climate change action. •The massive changes to the global energy system to transition to a low-carbon world come at enormous cost, where people, companies, infrastructure and whole industries are made redundant, with significant investments required to replace the old and grow the new. <p>Energy markets impact</p> <ul style="list-style-type: none"> •Oil is still required for decades to come, but its share of energy demand declines over time as economic growth becomes less oil-intensive. •Natural gas demand remains steady, overtaking oil as the largest source of global non-renewable energy by the end of the scenario period. •Renewable power generation becomes the largest source of energy by the end of the period to meet growing electricity demand. •Biofuels and biomass demand nearly doubles, replacing a share of decreasing fossil fuel use. •Production of low-carbon hydrogen grows as technologies for its use also improve. <p>Expected impact on Suncor</p> <ul style="list-style-type: none"> •Some producing upstream assets may be retired before the end of their producing life. •Base business is sustained and optimized, providing stable cash flow to support shareholder returns and fund growth of expanded low-carbon energy businesses (renewable fuels, electricity and hydrogen). •Only top-tier refineries globally remain profitable – Suncor’s downstream maintains a focus on reliable, efficient, low-carbon and low-cost operations. •Collaboration to reduce emissions accelerates (e.g., Pathways Alliance). <p>*The Suncor scenarios (Autonomy, Rivalry, and Discord) have been independently developed and named by Suncor. Data within the Suncor scenarios references the Green Rules, Inflections and Discord scenarios published by IHS Markit (now part of S&P Global Commodity Insights) in July 2021. Suncor’s scenario names are independent of and should not be confused with any current or vintage IHS Markit Energy and Climate Scenarios with these same names.</p>
Transition scenarios	Bespoke transition scenario	Company-wide	Unknown	<p>Rivalry*:</p> <ul style="list-style-type: none"> •A mix of social, market and government forces drives fundamental changes in energy use and emissions pathways, but realization of climate goals remains limited. •Politics and fiscal challenges constrain governments and inhibit co-operation. •The marketplace often outpaces the government in driving change and investment. •Energy transition accelerates but moves in different ways and at different speeds around the world. •Citizens’ conceptual aspirations to address climate change increase but support is fickle, with limited willingness to bear the full financial and social costs associated with realizing governments’ climate change ambitions. <p>Energy markets impact</p> <ul style="list-style-type: none"> •Energy mix evolves gradually and steadily – fossil fuels still dominate by 2050, but oil and coal lose ground to cleaner-burning natural gas and renewables. •Oil demand stays largely flat during the scenario period. •Natural gas demand growth is supported by abundant supply and policies favouring its lower carbon intensity over oil and coal. •Renewables expand globally, enabled by coal-constraining policies in favour of cleaner power generation options. •Hydrogen demand increases steadily. <p>Expected impact on Suncor</p> <ul style="list-style-type: none"> •Existing upstream assets are retired at their normal end of producing life. •Higher prices and stricter emissions policies incentivize new technologies to lower our cost and carbon footprint. •Competitive downstream provides robust returns and more aggressive investment in low-carbon fuels and electricity. •Collaboration to reduce emissions continues, albeit at a more measured pace than in the Autonomy scenario. <p>*The Suncor scenarios (Autonomy, Rivalry, and Discord) have been independently developed and named by Suncor. Data within the Suncor scenarios references the Green Rules, Inflections and Discord scenarios published by IHS Markit (now part of S&P Global Commodity Insights) in July 2021. Suncor’s scenario names are independent of and should not be confused with any current or vintage IHS Markit Energy and Climate Scenarios with these same names.</p>

Climate-related scenario		Scenario analysis coverage	Temperature alignment of scenario	Parameters, assumptions, analytical choices
Transition scenarios	Bespoke transition scenario	Company-wide	Unknown	<p>Discord*:</p> <ul style="list-style-type: none"> •Environmental progress and climate change mitigation weakens in the face of constant economic concerns and political and market instability. •Chronic economic crises make governments short-term focused, insular and confrontational in international affairs •The global supply chain breaks down, raising the cost of living for the emerging middle class. •Decarbonization efforts continue in some key sectors and countries, but the scale and pace are insufficient to significantly alter global emissions growth. •Global GDP growth falters with the weight of debt burdens, lack of financing availability and the inability of governments to generate growth. <p>Energy markets impact</p> <ul style="list-style-type: none"> •Change in the global energy mix slows; conventional fuels and technologies retain market leadership. •Slower economic growth limits growth in energy, oil and refined product demand. •Natural gas demand growth slows due to a constrained global economy and ongoing competition from lower-cost coal and falling-cost renewables. •Despite continued competitiveness, renewables see less growth compared to Autonomy and Rivalry scenarios. <p>Expected impact on Suncor</p> <ul style="list-style-type: none"> •Existing upstream assets may be extended beyond their normal end of producing life. •High-return energy investments continue to be funded. •Suncor downstream well positioned to compete, with a focus on reliable, efficient and low-cost operations. Compared to Rivalry, there is less competition expected in both our traditional refined product businesses and low-carbon fuels and electricity businesses. <p>*The Suncor scenarios (Autonomy, Rivalry, and Discord) have been independently developed and named by Suncor. Data within the Suncor scenarios references the Green Rules, Inflections and Discord scenarios published by IHS Markit (now part of S&P Global Commodity Insights) in July 2021. Suncor's scenario names are independent of and should not be confused with any current or vintage IHS Markit Energy and Climate Scenarios with these same names.</p>

C3.2b

(C3.2b) Provide details of the focal questions your organization seeks to address by using climate-related scenario analysis, and summarize the results with respect to these questions.

Row 1

Focal questions

What is the plausible level of climate policy and action achieved under each scenario we consider?

Results of the climate-related scenario analysis with respect to the focal questions

2DC:

- 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 emission reductions occur in all sectors and solutions to remove GHGs from the atmosphere are implemented to reduce the total concentration of CO2.
- 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 reduces consumption and incents the adoption and improvement of low-carbon technology.
- In conjunction with carbon pricing, governments implement market-based solutions within the alliance, including open carbon markets to buy, sell and trade offsets across a vast economy.

Autonomy:

- Pressure from stakeholders continues to push companies and governments toward faster action on ESG measures.
- Greater international co-operation ensures sufficient progress on climate change.
- Free and open markets in a technology-driven economy are strongly intertwined with climate change action.
- The massive changes to the global energy system to transition to a low-carbon world come at enormous cost, where people, companies, infrastructure and whole industries are made redundant, with significant investments required to replace the old and grow the new.

Rivalry:

- A mix of social, market and government forces drives fundamental changes in energy use and emissions pathways, but realization of climate goals remains limited.
- Energy transition accelerates but moves in different ways and at different speeds around the world.
- Citizens' conceptual aspirations to address climate change increase but support is fickle, with limited willingness to bear the full financial and social costs associated with realizing governments' climate change ambitions.

Discord:

- Environmental progress and climate change mitigation weakens in the face of constant economic concerns and political and market instability.
- Decarbonization efforts continue in some key sectors and countries, but the scale and pace are insufficient to significantly alter global emissions growth.

These scenarios are substantially based on the IHS Markit Green Rules, Inflections and Discord 2021 scenarios. The scenario descriptions have been modified by Suncor for applicability to its business.

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	<p>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.</p> <p>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.</p> <p>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.</p> <p>Other examples include:</p> <ul style="list-style-type: none"> -continuing to make modest, but targeted, investments in developing commercial-ready renewable fuel technologies that provide an early mover advantage and support future expansion (e.g., Enerkem, LanzaTech, LanzaJet and advanced generation waste-based feedstocks) -allocating a significant portion of this capital toward advanced technologies that provide strong, double-digit returns (e.g., Base Plant Cogeneration) -becoming a producer of new forms of hydrogen before 2030 -increasing our low-carbon electricity capacity and expanding Canada's Electric Highway™ (e.g. first cross-Canada network of more than 57 fast-charging electric vehicle (EV) chargers at Petro-Canada™ stations).
Supply chain and/or value chain	Yes	<p>In 2021, 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.</p> <p>We continue to partner with suppliers who share our values and align with our strategic objectives: seeking opportunities to reduce environmental impacts, supporting the communities where we work and live, and collectively contributing to economic growth. We engage with our suppliers on their sustainability performance by:</p> <ul style="list-style-type: none"> • assessing sustainability performance as part of prequalification, awarding of work and ongoing supplier performance • gathering data to understand the effects of our supply chain, which helps us make more informed decisions • evaluating sustainability risks and opportunities in our supply chain • building relationships with like-minded suppliers to accelerate innovation and sustainability performance.
Investment in R&D	Yes	<p>Technology and innovation are critical to achieving our goals and executing on our strategy and strategic objectives. In 2021, we invested \$565M in technology development, deployment and digitalization. We also invest in energy expansion projects – such as cogeneration, hydrogen and renewable fuels – to address climate change and provide low-emission sources of energy. We plan to allocate approximately 10% of our annual capital budget over the medium term (2022-2025) on investments that advance our low-carbon energy offerings. Going forward, our technology investments will largely be focused on:</p> <ul style="list-style-type: none"> - Optimize our base business while reducing cost and carbon emissions - 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 use and storage - Expand 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	<p>Suncor incorporates assumptions about existing and proposed new regulations into its corporate scenarios and business plans to evaluate financial risks and opportunities. These assumptions inform development, acquisition and divestment activities and capital and strategic planning decisions. Each year as part of our business planning process we use scenarios to develop multiple price assumptions for a variety of economic variables, including carbon price. All of Suncor's upstream emissions and approximately 80% of our refinery emissions are subject to carbon pricing, which sends a strong signal to manage emissions across our business. Suncor applies carbon prices to its scope 1 and 2 GHG emissions on a working-interest basis for its upstream and downstream business and provides an estimated cost per barrel to illustrate the relative impact of carbon policies. The estimated 10-year average, before-tax cost of carbon is \$0.64 per barrel for our upstream net production and \$0.41 per barrel for our downstream saleable yield. Our compliance costs reflect regulatory design and actions we've taken to reduce emissions, such as our low-carbon investments. Emission performance credits from cogeneration power exports, representing a regulatory compliance benefit, are included in the upstream cost estimate, while the benefits from our renewable power projects are not currently reflected in the upstream or downstream estimate. In 2021, Suncor's cogeneration and wind facilities that operated better than regulatory benchmarks generated approximately 0.6 Mt of emission credits. These benefits may be used for compliance purposes to reduce costs and may be banked for future years. Regulations are designed to reward low-carbon investments and allow us to manage compliance costs in a globally competitive market. This is a consistent approach in all global carbon-pricing regimes and prevents trade-exposed industries such as oil and gas from relocating to jurisdictions without carbon pricing.</p>

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	<p>Revenues</p> <p>Direct costs</p> <p>Indirect costs</p> <p>Capital expenditures</p> <p>Capital allocation</p> <p>Acquisitions and divestments</p> <p>Access to capital</p>	<p>Suncor's carbon price outlook (to assess all investments/projects) is informed by the expected pricing by the federal Canadian government. The carbon price range is from \$50/tonne in 2022 to \$170/tonne by 2030. Stress testing is done as appropriate.</p> <p>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.</p> <p>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).</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>Risks and opportunities that influence financial planning range from short- to long-term.</p>

C3.5

(C3.5) In your organization's financial accounting, do you identify spending/revenue that is aligned with your organization's transition to a 1.5°C world?

