



# Climate-related Financial Disclosures

## Reporting Standards, Frameworks and Scope

The disclosures in this report are guided by the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) and complies with the Singapore Exchange's requirement for climate reporting for the energy industry from financial year 2023. Information in this report complements the information set forth in our Annual Report and Sustainability Report, which cover the same reporting period. This report should be read together with the Decarbonisation section of our Sustainability Report. To avoid the duplication of information, references to the relevant sections are provided.

 For more information on our materiality assessment, please refer to the Materiality section on page 42.

The disclosures and coverage of this report are consistent with the reporting entities reflected in our financial statements.

 For more information on our reporting scope of entities, please refer to the Reporting Scope section on page 42.

Climate-related financial information has been included in Note B4 in the Notes to the Financial Statements on pages 142 and 143.

Given that the disclosures arising from TCFD recommendations involve emerging practice in the assessment and analysis of climate-related risks and opportunities, with information based on current expectations, estimates, projections and assumptions; caution should be exercised when interpreting the disclosures provided.

The scenarios used in this report are derived from the Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report (AR6) and the Network for Greening the Financial System (NGFS). These scenarios are hypothetical constructs and should not be mistaken for forecasts or predictions. Accordingly, there is no assurance that the scenario modelling or assessments presented in this report are an accurate indication of actual climate-related impacts on Sembcorp's businesses.

## Assurance

We have engaged DNV Business Assurance Singapore Pte. Ltd. (DNV) to undertake an independent limited assurance of our Scope 1 and 2 emissions data.


The Assurance Statement can be found on pages 72 to 75.

## Governance

### TCFD recommendations

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

The roles and responsibilities relating to the management of climate-related risks and opportunities are outlined in the mandates and terms of reference of our key governance bodies, which include both board and management-level committees.

 For more information on the governance of our sustainability and climate-related matters, please refer to the Sustainability Governance and Decarbonisation sections on pages 42 to 44.

In 2024, updates to the board included:

- The Group's strategic and financial plan
- The transition plan in relation to our climate action targets
- Renewables and other decarbonisation-related opportunities

Sembcorp's Climate Change Working Committee (CCWC) oversees the development of plans, processes and reports that address the Group's climate-related risks and opportunities. Key topics discussed in our CCWC meetings during the year included the assessment and prioritisation of our climate risk universe, our approach to and outputs from the climate scenario analysis, and the review of our TCFD Report 2024.

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## Risk Management

### TCFD recommendations

- Describe the organisation's processes for identifying, assessing and 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 conduct a quarterly review of the Group's principal risks including climate-related risks using a likelihood-impact matrix. These findings are consolidated and reported to the Risk Committee (RC). Our risk management strategy and the Integrated Assurance Framework (IAF) are established by our Board of Directors, with support from the RC and Audit Committee. The RC evaluates the effectiveness of the IAF on a quarterly basis, reviewing its risk management plans, systems, processes and procedures. The Group Integrated Audit division provides independent assurance to the RC on the adequacy and effectiveness of our risk management, financial reporting processes, and internal control and compliance systems.

The list of potential climate-related risks and opportunities was developed during our first climate strategy exercise in 2017 and refreshed in 2024. We identified risks associated with policy, technology, market disruption and physical impacts through internal stakeholder engagements and peer benchmarking. Key factors influencing the ongoing identification and assessment of climate-related risks include:

- Climate policy and regulations:** National policies and regulations that include the application of a price on carbon on gas-fired

power generation assets in Singapore, China and the UK, as well as mandatory climate reporting and disclosure.

- Climate positions and expectations:** Growing pressure from investors, customers and regulators to set ambitious emissions reduction targets and climate transition plans.
- Technology and market shifts:** The risk of failing to adopt new technologies in line with industry's speed of adoption. The risk of uncertainty in market signals due to shifts in supply and demand for energy, oil and natural gas as more climate-related opportunities / technologies are adopted and policies implemented to meet country-level commitments.
- Physical hazards:** The potential impact of physical climate hazards, such as extreme weather events, and variability in wind speeds and solar irradiation that may result in operational disruption or affect the generation capacity of our assets.

The CCWC reviews, updates and prioritises the climate-related risks, taking into consideration the business, operational and regulatory environment. Key climate-related risks undergo scenario analysis to assess the likelihood and magnitude of impact; these are discussed in further detail in the Strategy section that follow. The financial impact of top risks is then mapped against the financial materiality threshold of our IAF and subsumed under the IAF for monitoring alongside other risks.

