sembcorp

# Climate-related Disclosures 2021

Prepared in accordance with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD)

# Contents



## Sustainability Contact

We welcome feedback on our TCFD Report at sustainability@sembcorp.com

Our report covers the period from January 1 to December 31, 2021. The information contained in this report is correct at the time of publication.



# Introduction

## Background

The Task Force on Climate-related Financial Disclosures (TCFD) was created in 2015 by the Financial Stability Board to develop more effective climate-related disclosures, which will promote more informed investment, credit and insurance underwriting decisions. TCFD's recommendations were released in 2017, and were structured around four thematic areas that represent core elements of how organisations operate.

The Singapore Exchange has also mandated climate reporting for selected sectors, one of which is the energy sector, for which mandatory climate reporting will come into effect for the financial year 2023.

**Governance**

Governance around climate-related risks and opportunities

**Risk Management**

Process to identify, assess and manage climate-related risks

**Metrics and Targets**

Metrics and targets used to assess and manage relevant climate-related risks and opportunities

**Strategy**

Actual and potential financial impacts of climate-related risks and opportunities on business, strategy and financial planning

## Taking Climate Action is Central to Sembcorp's Strategy

Climate change poses an enormous threat to the safety and well-being of our communities and to the global economy. The Sixth Assessment Report issued by the United Nations (UN) Intergovernmental Panel on Climate Change states that carbon dioxide ($CO_2$) and other greenhouse gas (GHG) emissions from human activity are leading to changes in the global climate. We believe the evidence is clear. The 2015 Paris Agreement was signed by more than 190 countries, setting an ambitious goal to align with the scientific guidance of limiting global warming to well below 2°C, preferably to 1.5°C, compared to pre-industrial levels. Achieving the Paris Agreement goal will require substantial emissions reductions over the next few decades, and GHG emissions from the energy sector will need to be radically reduced.

Driven by our purpose to help build a sustainable future, Sembcorp believes we have a responsibility to respond to climate change. We are transforming our portfolio from brown to green, growing our renewable energy capacity and have set targets to reduce our GHG emissions. With our focus on renewable energy and integrated urban solutions, we believe we can be a leading provider of sustainable solutions to help support the energy transition and sustainable urban development. The key climate-related risks and opportunities faced by Sembcorp's businesses are managed as part of our Climate Action Plan. We manage our climate risks and opportunities in line with TCFD recommendations.

In May 2021, we unveiled our strategic plan to transform our portfolio from brown to green with growth driven by Renewables and Integrated Urban Solutions businesses.


*Details of this strategic plan can be found in the Strategy section of this report.*


**2016** Started responding to CDP climate change

**2017** Embarked on first climate risk assessment and scenario analysis

**2018** First energy company in Singapore to publish a climate change strategy. Set GHG emissions reductions targets aligned to 2°C pathway and published first TCFD-aligned report

**2019** Improvement of CDP Climate Change score from C to B-[1]

**2020** Improvement of CDP Climate Change score from B- to B[1]

**2021** Announcement of brown to green transformation plan with near and long-term climate action targets aligned to well-below 2°C and 1.5 °C pathways

[1] "B-" and "B" scores equate to a "management" band score, signifying the company is taking coordinated action on climate issues

# Governance

## TCFD Recommendations

- Describe the board's oversight of climate-related risks and opportunities
- Describe management's role in assessing and managing climate-related risks and opportunities

Sembcorp's Climate Change Working Committee (CCWC) oversees the development of plans, processes and reports that address the Group's climate change risks and opportunities. Its role includes the review and development of policies and frameworks, assessment of risks and opportunities, setting of targets and implementation of relevant initiatives, as well as facilitating reporting and disclosures of performance. This committee is chaired by the executive vice president, Office of the Group President & CEO. The committee meets at least twice a year and provides updates to our Enterprise Risk Committee (ERC) and Sustainability Steering Committee, both chaired by the Group President & CEO, as well as the board's Risk Committee (RC).

The RC meets on a quarterly basis to review and enhance the effectiveness of the Group's Integrated Assurance Framework (IAF), including its risk management plans, systems, processes and procedures. The committee also regularly reviews group-wide risks including climate risks.

In 2021, the CCWC met four times. Key work streams during the year included carbon exposure risk assessment and the development of the TCFD workplan.