Yes

C3.5a

(C3.5a) Quantify the percentage share of your spending/revenue that is aligned with your organization's transition to a 1.5°C world.

Financial Metric

CAPEX

Percentage share of selected financial metric aligned with a 1.5°C world in the reporting year (%)

10

Percentage share of selected financial metric planned to align with a 1.5°C world in 2025 (%)

10

Percentage share of selected financial metric planned to align with a 1.5°C world in 2030 (%)

10

Describe the methodology used to identify spending/revenue that is aligned with a 1.5°C world

Our plans include allocating approximately 10% of our annual capital budget over the medium term (2022-2025) to investments that advance our low-carbon energy offerings, of which a significant portion would be allocated toward advanced technologies that provide strong, double-digit returns (e.g., Base Plant Cogeneration). In 2021 we were on target, spending approximately 9% of capital expenditures on low-carbon energies.

C4. Targets and performance

C4.1

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

Absolute target

C4.1a

(C4.1a) Provide details of your absolute emissions target(s) and progress made against those targets.

Target reference number

Abs 1

Year target was set

2021

Target coverage

Company-wide

Scope(s)

Scope 1

Scope 2

Scope 2 accounting method

Market-based

Scope 3 category(ies)

<Not Applicable>

Base year

2021

Base year Scope 1 emissions covered by target (metric tons CO2e)

20157864

Base year Scope 2 emissions covered by target (metric tons CO2e)

1398148

Base year Scope 3 emissions covered by target (metric tons CO2e)

<Not Applicable>

Total base year emissions covered by target in all selected Scopes (metric tons CO2e)

21556012

Base year Scope 1 emissions covered by target as % of total base year emissions in Scope 1

100

Base year Scope 2 emissions covered by target as % of total base year emissions in Scope 2

100

Base year Scope 3 emissions covered by target as % of total base year emissions in Scope 3 (in all Scope 3 categories)

<Not Applicable>

Base year emissions covered by target in all selected Scopes as % of total base year emissions in all selected Scopes

100

Target year

2050

Targeted reduction from base year (%)

100

Total emissions in target year covered by target in all selected Scopes (metric tons CO2e) [auto-calculated]

0

Scope 1 emissions in reporting year covered by target (metric tons CO2e)

20157864

Scope 2 emissions in reporting year covered by target (metric tons CO2e)

1398148

Scope 3 emissions in reporting year covered by target (metric tons CO2e)

<Not Applicable>

Total emissions in reporting year covered by target in all selected scopes (metric tons CO2e)

21556012

% of target achieved relative to base year [auto-calculated]

0

Target status in reporting year

Underway

Is this a science-based target?

No, and we do not anticipate setting one in the next 2 years

Target ambition

<Not Applicable>

Please explain target coverage and identify any exclusions

By 2050, our objective is to achieve zero net absolute emissions. Our net-zero objective applies to scope 1 and 2 emissions.

Plan for achieving target, and progress made to the end of the reporting year

Our objective is to reach net-zero emissions by 2050 and contribute to societal emission reduction goals, including an interim target of 10 megatonnes (Mt) per year by 2030 across our value chain. Our net-zero objective applies to scope 1 and 2 emissions and given our integrated business, we see many opportunities within and outside our value chain to work with customers, suppliers, governments and other partners to help reduce emissions elsewhere (i.e., scope 3 and other emissions).

List the emissions reduction initiatives which contributed most to achieving this target

<Not Applicable>

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 included Flaring Reduction Programs within the scope of Suncor's GHG objectives. Our objective is to reach net-zero emissions by 2050 and contribute to societal emission reduction goals, including an interim target of 10 megatonnes (Mt) per year by 2030 across our value chain. Our net-zero objective applies to scope 1 and 2 emissions and given our integrated business, and as a result of this objective, 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 GHG objectives.

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	1	320000
To be implemented*	5	4940000
Implementation commenced*	2	950000
Implemented*	0	0
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

Please select

Estimated annual CO2e savings (metric tonnes CO2e)

Scope(s) or Scope 3 category(ies) where emissions savings occur

Please select

Voluntary/Mandatory

Please select

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

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

Payback period

Please select

Estimated lifetime of the initiative

Please select

Comment

As per the response to question C4.3a, there weren't any initiatives implemented in the reporting year.

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	One of our strategic objectives is to optimize our base business, using technology and innovation to reduce cost and carbon emissions. In 2021, we invested approximately \$565 million in technology development, deployment and digitalization transformation. We also invest in energy expansion projects – such as cogeneration, hydrogen and renewable fuels – to address climate change and provide low-emission sources of energy. We plan to allocate approximately 10% of our annual capital budget over the medium term (2022-2025) on investments that advance our low-carbon energy offerings. In 2021 we were on target, spending approximately 9% of capital expenditures on low-carbon energies. Cogeneration represents the majority of this spend, followed by renewable fuels, renewable power, solvents, CCUS, hydrogen and bitumen conversion.
Employee engagement	Suncor is building forums for employees to promote internal engagement and learning opportunities. In 2021, we relaunched the Suncor Sustainability Network to improve sustainability acumen, integration and communication within the company. Suncor employees take individual accountability for reducing waste and improving energy efficiency as part of our employee engagement initiative. This initiative extends from lunchtime sessions on energy conservation to recognizing employees for energy efficiency and 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 objectives, 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	Executive compensation plans are a principal component of board oversight and are closely tied to our strategy execution and business and sustainability performance. Starting in 2022, we strengthened the link between the compensation of our executives and Suncor's sustainability performance; we introduced a component of executive compensation that will be directly determined by progress relative to the company's climate initiatives. By linking long-term executive compensation to climate-related initiatives, we are reinforcing Suncor's objective of attaining net-zero emissions by 2050. Vesting of the initial award will be based on progress from 2022 through 2024 toward our 2030 target to reduce annual GHG emissions by 10 megatonnes (Mt) across our value chain.
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)	Operational Reliability and Continuous Improvement driven by Suncor's focus on operational excellence is another method used by our 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?

Yes

C4.5a

(C4.5a) Provide details of your products and/or services that you classify as low-carbon products.

Level of aggregation

Product or service

Taxonomy used to classify product(s) or service(s) as low-carbon

No taxonomy used to classify product(s) or service(s) as low carbon

Type of product(s) or service(s)

Biofuels	Other, please specify (Renewable Fuels)
----------	--

Description of product(s) or service(s)

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 thousands of 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.

Have you estimated the avoided emissions of this low-carbon product(s) or service(s)

Yes

Methodology used to calculate avoided emissions

Other, please specify (Comparative LCA using Global Warming Potentials – Environment Canada Global Warming Potentials)

Life cycle stage(s) covered for the low-carbon product(s) or services(s)

Cradle-to-grave

Functional unit used

36.7 g CO2e per MJ - Carbon intensity (CI) of ethanol

Reference product/service or baseline scenario used

94.8 g CO2e per MJ - Carbon intensity (CI) of gasoline provided by CFR

Life cycle stage(s) covered for the reference product/service or baseline scenario

Cradle-to-grave

Estimated avoided emissions (metric tons CO2e per functional unit) compared to reference product/service or baseline scenario

465987

Explain your calculation of avoided emissions, including any assumptions

The difference between the functional unit used and the reference product/service baseline used multiplied by Suncor's 2021 ethanol production to estimate the avoided emissions.

Revenue generated from low-carbon product(s) or service(s) as % of total revenue in the reporting year

0.86

Level of aggregation

Product or service

Taxonomy used to classify product(s) or service(s) as low-carbon

No taxonomy used to classify product(s) or service(s) as low carbon

Type of product(s) or service(s)

Power	Other, please specify (Wind/Renewable Power)
-------	--

Description of product(s) or service(s)

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.

Have you estimated the avoided emissions of this low-carbon product(s) or service(s)

Yes

Methodology used to calculate avoided emissions

Other, please specify (Comparative LCA using Global Warming Potentials – Environment Canada Global Warming Potentials)

Life cycle stage(s) covered for the low-carbon product(s) or services(s)

Other, please specify (Cradle to use stage)

Functional unit used

0.09 g CO2e per kWh - Carbon intensity (CI) of wind power

Reference product/service or baseline scenario used

149.7 g CO2e per kWh - Average Canadian grid electricity

Life cycle stage(s) covered for the reference product/service or baseline scenario

Other, please specify (Cradle to use stage)

Estimated avoided emissions (metric tons CO2e per functional unit) compared to reference product/service or baseline scenario

17057

Explain your calculation of avoided emissions, including any assumptions

The difference between the functional unit used and the reference product/service baseline used multiplied by Suncor's 2021 wind power produced to estimate the avoided emissions.

Revenue generated from low-carbon product(s) or service(s) as % of total revenue in the reporting year

0.1

Level of aggregation

Product or service

Taxonomy used to classify product(s) or service(s) as low-carbon

No taxonomy used to classify product(s) or service(s) as low carbon

Type of product(s) or service(s)

Power	Other, please specify (Natural Gas Cogeneration Power)
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Description of product(s) or service(s)

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.