## 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 opportunities

### Climate scenario analysis

Climate scenario analysis is a dynamic exercise that serves to envision potential future outcomes based on changes brought about by climate-related risks and opportunities. The analyses we perform draw on data and assumptions provided by the IPCC, NGFS and a third-party risk analytics tool, and are subject to uncertainty due to the complexity surrounding climate science. The outputs provide information on the effect of climate-related risks and opportunities in different climate scenarios, which then provide an indication of the resilience of our portfolio. We recognise that the resilience of our portfolio can also be affected by factors unrelated to climate change. In 2024, we aligned the time horizons for assessing the impact of our climate-related risks and opportunities with our strategic and budget planning horizons:

- Short term: <1 year
- Medium term: 1-5 years
- Long term: > 5 years

The NGFS scenarios, which reference the IPCC AR6, provide country-level

forecasts of macroeconomic variables covering our markets. The Shared Socioeconomic Pathways (SSP) scenarios describe projections of population, economic growth, technological advancements and geopolitical trends in line with the Representative Concentration Pathways (RCP) scenarios that set out the pathway for GHG concentration and the potential amount of warming by the end of the century.

In 2024, we expanded our assessments to include the NGFS Below 2°C scenario for transition risk analysis, as well as the SSP2-4.5 scenario for physical risk analysis. Table 1 summarises the climate scenarios adopted for our analyses.

Figure 1: Our approach to climate scenario analysis

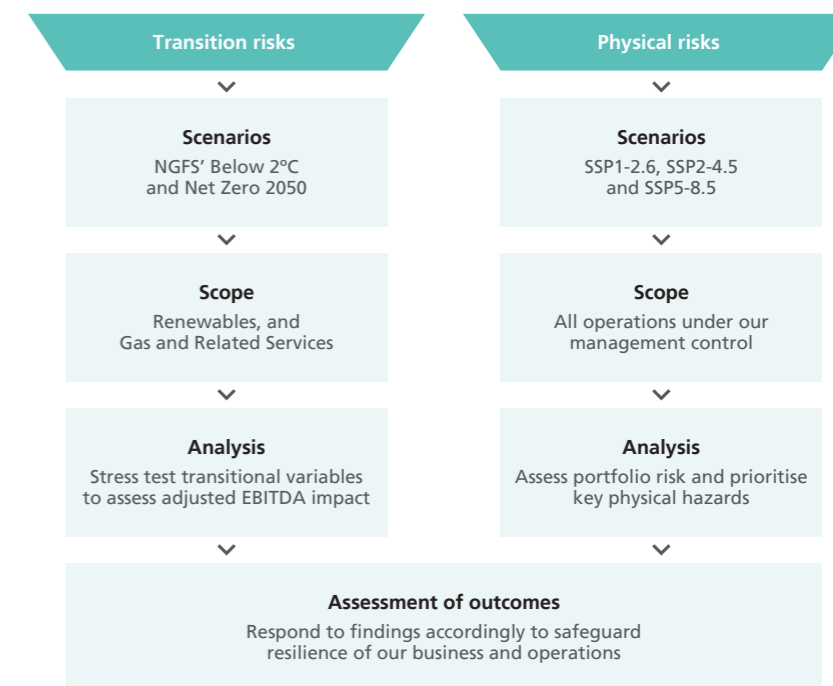


Table 1: Scenarios<sup>1</sup> selected for climate scenario analysis in 2024

Ambition level	Transition risk scenarios	Physical risk scenarios
1.5°C	<b>NGFS – Net Zero 2050</b> Assumes that ambitious climate policies are introduced immediately, reaching global net zero around 2050. Physical risks are relatively low but transition risks are high	
<2°C	<b>NGFS – Below 2°C</b> Assumes that climate policies are introduced immediately and become gradually more stringent, reaching net zero after 2070. Physical and transition risks are both relatively low	<b>SSP1-2.6 (“Sustainability”)</b> Global consumption is oriented towards low material growth as well as lower resource and energy intensity. Carbon emissions would fall from current levels and reach net-zero by around 2075
2.7°C		<b>SSP2-4.5 (“Middle-of-the-road”)</b> Slow progress in achieving sustainable development goals. Carbon emissions would remain high until 2050, before starting to decline post-2050 but no net-zero is achieved
4.4°C		<b>SSP5-8.5 (“Fossil-fuelled Development”)</b> The push for economic and social development is coupled with exploitation of abundant fossil fuel sources and resource and energy intensive lifestyles. Carbon emissions would double from current levels by 2050 and continue to rise until the end of century

NGFS – Network for Greening the Financial System 2023

SSP – Shared Socioeconomic Pathways considered in IPCC AR6 (2021-2023)

<sup>1</sup> NGFS Scenario Portal and NGFS Climate Scenarios Database – Technical Documentation v4.2, which was the latest available version at the time of our scenario analysis; and the IPCC AR6 Synthesis Report, along with The Shared Socioeconomic Pathways and their Energy, Land Use, and GHG Emissions Implications: An Overview (Global Environmental Change, Volume 42, 2017, Riahi et al., 2017)

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## Strategy *(cont'd)*

### Assessment of transition risks

Transition risks stem from uncertainties brought about by the global shift towards a low-carbon economy. These risks can arise from changes in climate-related policy and regulations, as well as technological advancements, amongst others. We deploy a climate scenario analysis to stress test the resilience of our portfolio. Our transition scenario analysis exercise is integrated into our annual strategic and financial planning exercise, which outlines strategic and financial plans for the next five years.