# Risk Management

## TCFD Recommendations

- Describe the organisation's processes for identifying and assessing climate-related risks
- Describe the organisation's processes for managing climate-related risks
- Describe how processes for identifying, assessing and managing climate-related risks are integrated into the organisation's overall risk management

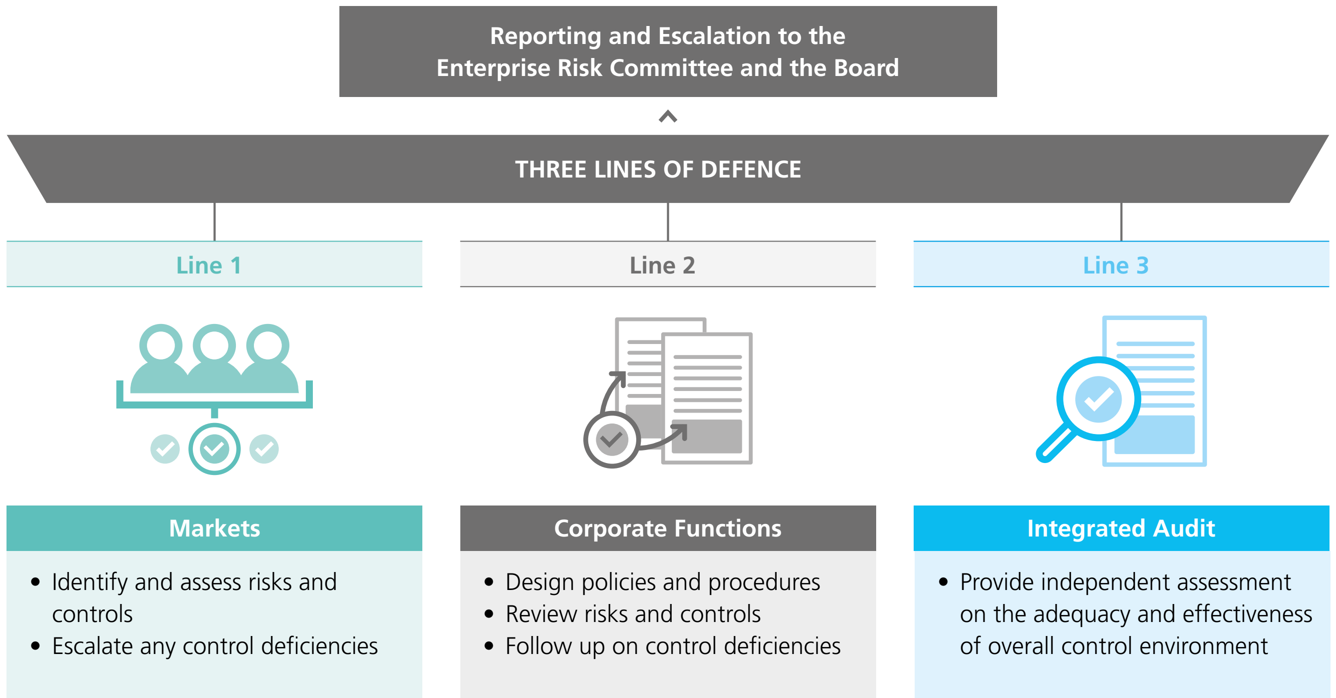
We manage our risks through the IAF which adopts three lines of defence (LOD). Through the IAF, the respective LODs work together to ensure that key business risks are reviewed and tested using a robust assurance process. Under the IAF, a pragmatic and collaborative approach to risk and controls assessment has been established, with common and consistent criteria to assess the risks and the adequacy and effectiveness of internal controls.

Our market teams conduct a quarterly review of their key risks including climate-related risks using a likelihood impact matrix and provide performance updates to Group Sustainability and Group Risk divisions.

The ERC monitors and reviews the risk management performance and appropriateness of risk mitigation measures. The ERC then reports to the RC on a quarterly basis to monitor group-wide risks, including significant risk exposures as well as corresponding risk mitigation plans.

*For more details on our Enterprise Risk Management, please refer to page 32 of our Sustainability Report 2021.*

**Sembcorp's Integrated Assurance Framework**



# Strategy

## TCFD Recommendations

- Describe the climate-related risks and opportunities the organisation has identified over the short, medium and long term
- Describe the impact of climate-related risks and opportunities on the organisation's businesses, strategy, and financial planning
- Describe the resilience of the organisation's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario

In this section, we describe our key climate-related risks and opportunities, and elaborate on how it informs our strategy and financial planning.