Have you estimated the avoided emissions of this low-carbon product(s) or service(s)

Yes

Methodology used to calculate avoided emissions

Other, please specify (Comparative LCA using Global Warming Potentials – Environment Canada Global Warming Potentials)

Life cycle stage(s) covered for the low-carbon product(s) or services(s)

Use stage

Functional unit used

268 g CO2e per kWh - Carbon intensity (CI) of cogeneration power

Reference product/service or baseline scenario used

345 g CO2e per kWh - Carbon intensity (CI) of cogeneration power provided by CFR

Life cycle stage(s) covered for the reference product/service or baseline scenario

Use stage

Estimated avoided emissions (metric tons CO2e per functional unit) compared to reference product/service or baseline scenario

488

Explain your calculation of avoided emissions, including any assumptions

The difference between the functional unit used and the reference product/service baseline used multiplied by Suncor's 2021 cogeneration gross power generation to estimate the avoided emissions.

Revenue generated from low-carbon product(s) or service(s) as % of total revenue in the reporting year

0.44

C-OG4.6

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

Suncor's Oil Sands, In Situ, and Refinery facilities, have a fugitive emissions management program implemented at the site to control and reduce emissions from equipment leaks. Those detected leaks that have a safety hazard are fixed as soon as possible, and other leaks are repaired on time as per the regulatory requirements. We usually do not vent gas streams during normal operations, and we strive to conserve when we can (if a low-pressure system exists that we can tie into) and flare the gas to a minimum. Some small remote pipeline sites without electrical power use natural gas to run pneumatics, but these are gradually replaced by small instrument air or solar-powered control packages. Additional methane emissions are from tailings ponds and exposed mine surfaces at Suncor's oil sands facilities. Suncor continues to explore better technologies and data mapping algorithms that improve the cost-effectiveness and reliability of advanced alternate methodologies to understand methane emissions from these sources. Monitoring technology development includes optical remote sensing that can measure methane concentrations along a pathway over the source areas, methane sensors mounted on drones or fixed-wing airplanes that can measure the concentrations of methane along with vertical plume screens or boxed downwind of emitting sources, and satellite-mounted sensors that measure methane column densities in the air column above sources. These detection technologies will help Suncor better understand where and when methane emissions come from area sources, helping improve reduction efforts. Methane reduction efforts being examined regarding 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.

Suncor's Oil Sands, In Situ, and Refinery facilities comply with the provincial and federal methane regulations. The frequency of inspections is as required by the regulations. Sites use optical gas imaging (OGI) cameras and US EPA Method 21 inspections as leak detection methodologies. Leak repair confirmation is performed by US EPA Method 21. In addition to complying with existing regulatory requirements, Suncor works with COSIA to develop new methods of detecting fugitive methane emissions. Suncor has invested in additional human and financial resources to ensure smooth implementation of the new provincial/federal LDAR regulatory requirements.

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 our objective to reach net-zero emissions by 2050, including an interim target of 10 megatonnes (Mt) per year by 2030 across our value chain.

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) Is this your first year of reporting emissions data to CDP?

No

C5.1a

(C5.1a) Has your organization undergone any structural changes in the reporting year, or are any previous structural changes being accounted for in this disclosure of emissions data?

Row 1

Has there been a structural change?

No

Name of organization(s) acquired, divested from, or merged with

<Not Applicable>

Details of structural change(s), including completion dates

<Not Applicable>

C5.1b

(C5.1b) Has your emissions accounting methodology, boundary, and/or reporting year definition changed in the reporting year?

	Change(s) in methodology, boundary, and/or reporting year definition?	Details of methodology, boundary, and/or reporting year definition change(s)
Row 1	No	<Not Applicable>

C5.2

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

Scope 1

Base year start

January 1 2010

Base year end

December 31 2010

Base year emissions (metric tons CO2e)

17073028

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)

1841748

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)

1313469

Comment

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

Scope 3 category 1: Purchased goods and services

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 2: Capital goods

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 3: Fuel-and-energy-related activities (not included in Scope 1 or 2)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 4: Upstream transportation and distribution

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 5: Waste generated in operations

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 6: Business travel

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 7: Employee commuting

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 8: Upstream leased assets

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 9: Downstream transportation and distribution

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 10: Processing of sold products

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 11: Use of sold products

Base year start

January 1 2020

Base year end

December 31 2020

Base year emissions (metric tons CO2e)

122900000

Comment

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. For the first time, Suncor reported on our scope 3 emissions, "use of sold products" in 2020.

Scope 3 category 12: End of life treatment of sold products

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 13: Downstream leased assets

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 14: Franchises

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 15: Investments

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3: Other (upstream)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3: Other (downstream)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

C5.3

(C5.3) 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 (IPCC Fourth Assessment Report, 2007; Canada's National Inventory Report (NIR), 2019; Canadian federal and provincial Greenhouse Gas Quantification regulations, WCI Final Essential Requirements and others)

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)

20157864

Start date

<Not Applicable>

End date

<Not Applicable>

Comment

Direct (scope 1) GHG emissions are from sources that are owned or controlled by Suncor. In 2021, 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.

Suncor assumed operatorship of the Syncrude Project on September 30, 2021. As Suncor's operatorship of the Syncrude Project occurred at the end of the third quarter in 2021, Syncrude data is not integrated into Suncor's corporate-wide totals. Syncrude will be integrated into Suncor's corporate-wide totals and aligned with the required standards in future sustainability disclosure.

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 Suncor. It includes the emissions from purchased 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 2021, 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

1410419

Scope 2, market-based (if applicable)

1316988

Start date

<Not Applicable>

End date

<Not Applicable>

Comment

Scope 2 includes emissions from energy purchased or acquired and consumed by Suncor. It includes the emissions from purchased 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, Sarnia Refinery, and Commerce City Refinery), and steam purchased from Hydrogen plant (Edmonton Refinery), and cooling water purchased from waste water treatment plant (Edmonton Refinery).

Suncor assumed operatorship of the Syncrude Project on September 30, 2021. As Suncor's operatorship of the Syncrude Project occurred at the end of the third quarter in 2021, Syncrude data is not integrated into Suncor's corporate-wide totals. Syncrude will be integrated into Suncor's corporate-wide totals and aligned with the required standards in future sustainability disclosure.

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?

Yes

C6.4a

(C6.4a) Provide details of the sources of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure.

Source

Syncrude

Relevance of Scope 1 emissions from this source

Emissions are relevant and calculated, but not disclosed

Relevance of location-based Scope 2 emissions from this source

Emissions are relevant and calculated, but not disclosed

Relevance of market-based Scope 2 emissions from this source (if applicable)

Emissions are relevant and calculated, but not disclosed

Explain why this source is excluded

Suncor assumed operatorship of the Syncrude Project on September 30, 2021. Suncor's equity interest of in Syncrude is 58.74%. As Suncor's operatorship of the Syncrude Project occurred at the end of the third quarter in 2021, Syncrude data is not integrated into Suncor's corporate-wide totals. Syncrude will be integrated into Suncor's corporate-wide totals and aligned with the required standards in future sustainability disclosure.

Estimated percentage of total Scope 1+2 emissions this excluded source represents

37

Explain how you estimated the percentage of emissions this excluded source represents

Suncor and Syncrude's combined operated total GHG (scope 1 and 2) emissions in 2021 were 34,045,316 tonnes CO2e. Syncrude's operated total GHG (scope 1 and 2) emissions in 2021 were 12,488,115 tonnes CO2e. The estimated percentage of total scope 1 and 2 emissions excluded from Syncrude operations was calculated based on this data and information.

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

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

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

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

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

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

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

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

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

Waste generated in operations

Evaluation status

Relevant, not yet calculated

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

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

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

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

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

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

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

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

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

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

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

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

Emissions in reporting year (metric tons CO2e)

128000000

Emissions calculation methodology

Hybrid method

Average product method

Fuel-based method

Asset-specific method

Site-specific method

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

0

Please explain

The estimated range of emissions on use of sold products is between 24 - 128 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 = 128Mt; Refining throughput = 55Mt; Branded sales = 24Mt. 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

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

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

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

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

Franchises

Evaluation status

Relevant, not yet calculated

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

All emissions from operation of franchises are not currently calculated.

Investments

Evaluation status

Relevant, not yet calculated

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

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

Other (upstream)

Evaluation status

Not evaluated

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

Other (downstream)

Evaluation status

Not evaluated

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

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

0.000524

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

21556012

Metric denominator

unit total revenue

Metric denominator: Unit total

4113300000

Scope 2 figure used

Location-based

% change from previous year

0.37

Direction of change

Decreased

Reason for change

Emission increased by: 3.4%; Revenue increased by: 65.2%; results in decrease of intensity figure in 2021 by: 37.4%

The intensity figure decreased significantly in comparison with 2020.

Intensity figure

0.0696

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

21556012

Metric denominator

barrel of oil equivalent (BOE)

Metric denominator: Unit total

309916077

Scope 2 figure used

Location-based

% change from previous year

0.48

Direction of change

Decreased

Reason for change

Emission increased by: 3.4%; Production increased by: 3.9%; results in decrease of intensity figure in 2021 by: 0.48%

The intensity figure remained relatively flat in comparison with 2020.

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 oil sands (includes bitumen and synthetic crude)

Metric tons CO2e from hydrocarbon category per unit specified

66.67

% change from previous year

1

Direction of change

Decreased

Reason for change

In 2021 Suncor upstream Oil Sands Base Plant Upgrader had comparable SCO production with 2020, while the overall energy efficiency increased after the major Upgrading turnaround activities.

In 2020, Higher in situ operational performance, including an increase in the nameplate capacity at Firebag and the lifting of the Alberta production curtailment program, compensated for Fort Hills' single-train operations, which lowered its production.

Comment

The denominator is Suncor upstream In Situ bitumen and Fort Hills bitumen, and upstream SCO production.

Unit of hydrocarbon category (denominator)

Thousand barrels of refinery net production

Metric tons CO2e from hydrocarbon category per unit specified

25.9

% change from previous year

3

Direction of change

Increased

Reason for change

In 2021, Suncor downstream refining and supply facilities had relatively flat production, impacted by facility turnarounds and lingering demand impacts from COVID-19 pandemic in 2020.