We conducted stress testing on key parameters that influence our adjusted EBITDA<sup>1</sup> impact in 2030. Using 2029 data as the base case for 2030, we assessed the potential adjusted EBITDA variance under two scenarios. Our base case forecast takes into account the evolving regulatory environment, market outlook as well as current and future energy demand.

The results of our testing presented in Figure 2 demonstrate the resilience of the Group's adjusted EBITDA in a Below 2°C scenario as we grow our renewables portfolio. In this scenario, the downside in our Gas and Related Services segment is mitigated by the upside in the Renewables segment.

<b>Scope of stress testing</b>	<ul style="list-style-type: none"> <li>Renewables, and Gas and Related Services business segments which collectively contribute to more than 81% of adjusted EBITDA</li> <li>Includes subsidiaries, joint ventures and associates in China, India, Singapore, Vietnam and the UK</li> </ul>
<b>Time horizon</b>	The 2030 time horizon aligns to our strategic climate action target and is the closest match to our five-year business planning time horizon of 2029
<b>Rationale for scenario selection</b>	<ul style="list-style-type: none"> <li>NGFS Net Zero 2050 scenario seeks to present an extreme scenario and inform us of the impacts that may arise from stringent and ambitious climate policies</li> <li>NGFS Below 2°C scenario provides a less ambitious scenario more reflective of the current state of affairs</li> </ul>
<b>Financial metric</b>	Adjusted EBITDA is a measure of our operating performance from all our subsidiaries, joint ventures and associates
<b>Assumptions</b>	<ul style="list-style-type: none"> <li>Key parameters used for stress testing include regional energy demand, carbon price, fuel price and electricity price</li> <li>Given our five-year strategic and financial planning is up to 2029, we used 2029 data as our base case forecast for 2030</li> <li>Assessment includes all our gas generation assets with merchant capacities, gas retail business and renewables – ongoing operations, growth projections and concession expiry</li> <li>Operations with contracted capacities and build-to-operate power plants are excluded as they are undergirded by long-term power purchase agreements and will not be impacted by climate stress variables</li> </ul>

Figure 2: 2030 Adjusted EBITDA impact in climate scenarios

Business Segment	2030 Adjusted EBITDA impact (\$ million)					
	Below 2°C scenario			Net Zero 2050 scenario		
	\$ million			\$ million		
	<200	200–500	>500	<200	200–500	>500
Renewables		●				●
Gas and Related Services		●			●	
Group	●				●	

● Upside ● Downside

<sup>1</sup> EBITDA: earnings before interest, tax, depreciation and amortisation, where adjusted EBITDA = reported EBITDA + share of results of associates and joint ventures, net of tax

Table 2: Top climate-related transition risks and impacts

<b>Risk category:</b> Transition risk <b>Climate risk driver:</b> Policy risk – Increasing carbon prices <b>Impact:</b> Medium- and long-term	
<b>Description</b>	The prominence and influence of the UN Conference of the Parties (COP) have driven governments worldwide to adopt ambitious country-level strategies to reduce emissions and support the transition to a low-carbon economy. Under the Paris Agreement, every party is required to outline and communicate their post-2020 actions referred to as Nationally Determined Contributions (NDCs). Half of the Parties to the Paris Agreement consider the use of carbon pricing to achieve their emission reduction targets. Across our portfolio, our gas-fired power generation assets in Singapore and the UK are subject to carbon pricing regulations, including Singapore's carbon tax and the UK's emissions trading scheme (ETS) <sup>2</sup> and carbon price support (CPS) <sup>3</sup> . Our gas-fired power generation asset in China is currently not covered under the China ETS.
<b>Current effects</b>	In 2024, the cost of compliance under Singapore's carbon tax, as well as UK ETS and CPS mechanisms collectively amounted to S\$85 million <sup>4</sup> . However, with the carbon cost pass-through mechanism in our existing electricity contracts, there was no impact on our financial performance in 2024.
<b>Anticipated effects</b>	We expect carbon prices to rise and consequently the cost of compliance to increase as well. In Singapore, gas-fired power generation is expected to continue to be the main source of energy, even in light of increasing carbon taxes post-2030. However, we can pass through this cost for our long-term contracted capacities. Therefore, we do not expect this risk to have a material effect on our financial performance in the medium term.
<b>Mitigation actions</b>	We monitor the regulatory framework and conduct risk-based scenario analysis to assess exposure to carbon pricing. We apply a market-specific internal carbon price to evaluate the financial impact of carbon pricing regulations on the profitability of our gas and related energy assets. The impact from current and emerging regulations is mitigated through the change-in-law provisions in existing utilities and electricity contracts. These provisions allow for carbon cost pass-through to customers, which mitigates the financial impact of carbon pricing.