The key climate-related risks that Sembcorp faces are presented below.

In response to our climate-related risks, we focus on decarbonising our operations by reducing our GHG emissions while growing our sustainable solutions business. In May 2021, we unveiled our strategic plan to transform our portfolio from brown to green.

## Brown to Green Strategic Transformation Plan

Our strategic plan focuses on growing our Renewables and Integrated Urban Solutions businesses.

Our transformation plan to support the global energy transition and sustainable development particularly in Asia is underpinned by clear targets:

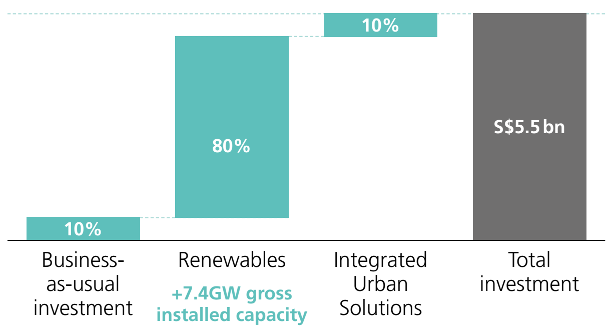
- **More sustainable**
  By 2025, Sembcorp aims for our sustainable solutions portfolio to comprise 70% of the Group's net profit, up from around 40% in 2020
- **More renewables**
  By 2025, Sembcorp aims to quadruple our gross installed renewable energy capacity to 10 gigawatt (GW), up from 2.6GW at the end of 2020
- **More sustainable urban developments**
  By 2025, Sembcorp aims to triple land sales from our Urban business to 500 hectares, up from 172 hectares in 2020

## Our Key Climate-related Risks

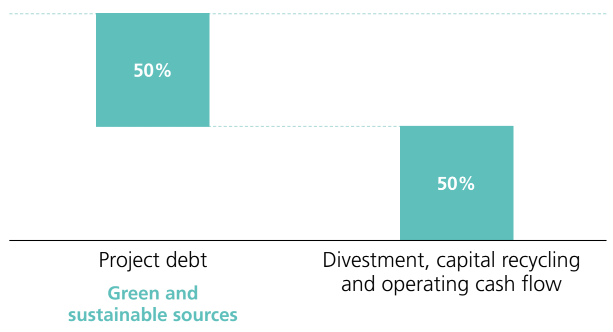
| CARBON EXPOSURE | REGULATORY CHANGES | TECHNOLOGY TRANSITION | PHYSICAL ENVIRONMENT |
|---|---|---|---|
| Our conventional energy assets face carbon exposure risk arising from an increase in carbon prices. The increase stems from the recognition that more needs to be done to significantly reduce emissions, and global and national climate commitments will drive increase in carbon pricing. | Our operations face potential risk from regulatory changes. These changes may include the increase or removal of energy subsidies or change in current regulations that may lead to financial impact arising from additional costs required to comply. | Technology transition to lower-carbon systems can have significant impact on existing carbon intensive products. The risks arise from the speed and scale by which new technologies and low-carbon alternatives enter the market and disrupt conventional products and operations. | Physical hazards from extreme weather events linked to climate change may cause operational and business disruptions, productivity loss and / or damage affecting our operations as well as our supply chain. This may also result in increased insurance premiums in high-risk locations. |
| **Sembcorp's Response** | **Sembcorp's Response** | **Sembcorp's Response** | **Sembcorp's Response** |
| We performed scenario analysis on business as usual, 2°C and 1.5°C scenarios using our internal shadow carbon pricing framework to evaluate our carbon exposure and financial impact of carbon pricing regulations on our conventional energy assets. We also track our GHG emissions against our emissions reduction targets. | We regularly monitor the current and upcoming regulations related to GHG emissions, sustainability reporting, climate-related disclosures as well as local regulations in the markets we operate in. | Besides our transformation plan to grow our renewable assets, we actively partner host governments and businesses in developing and deploying new technologies. In Singapore, we are exploring the feasibility and implementation of a commercial-scale supply chain to deliver decarbonised hydrogen domestically. In the UK, we signed a memorandum of understanding with BP to scope the supply of clean hydrogen to our energy assets and customers. | We conducted a high-level physical risk assessment to establish a priority list of high-risk assets. The work to further identify physical environment risks and implement adaptation plans is ongoing. Prior to 2021, our Middle East assets sited near the sea were assessed to be more prone to high intensity winds and cyclones. To mitigate the incidents of sea / storm water ingress, we constructed shore walls and a storm water canal. |