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

0

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

0

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 downstream 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	19783792	IPCC Fourth Assessment Report (AR4 - 100 year)
CH4	279900	IPCC Fourth Assessment Report (AR4 - 100 year)
N2O	90190	IPCC Fourth Assessment Report (AR4 - 100 year)
HFCs	1036	IPCC Fourth Assessment Report (AR4 - 100 year)
PFCs	97.817	IPCC Fourth Assessment Report (AR4 - 100 year)
SF6	2846	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)

134626

Gross Scope 1 methane emissions (metric tons CH4)

9234

Total gross Scope 1 emissions (metric tons CO2e)

365490

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)

0

Gross Scope 1 methane emissions (metric tons CH4)

109

Total gross Scope 1 emissions (metric tons CO2e)

2731

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)

2278

Gross Scope 1 methane emissions (metric tons CH4)

524

Total gross Scope 1 emissions (metric tons CO2e)

15397

Comment

Emissions category

Venting

Value chain

Downstream

Product

Oil

Gross Scope 1 CO2 emissions (metric tons CO2)

5605

Gross Scope 1 methane emissions (metric tons CH4)

82

Total gross Scope 1 emissions (metric tons CO2e)

7660

Comment

Emissions category

Flaring

Value chain

Upstream

Product

Oil

Gross Scope 1 CO2 emissions (metric tons CO2)

280259

Gross Scope 1 methane emissions (metric tons CH4)

243

Total gross Scope 1 emissions (metric tons CO2e)

287333

Comment

Emissions category

Flaring

Value chain

Downstream

Product

Oil

Gross Scope 1 CO2 emissions (metric tons CO2)

204503

Gross Scope 1 methane emissions (metric tons CH4)

353

Total gross Scope 1 emissions (metric tons CO2e)

214418

Comment

Emissions category

Combustion (excluding flaring)

Value chain

Upstream

Product

Oil

Gross Scope 1 CO2 emissions (metric tons CO2)

13150999

Gross Scope 1 methane emissions (metric tons CH4)

451

Total gross Scope 1 emissions (metric tons CO2e)

13210453

Comment

Emissions category

Combustion (excluding flaring)

Value chain

Downstream

Product

Oil

Gross Scope 1 CO2 emissions (metric tons CO2)
3218057

Gross Scope 1 methane emissions (metric tons CH4)
94

Total gross Scope 1 emissions (metric tons CO2e)
3232574

Comment

Emissions category

Please select

Value chain

Upstream
Downstream

Product

Oil

Gross Scope 1 CO2 emissions (metric tons CO2)
1389033

Gross Scope 1 methane emissions (metric tons CH4)
0

Total gross Scope 1 emissions (metric tons CO2e)
1389033

Comment

Emissions category

Other (please specify) (Onsite transportation)

Value chain

Upstream
Downstream

Product

Oil

Gross Scope 1 CO2 emissions (metric tons CO2)
1398427

Gross Scope 1 methane emissions (metric tons CH4)
102

Total gross Scope 1 emissions (metric tons CO2e)
1432769

Comment

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	19320966
United States of America	836897

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	15917161
Downstream	4240701

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	8030929	57.0033	-111.4661
In Situ Firebag	5582564	57.2297	-110.8325
In Situ MacKay River	420879	57.03347	-111.88712
Terra Nova FPSO	0	46.2831	-48.2851
Edmonton Refinery	1307142	53.55558	-113.33275
Montreal Refinery	1152547	45.50806	-73.57111
Sarnia Refinery	772222	42.9306	-82.4433
Commerce City Refinery	836897	39.80168	-104.94698
Montreal Sulphur Plant	21851	45.639381	-73.515457
Burrard Terminal	10539	49.283	-122.85
Canadian Pipelines	1252	57.1165	-111.1493
Renewables - St. Clair Ethanol Plant	138046	42.9294	-82.4381
Renewables - Wind	7	49.71306	-112.78745
Fort Hills	1882788	57.39207	-111.56791
US Pipelines and Terminals	194	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)	3436005
Stationary combustion (for other heating use)	13007022
Process emissions	1389033
Fugitive emissions	368222
Flaring and Venting emissions	524810
Transportation	1427748
Other	5021

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	Net Scope 1 emissions , metric tons CO2e	Comment
Cement production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Chemicals production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Coal production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Electric utility activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Metals and mining production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (upstream)	15917161	<Not Applicable>	
Oil and gas production activities (midstream)		<Not Applicable>	Not applicable
Oil and gas production activities (downstream)	4240701	<Not Applicable>	
Steel production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport OEM activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport services activities	<Not Applicable>	<Not Applicable>	<Not Applicable>

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)
Canada	1234797	1191900
United States of America	175621	125087

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	664928	537600
Downstream	745490	779387

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	250	250
In Situ Firebag	0	0
In Situ MacKay River	664557	664557
Terra Nova FPSO	0	0
Fort Hills	120	120
Edmonton Refinery	389480	389480
Montreal Refinery	622	622
Sarnia Refinery	154041	268700
Commerce City Refinery	175621	125087
Montreal Sulphur Plant	13	13
Burrard Terminal	139	139
Canadian Pipelines	23637	23637
Renewables - St Clair Ethanol Plant	1924	1924
Renewables - Wind	9	9
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	522727	530358
Purchased Steam	887412	785936
Purchased Heat	0	0
Purchased Cooling	278	693

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
Cement production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Chemicals production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Coal production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Metals and mining production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (upstream)	664928	537600	
Oil and gas production activities (midstream)	0	0	Not applicable
Oil and gas production activities (downstream)	745490	779387	
Steel production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport OEM activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport services activities	<Not Applicable>	<Not Applicable>	<Not Applicable>

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?

Increased

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	643	Decreased	0.09	2021 emissions from two sources are quantified and compared to 2020: Biodiesel is consumed in Oil Sands Base Plant and Fort Hills for various combustion equipment and heavy hauler/trucks for Mining site; Biogas which is generated from fermentation is consumed in Ethanol Plant in equipment.
Other emissions reduction activities	33878	Decreased	4.76	A few projects were conducted in 2021 to improve energy efficiency and therefore decreased the Scope 1 emissions. These projects include process optimization to improve heat transfer and plant reliability.
Divestment		<Not Applicable >		Not applicable
Acquisitions		<Not Applicable >		Not applicable
Mergers		<Not Applicable >		Not applicable
Change in output		<Not Applicable >		Not applicable
Change in methodology		<Not Applicable >		Not applicable
Change in boundary		<Not Applicable >		Not applicable
Change in physical operating conditions		<Not Applicable >		Not applicable
Unidentified		<Not Applicable >		Not applicable
Other	746953	Increased	104.85	In 2021, Suncor's total absolute GHG Scope 1 and 2 emissions increased compared to 2020 primarily due to increased production with higher market demand.

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)	48423.59	90394140.4	90442563.98
Consumption of purchased or acquired electricity	<Not Applicable>	0	1808162.55	1808162.55
Consumption of purchased or acquired heat	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired steam	<Not Applicable>	0	3940612.52	3940612.52
Consumption of purchased or acquired cooling	<Not Applicable>	0	942.28	942.28
Consumption of self-generated non-fuel renewable energy	<Not Applicable>	0	<Not Applicable>	0
Total energy consumption	<Not Applicable>	48423.59	96143857.75	96192281.33

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.

Sustainable biomass

Heating value

LHV

Total fuel MWh consumed by the organization

50044.24

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

50044.24

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

0

Comment

Biodiesel

Other biomass

Heating value

LHV

Total fuel MWh consumed by the organization

0

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

0

Comment

Not applicable

Other renewable fuels (e.g. renewable hydrogen)

Heating value

LHV

Total fuel MWh consumed by the organization

0

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

0

Comment

Not applicable

Coal

Heating value

LHV

Total fuel MWh consumed by the organization

6238086.54

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

2484651.99

MWh fuel consumed for self-generation of steam

3753434.55

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

0

Comment

Petroleum Coke

Oil

Heating value

LHV

Total fuel MWh consumed by the organization

6435906.12

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

6094605.38

MWh fuel consumed for self-generation of steam

341300.73

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

0

Comment

Diesel and gas oil

Gas

Heating value

LHV

Total fuel MWh consumed by the organization

75302060.12

MWh fuel consumed for self-generation of electricity

17165190.93

MWh fuel consumed for self-generation of heat

29526879.99

MWh fuel consumed for self-generation of steam

28609989.2

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

23480365.86

Comment

Natural gas and fuel gas

Other non-renewable fuels (e.g. non-renewable hydrogen)

Heating value

LHV

Total fuel MWh consumed by the organization

0

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

0

Comment

Not applicable

Total fuel**Heating value**

LHV

Total fuel MWh consumed by the organization

88061664.81

MWh fuel consumed for self-generation of electricity

17165190.93

MWh fuel consumed for self-generation of heat

38191749.39

MWh fuel consumed for self-generation of steam

32704724.49

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

23480365.86

Comment

Total includes: Biodiesel, Petroleum coke, Diesel and gas oil, and Natural gas and fuel gas.

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	7450156.52	5275613	114008.5	0
Heat	30553399.52	30553399.52	131894.59	131894.59
Steam	24112347.53	24112347.53	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 or near-zero emission factor in the market-based Scope 2 figure reported in C6.3.****Sourcing method**

Heat/steam/cooling supply agreement

Energy carrier

Heat, steam and cooling combined

Low-carbon technology type

Low-carbon energy mix, please specify (Cogeneration)

Country/area of low-carbon energy consumption

Canada

Tracking instrument used

Contract

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

3697332.5

Country/area of origin (generation) of the low-carbon energy or energy attribute

Canada

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

2002

Comment

Electricity that is produced and sold to the provincial grids by oil sands and in situ cogeneration units. Cogeneration gross power generation 6.34 Million MWh. Cogeneration net power export 3.27 Million MWh.

Cogeneration Power Emission factor: 0.2445 metric tons CO₂e per MWh. Cogeneration Steam Emission factor: 0.2001 metric tons CO₂e per MWh**C8.2g**

(C8.2g) Provide a breakdown of your non-fuel energy consumption by country.

Country/area

Canada

Consumption of electricity (MWh)

5592374

Consumption of heat, steam, and cooling (MWh)

55113055

Total non-fuel energy consumption (MWh) [Auto-calculated]

60705429

Is this consumption excluded from your RE100 commitment?

<Not Applicable>

Country/area

United States of America

Consumption of electricity (MWh)

263895

Consumption of heat, steam, and cooling (MWh)

3493305

Total non-fuel energy consumption (MWh) [Auto-calculated]

3757200

Is this consumption excluded from your RE100 commitment?