The Net Zero scenario, on the other hand, shows significant upside to the Renewables business, on the assumption that governments establish policies in support of ambitious NDC commitments in our key markets.

Our gas-fired plants generate revenue from energy sales in both contracted and merchant markets. The downside risk in the climate scenarios primarily reflects a potential decline in demand for gas-fired electricity, as well as an assumption that merchant market contracts will not accommodate the pass through of higher carbon prices.

These risks present Sembcorp with opportunities to provide low-carbon energy options for our customers as described in Table 6.

Overall, the outcome of the analysis shows that our Group adjusted EBITDA is expected to increase in both climate scenarios, in light of our strategic focus on growing renewables and low-carbon technologies in our key markets. Navigating the energy transition is not without its challenges of balancing macroeconomic and geopolitical factors and value creation for all our stakeholders. To drive growth,

we consider various options including capital recycling, managing assets for value, leveraging partnerships, and redeployment, repurposing and upgrading of our assets.

### Assessment of physical risks

Sembcorp's assets may be exposed to both acute and chronic physical risks, which could result from the increasing severity and frequency of extreme weather events, such as floods and tropical cyclones. Increasingly, climate change is also causing shifts in global wind patterns and average temperatures, which may affect renewable energy generation.

<sup>2</sup> An emissions trading scheme usually works on the 'cap and trade' principle where a cap is set on the total amount of certain GHGs that can be emitted by sectors covered by the scheme. Within this cap, participants receive free allowances and / or buy emission allowances at an auction or on the secondary market. These allowances can be traded with other participants as needed

<sup>3</sup> The carbon price floor was introduced on April 1, 2013 and is capped at £18/tCO<sub>2</sub> as at December 31, 2024. It affects the fossil fuel-based electricity generation market in the UK by increasing the cost they face for each tonne of carbon dioxide emitted

<sup>4</sup> The figures may be subject to change upon mandatory external audit post-publication of this report

# Climate-related Financial Disclosures

## Strategy *(cont'd)*

In conducting the assessment of physical risks, we applied asset geocoordinates to third-party databases to evaluate potential impact. There is uncertainty surrounding future global warming and its associated implications.

### 1. Identify asset exposure

Following our previous physical risk screening exercise in 2018, we conducted a second physical risk screening of our assets under management control in 2023 using a third-party risk analytics tool. This exercise was refreshed in 2024. By using parameters such as asset location, value and type, the assessment provided insights into the exposure of our assets to a range of physical risks, such as flooding, storm surge, extreme precipitation, drought, heatwave, wildfire and extreme wind conditions. The results of the assessments were aggregated to reflect the overall portfolio physical risk exposure without accounting for any mitigation measures as detailed in Table 3.

As part of our ongoing monitoring of wind speeds and solar irradiance across our renewable energy assets, we observed variability of wind speeds and solar irradiance against historical trends. Consequently, resource variability (changes in wind speeds and solar irradiance) is identified as a physical risk. To assess future changes in these factors, we used data from the Coupled Model Intercomparison Project Phase 6 (CMIP6), which provides the most current global climate model data available and forms the basis for the assessments in the IPCC AR6.

<b>Scope of assessment</b>	<ul style="list-style-type: none"> <li>All operations under our management control in Singapore, India, China, Vietnam, Myanmar, Bangladesh, Oman, UAE, and the UK</li> <li>Assets that are not under our management control have been excluded</li> </ul>
<b>Time horizon</b>	<ul style="list-style-type: none"> <li>2020 selected as baseline for comparison of future impacts</li> <li>2030, 2040 and 2050 selected as they cover the operational lifetime of our assets</li> </ul>
<b>Rationale for scenario selection</b>	<ul style="list-style-type: none"> <li>SSP1-2.6 is an optimistic and low emissions scenario which informs us of the impacts from low emissions</li> <li>SSP2-4.5 is a "Middle-of-the-road" scenario and more reflective of the current state of affairs</li> <li>SSP5-8.5 seeks to present an extreme scenario and informs us of the impacts that may arise from the conditions arising from high emissions</li> </ul>
<b>Financial metric</b>	Annual expected loss, which represents the potential losses from extreme weather events multiplied with the probability of occurrence
<b>Limitations on risk screening</b>	<ul style="list-style-type: none"> <li>A third-party risk analytics tool used for physical risk screening may not capture some of the risk exposure resulting in underestimation or overestimation</li> <li>The impact from physical risks is dependent on asset type, location, mitigation measures adopted and host governments' national resilience masterplans</li> <li>Tropical cyclones are poorly represented in climate models and there is high uncertainty around their future evolution</li> </ul>