**Total Investment for 5-year Cumulative Growth**




**Sources of Funding for 5-year Cumulative Growth**




- **Lower carbon emissions**
  By 2025, Sembcorp aims to reduce our GHG emissions intensity to 0.40 tonnes of carbon dioxide equivalent per megawatt hour ($tCO_2e$/MWh) from 0.54$tCO_2e$/MWh in 2020. This target is aligned to the scientific guidance of limiting global warming to well-below 2°C. By 2030, Sembcorp aims to reduce absolute GHG emissions to 2.7 million $tCO_2e$ and deliver net-zero emissions by 2050. Both these targets are aligned to the scientific guidance of limiting global warming to 1.5°C

*For updates on our performance against our transformation plan, please refer to page 6 of our Annual Report 2021.*

In line with our strategic plan, we also reaffirmed our commitment to the UN Sustainable Development Goals (SDGs) of SDG 7 (Affordable and Clean Energy) and SDG 13 (Climate Action).

We also participate in industry and trade associations that support the advancement of sustainability issues. Our senior leaders sit on industry associations such as Global Compact Network Singapore, Federation of Indian Chambers of Commerce & Industry, the Association for Decentralised Energy in the UK, and the Energy Storage Network managed by Regen UK and Energy UK.

## Financial Planning 2021-2025

Our total five-year investments in business-as-usual capital expenditure, renewables and integrated urban solutions is projected to be S$5.5 billion. Of this, 80% is expected to be invested in renewable energy generation, in line with our target to increase our gross installed capacity by 7.4GW. We expect 50% of that required investment to be funded by project level debt, and may tap green and sustainable sources of financing.

In 2021, we launched our Green Financing Framework (GFF) and Sustainable Financing Framework (SFF) for green finance and sustainability-linked transactions to drive investments towards our energy business across our markets.

In June 2021, we issued an inaugural S$400 million green bond under our S$3 billion Multicurrency Debt Issuance Programme to grow our Renewables portfolio. With this offering, we have successfully issued the first Certified green bond under the Climate Bonds Standard by a Singapore-based energy company. The net proceeds of the green bond will be used to finance or refinance, in whole or in part, new or existing renewable energy projects which fall in the list of Eligible Green Projects in the GFF and that meet the Climate Bonds Initiative sector-specific technical criteria.

In October 2021, we issued a S$675 million sustainability-linked bond (SLB), anchored by an investment of S$150 million from International Finance Corporation (IFC). The SLB is linked to the achievement of a specific sustainability performance target (SPT). The interest rate of the SLB will be subject to a step-up margin of 0.25% from the first interest payment date on or after April 1, 2026 if the stated SPT of GHG emissions intensity of 0.40$tCO_2e$/MWh or lower is not achieved by December 31, 2025. Our SLB has been issued in accordance with the newly established SFF, which outlines Sembcorp's strategic approach, key performance indicators and SPTs for our sustainability-linked transactions. Net proceeds from the SLB will be used for the purposes of financing the general corporate working capital requirements of Sembcorp and its subsidiaries, refinancing the Group's existing debt, and financing or refinancing the Group's renewable energy, or potentially, other sustainable projects.

In our existing operations, we have integrated a carbon budget assessment as part of our annual financial budget and forecast exercise. The outputs of this assessment provide market-specific GHG emissions forecast and its resultant carbon cost, and inform us of our carbon exposure risk.