<Not Applicable>

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	2021 crude oil produced from Terra Nova FPSO is 0. Production at Terra Nova has been shut in since the fourth quarter of 2019. In 2021, Suncor and the Terra Nova joint venture owners finalized an agreement to move forward with the Asset Life Extension Project, which is expected to extend production life by approximately 10 years, and produce an additional 70 million barrels of oil for the partnership.
Natural gas liquids, million barrels	0	No NGL produced from Suncor Facilities
Oil sands, million barrels (includes bitumen and synthetic crude)	194.63	2021 Bitumen and synthetic crude oil produced from Oil Sands facilities. This excludes Syncrude production volumes.
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 1P and 2P reserves in accordance with Canadian Securities Administrators' National Instrument 51-101 "Standards of Disclosure for Oil and Gas Activities" (NI 51-101). Suncor's 2021 reserves were evaluated by independent qualified reserves evaluator, GLJ, 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	5783			Volumes and percentages based on NI 51-101.

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			4.2% Volumes and percentages based on NI 51-101
Natural gas	0			0.1% Volumes and percentages based on NI 51-101
Oil sands (includes bitumen and synthetic crude)	96			95.8% 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 (%)

3

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: 2.7% 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 (%)

11

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: 11.4% Net proved reserves: 1P = 3.8% Net proved + probable reserves: 2P = 4.0%. 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 (%)

86

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: 86% Net proved reserves: 1P = 96% 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	415.5

C-OG9.3b

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

	Throughput (Million barrels)	Comment
Oil	146.04	
Other feedstocks	11.32	
Total	157.36	

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	70.61
Diesel fuels	57.94
Fuel oils	19.67
Other, please specify (Distillates)	8.82

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	Addressing climate change while providing low-emission sources of energy the world needs is a major challenge. It will require innovation across all parts of the energy system, from technology development and deployment and enabling infrastructure, to innovations in information technology, policy frameworks and more. All these pathways are required to transform our existing business as well as expand our sustainable energy offerings. One of our strategic objectives is to optimize our base business, using technology and innovation to reduce costs and carbon emissions. In 2021, we invested approximately \$565 million in technology development, deployment and digitalization transformation. We also invest in energy expansion projects – such as cogeneration, hydrogen and renewable fuels – to address climate change and provide low-emission sources of energy. We plan to allocate approximately 10% of our annual capital budget over the medium term (2022-2025) on investments that advance our low-carbon energy offerings.

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

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
Carbon capture and storage/utilisation	Applied research and development	Please select		CCUS is a critical technology for meeting global energy and net-zero climate objectives and is recognized by most energy forecasts as key to achieving the goals of the Paris Agreement. - In 2021, Suncor and five other oil sands producers launched the Oil Sands Pathways to Net Zero Alliance, a globally unprecedented collaboration responsible for 95% of Canada's oil sands production, with an objective of net-zero emissions from production by 2050. The ambitious objective of the Pathways Alliance producers, supported by the Canadian and Alberta governments, will represent approximately 1% of the CCUS the world needs by 2050 under the IEA's NZE scenario. It is crucial to meeting Canada's climate commitments. The Pathways Alliance foundational project is a key part of the overall net-zero vision and will require ongoing collaboration, shared investment, and research and development on new and emerging technologies between industry and government. It will include a carbon transportation line connecting over 20 oil sands facilities in northern Alberta to a carbon sequestration hub near Cold Lake and be available to other industries interested in capturing and sequestering CO2. - Suncor is an investor in Svante Inc., which is developing a post combustion CO2 capture technology for industrial emissions. Svante's technology separates and captures CO2 from combustion gas products and concentrates it for industrial use or permanent storage. The capture process uses solid adsorbent materials with very high storage capacity relative to their size, dramatically reducing the time and surface area needed for storage, which reduces costs. This year Suncor is undertaking a technical feasibility study to capture emissions from fluid catalytic crackers at the Edmonton Refinery, to inform further economic and technical evaluation for deployment.
Other, please specify (Solvent, SAGD efficiency and heat recovery)	Pilot demonstration	Please select		In 2020 we completed the solvent injection phase of a pad-scale ES-SAGD pilot at Firebag. In late 2022 we are planning a pad-scale demo to further evaluate production performance and solvent recovery. Another opportunity we are pursuing, the Extra Low Intensity Thermal Extraction (ELITE) process, improves the energy efficiency of SAGD by significantly lowering operating pressures. In early 2021 we initiated a two-year pad-scale pilot project at Firebag to evaluate the effectiveness of the ELITE process. Solvent-dominated processes involve the full or near-full replacement of steam with a hydrocarbon solvent and have the potential to reduce GHG emissions by up to 70%. These technologies could include solvents paired with wellbore heating, super heating or electromagnetic heating, with the addition of steam. We expect to launch a pilot project to evaluate solvent dominated technology by early 2023. In addition, we are currently advancing the Heavy Oil Late Life Energy Recovery (HOLLER) project and have received regulatory approval to plan and initiate a pilot at our MacKay River in situ facility.
Other, please specify (Cogeneration)	Full/commercial-scale demonstration	Please select		Cogeneration is the process of producing both steam and electricity through a natural gas-fuelled process. All our oil sands facilities use cogeneration technology to meet our steam and electricity needs and our Base Plant Cogeneration project will convert the petroleum coke-fired boilers at Oil Sands Base Plant to cogeneration units, a great example of a fuel-switching application. It will not only replace petroleum coke with lower-carbon natural gas but also export electricity to the provincial grid, displacing coal with natural gas to power Alberta homes and businesses. Following its commissioning in late 2024, we estimate that we'll be the fourth largest power producer in Alberta. The project is expected to reduce GHG emissions by 5 Mt per year compared to coal-derived power, equivalent to displacing over one million vehicles on the road today. In 2021 we spent approximately 9% of capital expenditures on low-carbon energies and cogeneration represents the majority of this spend.
Other, please specify (Fuel switching)	Full/commercial-scale demonstration	Please select		Fuel switching is substituting a higher GHG-intensive fuel with a lower GHG-intensive one, such as substituting coal and coal-fired power plants with hydrogen or natural gas to generate electricity through cogeneration.
Other, please specify (Non-aqueous extraction)	Pilot demonstration	Please select		Through collaborative partnerships with research organizations and other major oil sands producers, we are pursuing new technologies that improve efficiency and reduce the need for water in bitumen extraction from mining operations. Currently, hot water is used to separate bitumen from oil sands mined ore. By replacing the use of hot water with a solvent, we could significantly reduce water usage and recover bitumen without producing waste tailings ponds. We anticipate this would accelerate land reclamation and reduce land footprint, tailings management costs and fugitive emissions. Earlier this year, we executed a joint development agreement to collaborate and collectively progress non-aqueous extraction technology.
Other, please specify (Bitumen processing)	Pilot demonstration	Please select		Suncor's oil sands production is primarily focused on synthetic (i.e., upgraded) crude oil and bitumen. Bitumen is oil that is too heavy or thick to flow on its own, and therefore it is mixed with diluent so it flows more easily. To reduce or eliminate the amount of diluent required, thermal bitumen conversion and separation technology is used to partially upgrade bitumen. This lowers production and upgrading costs, increases product quality and value, improves market access, and lowers life-cycle GHG emissions. An example of a separation application is the use of paraffinic froth treatment in the secondary extraction process at Suncor's Fort Hills mine, which selectively removes the heavy components of the mined bitumen, resulting in a lighter, higher-quality product. Technologies with both thermal conversion and separation can also remove process water and steam, eliminating the need for a steam plant and water treatment, thereby providing additional environmental benefits and cost savings. Through the Partially Upgraded Reduced Energy program, Suncor is focused on de-risking other partial upgrading technologies for eventual commercial deployment.
Other, please specify (Renewable fuels)	Full/commercial-scale demonstration	Please select		We are continuing to make modest, but targeted, investments in developing commercial-ready renewable fuel technologies that provide an early mover advantage and support future expansion (e.g., Enerkem, LanzaTech, LanzaJet and advanced generation waste-based feedstocks). We started producing renewable fuel in the early 2000s at our ethanol plant in St. Clair, Ontario, Canada's largest. Today, we produce approximately 400 million litres per year of ethanol to help meet blending requirements throughout our 1,700 Petro-Canada™ retail stations and elsewhere. The focus of future investments is to meet increasing renewable fuel mandates and leverage new technologies to provide a leading edge in the growth of renewable fuel demand globally. There is a significant opportunity to satisfy this demand and generate shareholder value, leveraging our experience with liquid fuels, logistics capabilities and existing asset base. Over the past decade, we've made strategic investments in promising advanced-generation biofuel technologies that create ethanol and methanol from waste streams such as non-recyclable municipal waste, industrial forestry and agricultural waste biomass. We have invested in leading biofuels companies and continue to progress a handful of key projects, designed to be readily scalable and replicable to take advantage of emerging growth opportunities, subject to attractive economics. These investments are critical to developing cost-effective ways to meet future blending requirements while keeping Suncor at the forefront of technology and helping to meet our GHG objectives.
Renewable energy	Full/commercial-scale demonstration	Please select		Suncor played a pivotal role in developing and maturing the Canadian wind energy industry. In 2002, along with partner Enbridge, we built one of the first utility-scale wind farms in Canada. Since then, Suncor has developed eight wind power projects in three provinces. Today, we are a partner in four wind power facilities located in Alberta and Ontario, with aggregate capacity of 111 MW. Additionally, we are in the process of developing and bringing to market phase one of the Forty Mile power project in southeastern Alberta, representing 200 MW of wind capacity. As noted previously, our plan is to divest these assets within the next year.
Hydrogen	Applied research and development	Please select		Suncor is one of the largest producers and consumers of hydrogen in Canada, accounting for approximately 15% of supply and 20% of demand. We produce grey hydrogen through steam methane reforming of natural gas, a critical process in our upgrading and refining operations for 50 years. - In May 2021 we announced a partnership with ATCO Ltd. to study the economic feasibility of a 300,000 tonnes per year blue hydrogen plant near our Edmonton refinery. Initial estimates suggest the project has the potential to reduce emissions by more than 2 Mt per year and generate substantial economic benefits. A sanctioning decision could be made as early as 2024, which would support commercial operation by late 2027. - Suncor has partnered with KWI Polymers Solutions to de-risk and scale up its novel hydrogen technology to a field demonstration that could produce 1,000-1,500 tonnes per year of hydrogen and 3,000-4,500 tonnes of black carbon. In early 2022 the project was selected by the Clean Resource Innovation Network for \$10 million in funding. If proven and deployed at commercial scale, a facility producing 100,000 tonnes of hydrogen per year could reduce emissions by approximately 1 Mt per year. - Earlier this year Suncor also partnered with Australia-based Hazer Group and FortisBC to begin development of a 2,500 tonnes per year turquoise hydrogen facility, in which Suncor would play a leading role in engineering, construction and eventual operation. - We are part of the Alberta Zero Emissions Truck Electrification Collaboration project, a multi-party effort to design, manufacture and test long-range hydrogen-powered trucks operating between Calgary and Edmonton. This 18-month pilot with our partners is a first step to developing economically viable commercial hydrogen transport fuelling stations. Suncor is developing two hydrogen refuelling stations as part of this project.