**Table 3: Inherent physical risk exposure of our portfolio**

Physical hazards	Baseline	2030	2040	2050
Flood and storm surge	Low	Low	Low	Low
Extreme wind	Low	Low	Low	Low
Wildfire	Low	Low	Low	Low
Drought	Moderate	Moderate	Moderate	Moderate
Extreme precipitation	Moderate	Moderate	Moderate	Moderate
Heat wave	Moderate	Moderate	High	High

### 2. Assess impact from physical hazards

After the identification, we prioritised the assets based on asset value and expected loss. After which, a screening filter using hazard probability measured by return periods<sup>1</sup> was applied.

We also assessed how the potential changes in wind speeds and solar irradiance, based on the CMIP6 models, might impact renewable generation and, in turn, revenue from our operations.

In 2024, we included tropical cyclone as a key hazard, following a recent event that impacted one of our assets. However, due to the high uncertainty surrounding the future evolution of tropical cyclones, the third-party risk analytics tool which was deployed did not provide outputs in future time horizons.

The potential impact of our key physical hazards and the respective mitigation measures adopted are outlined in Table 4.

### 3. Prioritise key physical hazards

Next, we corroborated the key physical hazards listed in Table 4 against actual weather events and prioritised assets that have been impacted by the top physical hazards identified – floods, tropical cyclones and renewable resource variability.

Drought and heat wave were not considered as top hazards as there were no significant impacts arising from historical events.

**Table 4: Key physical hazards of prioritised assets**

Key physical hazards	Potential impact	Mitigation measures
Flood and storm surge, and extreme precipitation	<ul style="list-style-type: none"> <li>Business interruption from extreme weather events may result in revenue loss</li> <li>Property damage from extreme weather events may require repairs and construction, resulting in increased expenditure</li> </ul>	<ul style="list-style-type: none"> <li>We constructed our gas-fired and water plants at an elevation higher than historical flood levels. Other measures adopted, subject to site conditions, include construction of boundary walls and a storm water canal to prevent water ingress. We constructed bund walls to mitigate potential impact from water ingress in our solar power plants</li> <li>We review and monitor risk exposure of our solar and urban assets against baseline requirements of industry standards to minimise damage from tropical cyclones</li> </ul>
Tropical cyclone		
Drought	<ul style="list-style-type: none"> <li>Disruption in operations due to lack of water may result in revenue loss and / or increased expenditure</li> </ul>	<ul style="list-style-type: none"> <li>Most of our gas-fired plants are located near to the sea or surface water sources. For our inland gas-fired power plants, there have been no evidence of drought conditions which affected our water supply. In the event of a drought, the respective plants are covered by contractual clauses in relation to severe weather conditions. Our near-shore gas-fired power plant draws their cooling water from the sea and will not be affected by drought conditions</li> </ul>
Heat wave	<ul style="list-style-type: none"> <li>Increased cooling cost and reduced productivity due to heat waves may result in increased expenditure</li> </ul>	<ul style="list-style-type: none"> <li>We monitor ambient / seawater temperature and assess impact on our gas-fired assets</li> </ul>
Changes in wind speeds / solar irradiance	<ul style="list-style-type: none"> <li>Impact on renewable energy generation due to changing wind speeds and / or irradiance resulting in revenue impact</li> </ul>	<ul style="list-style-type: none"> <li>Wind speed and solar irradiance analyses are a part of every renewable energy project investment case. Besides project-specific analysis, we also adopt geographic diversification to mitigate this risk</li> <li>We conduct regular performance review of wind speeds and solar irradiance for our operational assets</li> </ul>

<sup>1</sup> Return periods are a metric that describes how likely a hazard event will occur

# Climate-related Financial Disclosures

## Strategy *(cont'd)*

Further details on risk description, mitigation and impacts from our top physical hazards are provided in Table 5.