*For information on our Green and Sustainable Financing Frameworks and issuances, please refer to the Sustainable Finance section on our Investor Relations webpage.*

# Metrics and Targets

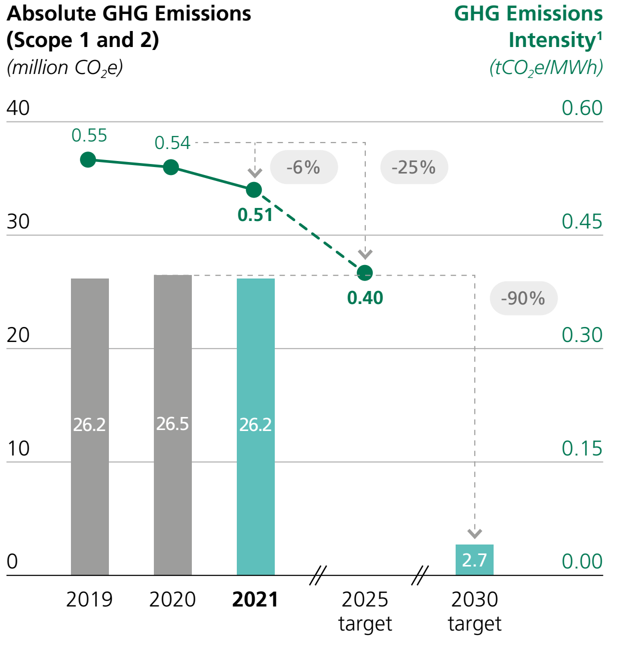
## TCFD Recommendations

- Disclose the metrics used by the organisation to assess climate-related risks and opportunities in line with its strategy and risk management process
- Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 GHG emissions, and the related risks
- Describe the targets used by the organisation to manage climate-related risks and opportunities and performance against targets.

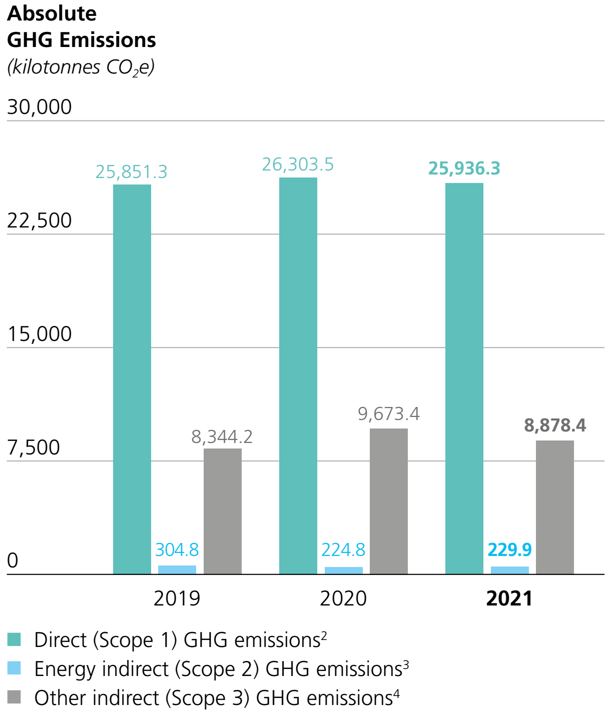
Our climate-related metrics and targets mirror the targets set out in our brown to green transformation plan:

| Sustainability metrics | Baseline (2020) | 2021 performance | Targets 2025 | Targets 2030 |
|---|---|---|---|---|
| Gross installed renewable energy capacity *(GW)* | 2.62 | 2.75 | 10 | – |
| GHG emissions intensity *($tCO_2e/MWh$)* | 0.54 | 0.51 | 0.40 | – |
| Absolute GHG emissions (Scope 1 and 2) *(million $tCO_2e$)* | 26.5 | 26.2 | – | 2.7 |

### GHG Emissions and Emissions Intensity




### GHG Emissions by Scope




[1] GHG emissions intensity refers to the Group's total GHG direct emissions (Scope 1) from its activities, indirect emissions (Scope 2) from its energy consumption and biogenic emissions from bioenergy feedstocks, divided by total energy generated and purchased, as calculated using an equity share approach for all operations in accordance with the GHG Protocol

[2] Direct (Scope 1) GHG emissions data covers entities that produce GHGs from fossil fuel combustion in our Energy, Water, Waste Management and Urban businesses. The data excludes emissions from our anaerobic wastewater treatment plants and maintenance and servicing equipment

[3] Energy indirect (Scope 2) GHG emissions include location-based data for all our Energy, Water, Waste Management and Urban businesses. In Singapore, our operations purchase energy from our own assets; to avoid double counting, the emissions resulting from these have been accounted for under Scope 1 GHG emissions

[4] Indirect (Scope 3) GHG emissions include our fuel and energy-related activities (Category 3) and use of sold products (Category 11), which are most relevant and material to our business

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