(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.

35

35/bbl targeted breakeven 2021-25 which assumes midcycle scenario of \$55USD WTI/bbl. Breakeven figure refers to estimated average WTI crude oil price in US dollars required for adjusted funds from operations to equal estimated total enterprise operating costs; sustaining capital expenditures inclusive of associated capitalized interest and dividends. Breakeven figures include assumptions for production, dividend, sustaining capital and business environment. All dividends are at the discretion of Suncor's Board of Directors. Actual results may differ materially. Please see Suncor Investor Deck for more information and advisories.

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

1
2022-suncor-assurance-statement-en.pdf

Page/ section reference

Ernst & Young LLP Independent Assurance Statement

Relevant standard

Other, please specify (Canadian Standard for Assurance Engagements ('CSAE') 3000, Attestation Engagements Other Than Audits or Reviews of Historical Financial Information ('CSAE 3000'), Canadian Standard on Assurance Engagements on Greenhouse Gas Statements ('CSAE 3410').)

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

Reasonable assurance

Attach the statement

2

Page/ section reference

Fort Hills Verification

Relevant standard

Alberta Technology Innovation and Emissions Reduction (TIER)

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

Reasonable assurance

Attach the statement

Page/ section reference

Base Plant Verification

Relevant standard

Alberta Technology Innovation and Emissions Reduction (TIER)

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

Reasonable assurance

Attach the statement

Page/ section reference

MacKay River Verification

Relevant standard

Alberta Technology Innovation and Emissions Reduction (TIER)

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

Reasonable assurance

Attach the statement

Page/ section reference

Firebag Verification

Relevant standard

Alberta Technology Innovation and Emissions Reduction (TIER)

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

Reasonable assurance

Attach the statement

Page/ section reference

Edmonton Refinery Verification

Relevant standard

Alberta Technology Innovation and Emissions Reduction (TIER)

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

Reasonable assurance

Attach the statement

Page/ section reference

Montreal Refinery Verification

Relevant standard

Other, please specify (Quebec: Regulation respecting mandatory reporting of certain emissions of contaminants into the atmosphere)

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

Reasonable assurance

Attach the statement**Page/ section reference**

Sarnia Refinery Verification

Relevant standard

Please select

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

Reasonable assurance

Attach the statement**Page/ section reference**

St. Clair Ethanol Verification

Relevant standard

Please select

Proportion of reported emissions verified (%)

100

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

2022-suncor-assurance-statement-en.pdf

Page/ section reference

Ernst & Young LLP Independent Assurance Statement

Relevant standard

Other, please specify (Canadian Standard for Assurance Engagements ('CSAE') 3000, Attestation Engagements Other Than Audits or Reviews of Historical Financial Information ('CSAE 3000'), Canadian Standard on Assurance Engagements on Greenhouse Gas Statements ('CSAE 3410').)

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?

No, we do not verify any other climate-related information reported in our CDP disclosure

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 TIER - 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)

Other carbon tax, please specify (New Brunswick)

C11.1b

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

Alberta TIER - ETS

% of Scope 1 emissions covered by the ETS

100

% of Scope 2 emissions covered by the ETS

100

Period start date

January 1 2021

Period end date

December 31 2021

Allowances allocated

15546788.48

Allowances purchased

1399700.64

Verified Scope 1 emissions in metric tons CO₂e

17224307.02

Verified Scope 2 emissions in metric tons CO₂e

277817.88

Details of ownership

Facilities we own and operate

Comment

This includes Oil Sands Base Plant, Firebag, Mackay River, Fort Hills and Edmonton Refinery.

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 2021

Period end date

December 31 2021

Allowances allocated

981794.06

Allowances purchased

71525

Verified Scope 1 emissions in metric tons CO2e

910269.06

Verified Scope 2 emissions in metric tons CO2e

0

Details of ownership

Facilities we own and operate

Comment

This 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 2021

Period end date

December 31 2021

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

Includes Terra Nova floating production storage and offloading vessel situated off the east coast of Canada. Production at Terra Nova has been shut in since the fourth quarter of 2019, therefore there was no carbon compliance payment for 2021. In 2021, Suncor and the Terra Nova joint venture owners finalized an agreement to move forward with the Asset Life Extension Project, which is expected to extend production life by approximately 10 years, and produce an additional 70 million barrels of oil for the partnership.

Québec CaT - ETS

% of Scope 1 emissions covered by the ETS

100

% of Scope 2 emissions covered by the ETS

0

Period start date

January 1 2021

Period end date

December 31 2021

Allowances allocated

1002819.14

Allowances purchased

148239

Verified Scope 1 emissions in metric tons CO2e

1151058.14

Verified Scope 2 emissions in metric tons CO2e

0

Details of ownership

Facilities we own and operate

Comment

Includes Montreal Refinery and Montreal Sulphur Plant

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 2021

Period end date

December 31 2021

% of total Scope 1 emissions covered by tax

97.61

Total cost of tax paid

245344126

Comment

Total carbon levy collected and paid to the provincial government in 2021

Canada federal fuel charge

Period start date

January 1 2021

Period end date

December 31 2021

% of total Scope 1 emissions covered by tax

79.45

Total cost of tax paid

819398664

Comment

Total carbon levy collected and paid to the government in 2021 in Manitoba, British Columbia, Ontario, Saskatchewan and Yukon

Prince Edward Island carbon tax

Period start date

January 1 2021

Period end date

December 31 2021

% of total Scope 1 emissions covered by tax

0

Total cost of tax paid

3357980

Comment

Total carbon levy collected and paid to the provincial government in 2021

Other carbon tax, please specify

Period start date

January 1 2021

Period end date

December 31 2021

% of total Scope 1 emissions covered by tax

0

Total cost of tax paid

5321794

Comment

New Brunswick total carbon levy collected and paid to the provincial government in 2021

Other carbon tax, please specify

Period start date

January 1 2021

Period end date

December 31 2021

% of total Scope 1 emissions covered by tax

0

Total cost of tax paid

1315851

Comment

Northwest Territories total carbon levy collected and paid to the provincial government in 2021

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 our 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. In April 2022, we announced plans to divest our wind and solar assets to concentrate on business lines complementary to our base business to accelerate progress toward becoming a net-zero company by 2050.

Verified to which standard

Other, please specify (Alberta TIER offset protocols)

Number of credits (metric tonnes CO2e)

68070

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

69070

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)

50

Variance of price(s) used

\$50/tonne CO2e in 2022 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, informed by the expected pricing by the federal Canadian government. The carbon price range is from \$50/tonne in 2022 to \$170/tonne by 2030.

C12. Engagement

C12.1

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

- Yes, our suppliers
- Yes, our customers/clients

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

0

Rationale for the coverage of your engagement

We continue to partner with suppliers who share our values and align with our strategic objectives: seeking opportunities to reduce environmental impacts, supporting the communities where we work and live, and collectively contributing to economic growth. We engage with our suppliers on their sustainability performance by assessing sustainability performance as part of prequalification, awarding of work and ongoing supplier performance, gathering data to understand the effects of our supply chain, which helps us make more informed decisions, evaluating sustainability risks and opportunities in our supply chain and building relationships with like-minded suppliers to accelerate innovation and sustainability performance.

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

Maturing relationships with a diverse range of suppliers is important as we look to move our company and industry from supply arrangements that are transactional in nature to partnerships that are more strategic. Working together with our vast supply chain network, we are attempting to leverage our collective strengths to amplify innovation and drive sustainability performance. These discussions also contribute to a different way of assessing our suppliers' service offerings. Suncor remains committed in working with and advancing business with suppliers, and will endeavor to make the right business and social decisions at every opportunity.

Impact of engagement, including measures of success

In 2021, 4,396 suppliers (which accounts for 90% of Suncor's suppliers) have subscribed to Suncor's prequalification program. We continue to engage with our key suppliers and industry partners to accelerate innovation and sustainability performance. Suncor and our key suppliers share best practices to achieve continuous improvement in sustainability performance throughout the value chain.

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 objectives, including our Journey of Reconciliation and GHG objectives and target.

C12.1b

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

Type of engagement & Details of engagement

Education/information sharing	Share information about your products and relevant certification schemes (i.e. Energy STAR)
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% 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 57 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.

C12.2

(C12.2) Do your suppliers have to meet climate-related requirements as part of your organization's purchasing process?

No, and we do not plan to introduce climate-related requirements within the next two years

C12.3

(C12.3) Does your organization engage in activities that could either directly or indirectly influence policy, law, or regulation that may impact the climate?

Row 1

Direct or indirect engagement that could influence policy, law, or regulation that may impact the climate

Yes, we engage directly with policy makers

Yes, we engage indirectly through trade associations

Yes, we engage indirectly by funding other organizations whose activities may influence policy, law, or regulation that may significantly impact the climate

Does your organization have a public commitment or position statement to conduct your engagement activities in line with the goals of the Paris Agreement?

No, and we do not plan to have one in the next two years

Attach commitment or position statement(s)

<Not Applicable>

Describe the process(es) your organization has in place to ensure that your engagement activities are consistent with your overall climate change strategy

Engagement and dialogue are essential to developing relationships and understanding diverse perspectives and experiences, as we seek common solutions to our shared climate objectives. Stakeholder engagement provides the opportunity to share Suncor's progress and challenges, and to gather and incorporate external perspectives into our strategies and plans. We operate in many jurisdictions across North America that regulate GHG emissions. Our approach is to engage constructively with governments and relevant stakeholders and advocate for effective, pragmatic and transparent policies to address climate change. Our advocacy includes supporting wide-ranging incentives for emission reductions and removals, along with support for the Paris Agreement. Good policy instills confidence in the financial markets, industry and society and promotes economic prosperity which, in turn, enable low-carbon energy expansion and the technology and innovation needed to reduce emissions globally.

Primary reason for not engaging in activities that could directly or indirectly influence policy, law, or regulation that may impact the climate

<Not Applicable>

Explain why your organization does not engage in activities that could directly or indirectly influence policy, law, or regulation that may impact the climate

<Not Applicable>

C12.3a

(C12.3a) On what policy, law, or regulation that may impact the climate has your organization been engaging directly with policy makers in the reporting year?