**Table 5: Top climate-related physical risks and impacts**

<b>Risk category:</b> Physical risk <b>Climate risk driver:</b> Acute physical risk – Extreme weather events such as floods and tropical cyclones <b>Impact:</b> Short-, medium- and long-term	
<b>Description</b>	Pluvial and fluvial floods, and tropical cyclones present the most immediate concern to our priority assets. In particular, our assets in Bangladesh, Myanmar and Vietnam are most exposed to this risk.
<b>Current effects</b>	In 2024, our assets in Vietnam, India and China were impacted by typhoon Yagi, flood and winter storm respectively, which resulted in a net financial impact of S\$0.9 million. There was no material impact on our financial performance in 2024.
<b>Anticipated effects</b>	In our assets most exposed to floods and tropical cyclones in Bangladesh, Myanmar and Vietnam, there is a possibility of occurrence of such extreme weather events which may result in financial impact of approximately S\$18.5 million in the form of insurance deductibles from property damage and loss of revenue. This impact is equivalent to approximately 2% of the Group's 2024 net profit.
<b>Mitigation actions</b>	Our assets are designed and constructed in line with industry standards. For the sites identified as being at risk, we implement preventive measures to safeguard our assets against potential extreme weather events. We built bund walls around assets exposed to flooding and have upgraded structures affected by typhoon Yagi to strengthen their resilience. Our gas-fired power generation assets have been constructed at an elevation, with a surrounding boundary wall to mitigate flood risk. We will continue to assess and monitor potential risks.  In addition, we insure our assets appropriately for any extreme weather events. In 2024, the cost of mitigation relating to such events was approximately S\$5.6 million.

<b>Risk category:</b> Physical risk <b>Climate risk driver:</b> Chronic physical risk – Renewable resource variability <b>Impact:</b> Medium- and long-term	
<b>Description</b>	Resource variability from changes in wind speeds and solar irradiation may impact our renewable electricity generation and, in turn, revenue from our Renewables business. This risk has the potential to result in both positive and negative financial impact.
<b>Current effects</b>	Using wind speeds and solar irradiance as the only variables, we quantified the impact of resource variability on our 2024 electricity generation, benchmarking it against 2023 levels. This analysis is based on a like-for-like comparison, including only assets that were operational in both years while excluding the impact of new capacity additions. Our assessment indicates a generation shortfall of 6% compared to 2023, which, all else being equal, would translate to an estimated 4% revenue reduction in 2024 versus 2023. While this analysis isolates resource variability, actual renewables generation is also influenced by factors such as curtailment, operational constraints, and unforeseen disruptions, which have been held constant in this assessment.
<b>Anticipated effects</b>	Potential positive impact on revenue benchmarked against 2024 are as follows: <ul style="list-style-type: none"> <li>– 2025: 2% to 5%</li> <li>– 2030: 0% to 7%</li> <li>– 2040: Within 5%</li> </ul>
<b>Mitigation actions</b>	We assess the impact of resource variability for potential investment projects and consider geographical and technological diversification as a mitigation strategy. We undertake regular performance reviews of our operational assets, utilising industry-standard weather forecasting tools and historical data.

**Table 6: Top climate-related opportunities and impacts**

<b>Products and services:</b> Deployment of renewable energy solutions <b>Impact:</b> Medium- and long-term	
<b>Description</b>	<p>The transition to clean energy is progressing rapidly, driven by supportive policies and market forces, despite ongoing challenges such as geopolitical uncertainty and shifting government policies. Looking ahead, renewables growth across Southeast Asia, China, India and Middle East is expected to remain robust, with capacity projected to double from 1,550GW in 2024 to over 3,200GW by 2028, according to GlobalData estimates.</p> <p>Sembcorp aims to grow its gross installed renewable energy capacity to 25GW by 2028. As at December 31, 2024, our gross installed renewable energy capacity stands at 13.1GW. In 2024, the renewable energy generated is equivalent to approximately 9.4 million tCO<sub>2</sub>e emissions avoided<sup>1</sup>.</p> <p>We have a five-year (2024–2028) cumulative growth investment plan of S\$10.5 billion to grow our gross installed renewable energy capacity to 25GW. In 2024, we have utilised S\$1.5 billion<sup>2</sup> to develop and grow our renewable energy portfolio.</p> <p><i>For more information on our key developments in the Renewables segment, please refer to the Operating and Financial Review section on pages 23 to 27.</i></p>
<b>Current effects</b>	Net profit before exceptional items for the Renewables segment was S\$183 million in 2024.
<b>Anticipated effects</b>	Net profit before exceptional items for the Renewables segment is expected to increase at a six-year compound annual growth rate of +25% (2022-2028).
<b>Products and services:</b> Deployment of decarbonisation solutions <b>Impact:</b> Short-, medium- and long-term	
<b>Description</b>	<p>Over 100 countries have adopted net-zero pledges through legislation, policy document or long-term strategies covering approximately 82% of global emissions<sup>3</sup>. Solutions such as green power import, green fuels, renewable energy certificates and carbon credits are expected to become increasingly relevant and in demand as the world transitions to a low-carbon economy.</p> <p>Sembcorp is well-positioned to capitalise on these opportunities. We have taken strides towards the production of green hydrogen and ammonia. Our carbon management solutions business, GoNetZero™, provides end-to-end solutions which include renewable energy certificates and carbon credits.</p> <p>We have a five-year (2024–2028) cumulative growth investment plan of S\$1.4 billion to expand our decarbonisation solutions offerings.</p> <p><i>For more information on our strategic collaborations, please refer to Figure 3 on page 61 and the Media Releases section on the News and Insights webpage.</i></p>
<b>Current effects</b>	In 2024, revenue from our Decarbonisation Solutions segment grew to S\$53 million.
<b>Anticipated effects</b>	We expect positive earnings by 2027 / 2028 with growth beyond 2028.