Focus of policy, law, or regulation that may impact the climate

Other, please specify (Fuel Standards)

Specify the policy, law, or regulation on which your organization is engaging with policy makers

Clean Fuel Regulation

Policy, law, or regulation geographic coverage

National

Country/region the policy, law, or regulation applies to

Canada

Your organization's position on the policy, law, or regulation

Support with minor exceptions

Description of engagement with policy makers

Sitting on a technical working group for the proposed Clean Fuel Regulation, as well as providing written submissions to requests for feedback.

Details of exceptions (if applicable) and your organization's proposed alternative approach to the policy, law or regulation

The Clean Fuel Regulation is designed to 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. We have provided feedback to the government on changes that would make this regulation more effective.

Have you evaluated whether your organization's engagement is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Focus of policy, law, or regulation that may impact the climate

Adaptation and/or resilience to climate change

Specify the policy, law, or regulation on which your organization is engaging with policy makers

Investment tax credit for carbon capture use and storage

Policy, law, or regulation geographic coverage

National

Country/region the policy, law, or regulation applies to

Canada

Your organization's position on the policy, law, or regulation

Support with minor exceptions

Description of engagement with policy makers

Meeting with multiple levels of government with industry partners to advocate for the significant deployment of CCUS in Canada. An investment tax credit would help to support the investment in CCUS. We engaged throughout 2021 and into 2022.

Details of exceptions (if applicable) and your organization's proposed alternative approach to the policy, law or regulation

An investment tax credit for CCUS was announced as part of the Canadian federal budget, details and implementation to be worked out throughout 2022.

Have you evaluated whether your organization's engagement is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

C12.3b

(C12.3b) Provide details of the trade associations your organization engages with which are likely to take a position on any policy, law or regulation that may impact the climate.

Trade association

Other, please specify (Mining Association of Canada (MAC))

Is your organization's position on climate change consistent with theirs?

Consistent

Has your organization influenced, or is your organization attempting to influence their position?

We publicly promote their current position

State the trade association's position on climate change, explain where your organization's position differs, and how you are attempting to influence their position (if applicable)

The Mining Association of Canada (MAC) supports the goal of the Paris Agreement and is supportive of a just transition to a lower carbon future. This is in alignment with Suncor'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. Over the past two decades, MAC's member companies have improved energy efficiency and reduced emissions at their operations through measures such as MAC's mandatory Towards Sustainable Mining (TSM) initiative and through innovations at the mine-site level. In 2016, MAC and its members released Principles for Climate Change Policy Design, notable for its inclusion of support for a broad-based price on carbon. The Principles were developed to inform the federal government as it drafted the pan-Canadian climate change framework. MAC encourages and commits its members (including oil sands mining companies) to be a constructive partner in working towards the solution for climate change.

Funding figure your organization provided to this trade association in the reporting year, if applicable (currency as selected in C0.4) (optional)

546031

Describe the aim of your organization's funding

We support MAC's goals for its members, which include:

- Be a part of a unified voice that promotes a strong and competitive Canadian mining industry
- Capitalize on MAC's credibility with government and industry stakeholders to advance interests
- Obtain social license to operate through the Towards Sustainable Mining (TSM) program
- Access MAC's government and policy expertise, and large network of experts and partners
- Participate in committees and working groups focused on a variety of critical policy priorities
- Learn from and collaborate with peers in the industry
- Receive timely information on industry issues and MAC activities

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Trade association

Other, please specify (Canadian Fuels Association (CFA))

Is your organization's position on climate change consistent with theirs?

Consistent

Has your organization influenced, or is your organization attempting to influence their position?

We publicly promote their current position

State the trade association's position on climate change, explain where your organization's position differs, and how you are attempting to influence their position (if applicable)

The Canadian Fuels Association (CFA) is Canada's leading industry voice on transportation energy and a trusted partner in developing policy solutions that balance Canadians' economic and environmental performance expectations. CFA aims to drive Canada forward by promoting policies that improve industry environmental performance, protect industry competitiveness, strengthen Canada's critical energy infrastructure, and ensure dependable, safe, and environmentally responsible transportation energy is accessible to all Canadians. CFA states that climate change is an important global issue requiring action across industries and around the globe. The CFA acknowledges the need to reduce greenhouse gas emissions. It's one of our most complex, but important challenges. To address the risks of climate change, reducing GHG emissions has become an important global issue. Under the auspices of the Paris Agreement, virtually every country has committed to reduce their GHG emissions. CFA and its members support policy approaches that minimize the overall cost to society of reducing climate risks.

Funding figure your organization provided to this trade association in the reporting year, if applicable (currency as selected in C0.4) (optional)

1214328

Describe the aim of your organization's funding

The CFA represents Canada's transportation fuels industry. The members are companies who process crude oil into essential products like transportation fuels and get those products to market. The CFA enables collaboration between industry and government (federal, provincial and municipal) and also among industry, its stakeholders and Canadians. There is a focus on environment as well as health and safety, work to promote meaningful discussion around policy choices, their benefits and their outcomes. The CFA offers access to advice, information and analysis in order to help drive informed policy decisions.

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?

No, we have not evaluated

C12.3c

(C12.3c) Provide details of the funding you provided to other organizations in the reporting year whose activities could influence policy, law, or regulation that may impact the climate.

Type of organization

Research organization

State the organization to which you provided funding

Canada West Foundation

Funding figure your organization provided to this organization in the reporting year (currency as selected in C0.4)

150000

Describe the aim of this funding and how it could influence policy, law or regulation that may impact the climate

The Canada West Foundation is an independent, non-partisan public policy think tank that focuses on the policies that shape the West, and by extension, Canada. Through evidence-based research and commentary, Canada West Foundation provides practical solutions to tough public policy challenges facing the West, and Canada as a whole, at home and on the global stage. The foundation works to find practical solutions to real challenges that face western Canada today – from getting products to markets around the world, building a stronger, more versatile workforce and finding ways to build public support for our key natural resource industries – mining and oil and gas.

Have you evaluated whether this funding is aligned with the goals of the Paris Agreement?

No, we have not evaluated

Type of organization

Private company

State the organization to which you provided funding

Oil Sands Pathways to Net Zero Alliance

Funding figure your organization provided to this organization in the reporting year (currency as selected in C0.4)

810000

Describe the aim of this funding and how it could influence policy, law or regulation that may impact the climate

In 2021, Suncor and five other oil sands producers – Canadian Natural, Cenovus Energy, ConocoPhillips, Imperial and MEG Energy – launched the Oil Sands Pathways to Net Zero Alliance, which operates facilities representing 95% of Canada's oil sands production. The objective is net-zero emissions from production by 2050. This ambitious effort by producers, supported by the Canadian and Alberta government, will represent approximately 1% of the carbon capture use and storage the world needs by 2050 under the IEA's NZE scenario. It is crucial to meeting Canada's climate commitments. The foundational project is a key part of the overall net-zero vision and will require ongoing collaboration, shared investment and research and development on new and emerging technologies between industry and government.

Have you evaluated whether this funding is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

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 voluntary sustainability report

Status

Complete

Attach the document

2022-report-on-sustainability-en.pdf

Page/Section reference

Suncor's 2022 Report on Sustainability

Content elements

Governance
Strategy
Risks & opportunities
Emissions figures
Emission targets
Other metrics

Comment

Publication

In mainstream reports, incorporating the TCFD recommendations

Status

Complete

Attach the document

2022-climate-report-en.pdf

Page/Section reference

Suncor's 2022 Climate Report

Content elements

Governance
Strategy
Risks & opportunities
Emissions figures
Emission targets
Other metrics

Comment

Publication

In mainstream reports

Status

Complete

Attach the document

2021-annual-report-en.pdf

Page/Section reference

Suncor's 2021 Annual Report

Content elements

Governance
Strategy
Risks & opportunities

Comment

Publication

In mainstream reports

Status

Complete

Attach the document

2022-management-proxy-circular-en.pdf

Page/Section reference

Suncor's 2022 Management Proxy Circular

Content elements

Governance
Strategy

Comment

C15. Biodiversity

C15.1

(C15.1) Is there board-level oversight and/or executive management-level responsibility for biodiversity-related issues within your organization?

	Board-level oversight and/or executive management-level responsibility for biodiversity-related issues	Description of oversight and objectives relating to biodiversity	Scope of board-level oversight
Row 1	Yes, executive management-level responsibility	<p>Suncor's overarching goal is to achieve world-class ESG performance. In relation to biodiversity this means being committed to preserving and promoting biodiversity in all areas where we work and includes conserving habitat and reclaiming the landscape we've disturbed. Aligned with this goal our internal sustainability statement states the following: We minimize our environmental footprint by designing and operating our facilities to use resources efficiently and by working to develop long-term solutions to global issues, including climate change and biodiversity. Suncor's commitment to biodiversity is described within our reclamation objective for oil sands projects, stated as follows: Disturbed lands shall be reclaimed to a self-sustaining, locally common boreal forest ecosystem, compatible with pre-development, including forested areas, wetlands and streams. The reclaimed lands will provide a range of end uses, including forestry, wildlife habitat, traditional use and recreation.</p> <p>Within the scope of Suncor's activities, biodiversity is considered at all applicable scales and biodiversity conservation is a significant consideration throughout the entire lifecycle of our operations. At the site or project level, tools such as constraints mapping and wildlife sweeps are used to ensure our development activities avoid sensitive environmental areas and wildlife potentially impacted by our activities. Our wildlife standard is implemented at a regional scale to allow for meaningful actions and accountabilities to be defined through a one-way approach. This leads to an increased understanding of responsibilities and accountabilities, a reduced number of wildlife incidents and supports compliance with regulatory requirements. Because all workers are required to adhere to the wildlife standard, this creates broad adoption of industry best practice. This is further promoted through Suncor's Wildlife Committee and incorporated into mitigation practices. Wildlife Committee members are responsible for stewarding commitments at the site level and performance against targets is reported at a variety of frequencies across multiple forums.</p> <p>Suncor's Environment, Health, Safety and Sustainable Development Committee meets quarterly to discuss and review performance, risks, emerging trends and issues, etc. Any material issues stemming from the Wildlife Committee would be incorporated through this review.</p>	<Not Applicable>

C15.2

(C15.2) Has your organization made a public commitment and/or endorsed any initiatives related to biodiversity?