<sup>1</sup> Avoided emissions are calculated based on the methodology set out by the UN Framework Convention on Climate Change: Clean Development Mechanism, the latest available emissions factors from the respective host country and actual 2024 generation data

<sup>2</sup> S\$1.5 billion consists of S\$1.1 billion in capital expenditure and S\$0.4 billion in equity investment

<sup>3</sup> UN Environment Programme Emissions Gap Report 2024

# Climate-related Financial Disclosures

## Strategy *(cont'd)*

The assessment and prioritisation of opportunities are under the ambit of Group Strategy & Projects, Group Investment Management, and market business units. We actively conduct market research and engage with key stakeholders such as banks, investors, shareholders and consultants to explore potential investments.

Feasibility studies, incorporating financial analysis and risk assessment, are then carried out to evaluate the viability of these opportunities. Identified investments are subsequently presented to management and the board for further consideration.

## Our climate roadmap and journey

The power sector contributes to 40% of global emissions<sup>1</sup>, making it a pivotal player in combatting climate change and enabling the global energy transition. At Sembcorp,

we are committed to supporting Asia's shift to a clean and responsible energy future for all.

The transition to a lower-carbon future requires transformative changes to energy sector players and systems, particularly in markets that are deeply entrenched in fossil fuel infrastructure and power purchase agreements. As the world works to scale down fossil fuel usage, access to reliable and affordable renewable energy as well as low-carbon feedstock must be expanded to meet the needs of industry. We believe that gas will play an important role in the transition. Our existing gas assets remain crucial in meeting the energy demands of Asia. Our highly contracted position on these assets provides steady and predictable cash flow to fuel the growth of our Renewables business, as we manage the gas portfolio to support Asia's energy needs.

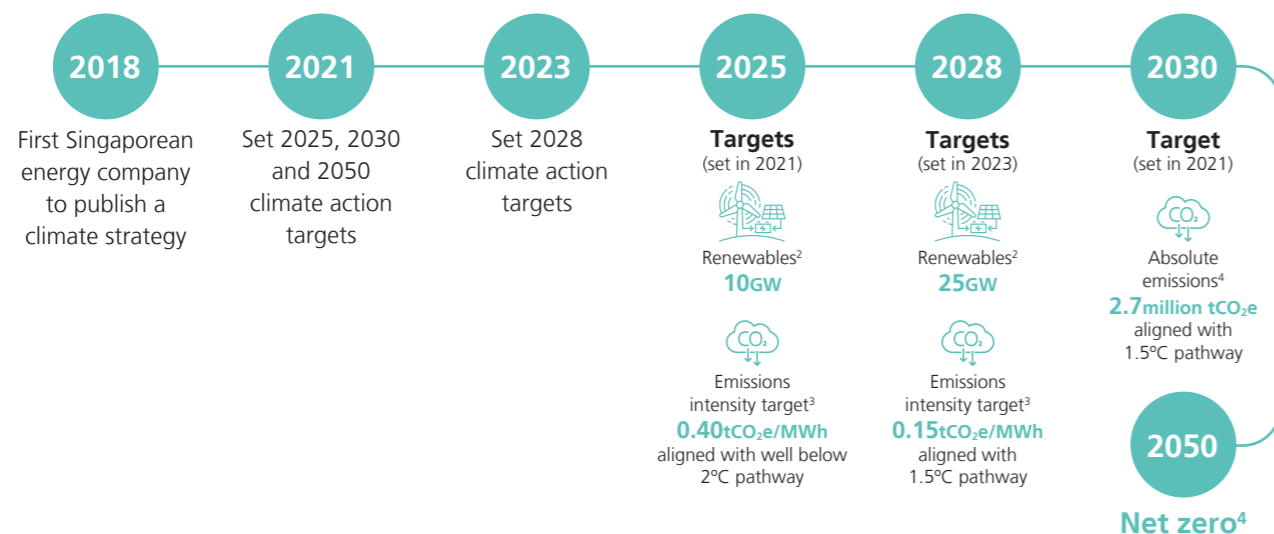
In November 2023, we announced our refreshed set of targets for 2028 at our Investor Day.

## Our targets

Our climate action targets cover all our subsidiaries, joint ventures and associates.