	Indicate whether your organization made a public commitment or endorsed any initiatives related to biodiversity	Biodiversity-related public commitments	Initiatives endorsed
Row 1	Yes, we have made public commitments and publicly endorsed initiatives related to biodiversity	Adoption of the mitigation hierarchy approach Commitment to not explore or develop in legally designated protected areas Commitment to respect legally designated protected areas	SDG Other, please specify (Mining Association of Canada(MAC) Towards Sustainable Mining(TSM). The conservation of biodiversity is a commitment in it's Guiding Principles. As part of the initiative, we accept that a corporate commitment to biodiversity conservation is essential)

C15.3

(C15.3) Does your organization assess the impact of its value chain on biodiversity?

	Does your organization assess the impact of its value chain on biodiversity?	Portfolio
Row 1	Yes, we assess impacts on biodiversity in our upstream value chain only	<Not Applicable>

C15.4

(C15.4) What actions has your organization taken in the reporting year to progress your biodiversity-related commitments?

	Have you taken any actions in the reporting period to progress your biodiversity-related commitments?	Type of action taken to progress biodiversity- related commitments
Row 1	Yes, we are taking actions to progress our biodiversity-related commitments	Land/water protection Land/water management Species management Education & awareness Law & policy

C15.5

(C15.5) Does your organization use biodiversity indicators to monitor performance across its activities?

	Does your organization use indicators to monitor biodiversity performance?	Indicators used to monitor biodiversity performance
Row 1	Yes, we use indicators	State and benefit indicators Pressure indicators

C15.6

(C15.6) Have you published information about your organization’s response to biodiversity-related issues for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

Report type	Content elements	Attach the document and indicate where in the document the relevant biodiversity information is located
In voluntary sustainability report or other voluntary communications	Content of biodiversity-related policies or commitments Governance Impacts on biodiversity Details on biodiversity indicators Risks and opportunities Biodiversity strategy	Suncor's 2022 Report on Sustainability

C16. 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 increased 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, low carbon technology with adjacent industries and development of new technologies and the emerging demand for electric vehicle charging; Suncor’s expectations on how climate-related risks and opportunities will influence its strategy; statements and expectations regarding Suncor’s 10Mt GHG reduction target by 2030 and net-zero goal by 2050; Suncor’s capital allocation framework and its expected capital spend on energy transition 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 and/or projects in (or with) Enerkem Inc., LanzaJet, Inc., Svante Inc., ATCO, KWI Polymers Solutions, Hazer Group and FortisBC and AZTEC, including the expected benefits of such investments; Suncor’s estimate of the 10-year average, before tax cost of carbon per barrel for Upstream net production and Downstream saleable yield; 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 carbon capture and storage, Solvent SAGD efficiency and heat recovery, cogeneration, fuel switching, non-aqueous extraction, bitumen processing, renewable fuels and energy and hydrogen; statements and expectations regarding Suncor’s coke fired boiler replacement project and the Terra Nova joint venture, including the Asset Life Extension Project, 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 2022 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.

C16.1

(C16.1) Provide details for the person that has signed off (approved) your CDP climate change response.

	Job title	Corresponding job category
Row 1	Arlene Strom, Chief Sustainability Officer and General Counsel	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	41133000000

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

Commodity

Allocation level detail

<Not Applicable>

Emissions in metric tonnes of CO2e

25781

Uncertainty (±%)

10

Major sources of emissions

Fuel Combustion Emissions

Verified

No

Allocation method

Allocation based on the volume of products purchased

Market value or quantity of goods/services supplied to the requesting member

9587724

Unit for market value or quantity of goods/services supplied

Liters

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

In 2021, Vale purchased diesel from Suncor. Emissions were estimated based on the diesel fuel volumes purchased.

Requesting member

NRG Energy Inc

Scope of emissions

Scope 1

Allocation level

Commodity

Allocation level detail

<Not Applicable>

Emissions in metric tonnes of CO2e

7.13

Uncertainty (±%)

10

Major sources of emissions

Fuel Combustion Emissions

Verified

No

Allocation method

Allocation based on the volume of products purchased

Market value or quantity of goods/services supplied to the requesting member

3264

Unit for market value or quantity of goods/services supplied

Liters

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

In 2021, NRG or Direct Energy Marketing Limited purchased gasoline from Suncor. Emissions were estimated based on the gasoline fuel volumes purchased.

Requesting member

Schlumberger Limited

Scope of emissions

Scope 1

Allocation level

Commodity

Allocation level detail

<Not Applicable>

Emissions in metric tonnes of CO2e

504

Uncertainty (±%)

10

Major sources of emissions

Fuel Combustion Emissions

Verified

No

Allocation method

Allocation based on the volume of products purchased

Market value or quantity of goods/services supplied to the requesting member

187587

Unit for market value or quantity of goods/services supplied

Liters

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

In 2021, Schlumberger purchased diesel from Suncor. Emissions were estimated based on the diesel fuel volumes purchased.

SC1.2

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

This information is not publicly available

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
Other, please specify (There are various challenges associated)	The diversity of product lines, the large and diverse customer base, the management of different emission factors of diverse and numerous geographies are all challenges in accurately and efficiently tracking and calculating emissions to the customer level. It is important we collaborate to effectively and efficiently work with our customers.

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.

We plan to collaborate internally and with our customers to continuously improve processes and emission calculation methodologies.

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

Please select

Type of project

Please select

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

Please select

Details of proposal

Suncor's 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. This will be achieved by optimizing our base business, expanding low emissions businesses and growing our customer connection.

In regard to optimizing our base business, carbon capture, use and storage (CCUS) is a commercially available technology that could be used to decarbonize most of Suncor's Scope 1 and 2 emissions, and we continue to look at other decarbonization options. Fuel switching to low-carbon intensity fuels could address most of our power generation, on-site transportation and a substantial portion of our heat and steam emissions. Energy-efficiency projects can also be implemented throughout our operations to provide near-term incremental reductions in energy use and emissions.

Suncor is well positioned for expanding low emissions businesses into areas we understand well – low-carbon power, renewable fuels and hydrogen – and they will focus on key value drivers, leveraging existing expertise, complementing our integrated business and connecting to the energy consumer. Our plans include: allocating approximately 10% of our annual capital budget over the medium term (2022-2025) to investments that advance our low-carbon energy offerings; allocating a significant portion of this capital toward advanced technologies that provide strong, double-digit returns; continuing to make modest, but targeted, investments in developing commercial-ready renewable fuel technologies that provide an early mover advantage and support future expansion; becoming a producer of new forms of hydrogen before 2030; increasing our low-carbon electricity capacity and increasing the number of EV charging stations at our Petro-Canada stations across the country.

The low-carbon energy expansion requires technological advancement and significant collaboration. We are founding and/or long-standing partners in several organizations, working collectively to advance knowledge-sharing and innovation in our industry and across society. Companies are encouraged to reach out to us directly with technology or collaboration proposals.

Requesting member

NRG Energy Inc

Group type of project

Please select

Type of project

Please select

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

Please select

Details of proposal

Suncor's 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. This will be achieved by optimizing our base business, expanding low emissions businesses and growing our customer connection.

In regard to optimizing our base business, carbon capture, use and storage (CCUS) is a commercially available technology that could be used to decarbonize most of Suncor's Scope 1 and 2 emissions, and we continue to look at other decarbonization options. Fuel switching to low-carbon intensity fuels could address most of our power generation, on-site transportation and a substantial portion of our heat and steam emissions. Energy-efficiency projects can also be implemented throughout our operations to provide near-term incremental reductions in energy use and emissions.

Suncor is well positioned for expanding low emissions businesses into areas we understand well – low-carbon power, renewable fuels and hydrogen – and they will focus on key value drivers, leveraging existing expertise, complementing our integrated business and connecting to the energy consumer. Our plans include: allocating approximately 10% of our annual capital budget over the medium term (2022-2025) to investments that advance our low-carbon energy offerings; allocating a significant portion of this capital toward advanced technologies that provide strong, double-digit returns; continuing to make modest, but targeted, investments in developing commercial-ready renewable fuel technologies that provide an early mover advantage and support future expansion; becoming a producer of new forms of hydrogen before

2030; increasing our low-carbon electricity capacity and increasing the number of EV charging stations at our Petro-Canada stations across the country.

The low-carbon energy expansion requires technological advancement and significant collaboration. We are founding and/or long-standing partners in several organizations, working collectively to advance knowledge-sharing and innovation in our industry and across society. Companies are encouraged to reach out to us directly with technology or collaboration proposals.

Requesting member

Schlumberger Limited

Group type of project

Please select

Type of project

Please select

Emissions targeted

Please select

Estimated timeframe for carbon reductions to be realized

3-5 years

Estimated lifetime CO2e savings

Estimated payback

Please select

Details of proposal

Suncor's 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. This will be achieved by optimizing our base business, expanding low emissions businesses and growing our customer connection.

In regard to optimizing our base business, carbon capture, use and storage (CCUS) is a commercially available technology that could be used to decarbonize most of Suncor's Scope 1 and 2 emissions, and we continue to look at other decarbonization options. Fuel switching to low-carbon intensity fuels could address most of our power generation, on-site transportation and a substantial portion of our heat and steam emissions. Energy-efficiency projects can also be implemented throughout our operations to provide near-term incremental reductions in energy use and emissions.

Suncor is well positioned for expanding low emissions businesses into areas we understand well – low-carbon power, renewable fuels and hydrogen – and they will focus on key value drivers, leveraging existing expertise, complementing our integrated business and connecting to the energy consumer. Our plans include: allocating approximately 10% of our annual capital budget over the medium term (2022-2025) to investments that advance our low-carbon energy offerings; allocating a significant portion of this capital toward advanced technologies that provide strong, double-digit returns; continuing to make modest, but targeted, investments in developing commercial-ready renewable fuel technologies that provide an early mover advantage and support future expansion; becoming a producer of new forms of hydrogen before 2030; increasing our low-carbon electricity capacity and increasing the number of EV charging stations at our Petro-Canada stations across the country.

The low-carbon energy expansion requires technological advancement and significant collaboration. We are founding and/or long-standing partners in several organizations, working collectively to advance knowledge-sharing and innovation in our industry and across society. Companies are encouraged to reach out to us directly with technology or collaboration proposals.

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 understand that my response will be shared with all requesting stakeholders	Response permission
Please select your submission options	Yes	Public

Please confirm below

I have read and accept the applicable Terms