- By 2028, grow gross installed renewables capacity<sup>2</sup> to 25GW
- By 2028, halve emissions intensity<sup>3</sup> to 0.15tCO<sub>2</sub>e/MWh from 2023 levels
- By 2030, reduce absolute emissions to 2.7 million tCO<sub>2</sub>e
- By 2050, deliver net-zero emissions

Our emission targets are in line with what is required to limit global warming to 1.5°C and reach net zero by 2050. We referred to the Sectoral Decarbonisation Approach, SBTi's guidance and tools for the power sector to develop our 2028 targets.



<sup>1</sup> World Energy Outlook 2024 report

<sup>2</sup> Gross installed renewable energy capacity refers to current capacity of the plant at commercial operation date (in megawatt alternating current for wind and solar, and in megawatt-hour for energy storage) as specified in the grid connection agreement or as permitted (assumes 100% ownership of the facility). Figure excludes acquisitions pending completion and projects secured or under construction

<sup>3</sup> 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

<sup>4</sup> 2030 and 2050 targets cover the Group's absolute Scope 1 and 2 emissions

In line with our strategic plan, we also reaffirmed our commitment towards SDG 7 (Affordable and Clean Energy) and SDG 13 (Climate Action).

In November 2024, we completed the acquisition of a 30% stake in Senoko Energy, a 2.6GW gas-fired power plant in Singapore. While this acquisition will result in an increase to

our Group's absolute emissions in the short term, we believe that the acquisition will complement Sembcorp's current portfolio of energy assets, enhancing our ability to support Singapore's energy transition, while providing energy security and resilience for Singapore in the longer term. As a leading renewables player in Asia, we recognise the

indispensable role that gas plays in upholding energy security, especially in regions with poor renewables resource endowment.

For more information on our Climate Action Plan, please refer to the Climate Action Plan section on Our Approach to Sustainability webpage.

Figure 3: Key decarbonisation levers and our progress

Key decarbonisation levers	2024 progress
<b>Grow renewables</b> <ul style="list-style-type: none"> <li>• Grow gross installed renewable energy capacity to 25GW by 2028</li> </ul>	<ul style="list-style-type: none"> <li>• Grew our gross installed renewable energy capacity from 9.4GW in 2023 to 13.1GW in 2024, with an additional 3.8GW of projects secured or under construction</li> </ul>
<b>Manage emissions</b> <ul style="list-style-type: none"> <li>• Expiry of concession (gas-fired asset)</li> <li>• Manage gas portfolio for value</li> <li>• Implement optimisation projects to improve efficiency</li> </ul>	<ul style="list-style-type: none"> <li>• Transferred Phu My 3, a gas-fired power plant, to Vietnam Electricity, following its concession expiry</li> <li>• Divested our remaining 49% equity in Chongqing Songzao, a coal-fired power plant in China</li> <li>• Our global energy and water facilities undertook 11 energy optimisation projects that led to a reduction of approximately 9,700MWh of electricity consumed, equivalent to over 5,000tCO<sub>2</sub>e emissions avoided</li> </ul>
<b>Invest in low-carbon initiatives</b> <ul style="list-style-type: none"> <li>• Renewable imports</li> <li>• Low-carbon technology for electricity generation</li> <li>• Low-carbon feedstock – explore use of green hydrogen and / or ammonia in our energy generation assets</li> </ul>	<ul style="list-style-type: none"> <li>• Signed an agreement with Tenaga Nasional Berhad, a leading Malaysian utility company, to import 50MW of renewable energy to Singapore</li> <li>• Announced a collaboration with Bloom Energy for the potential utilisation of solid oxide fuel cell technology and third-party carbon capture technologies to produce low-carbon electricity</li> <li>• Commenced development of a new 600MW hydrogen-ready combined cycle power plant in Singapore</li> <li>• Entered into a joint development study agreement with PT PLN, an Indonesian state-owned utility company, to explore the feasibility of a green hydrogen production facility in Sumatra, Indonesia</li> <li>• Laid the foundation stone for a green ammonia power plant in Tamil Nadu, India</li> </ul>

For more information on our key developments in the Decarbonisation Solutions segment, please refer to the Operating and Financial Review section on pages 31 to 32.

# Climate-related Financial Disclosures

## Strategy *(cont'd)*

### Financial planning 2024-2028

#### Capital allocation

Our total five-year investment plan is projected to be S\$14 billion. In order to realise the identified opportunities in renewables and decarbonisation solutions, 75% is expected to be invested in renewable energy to support the growth of our renewables capacity to achieve 25GW by 2028.

10% of the investment will be allocated to exploring and expanding our decarbonisation solutions including green hydrogen and ammonia projects, power imports and carbon management solutions.

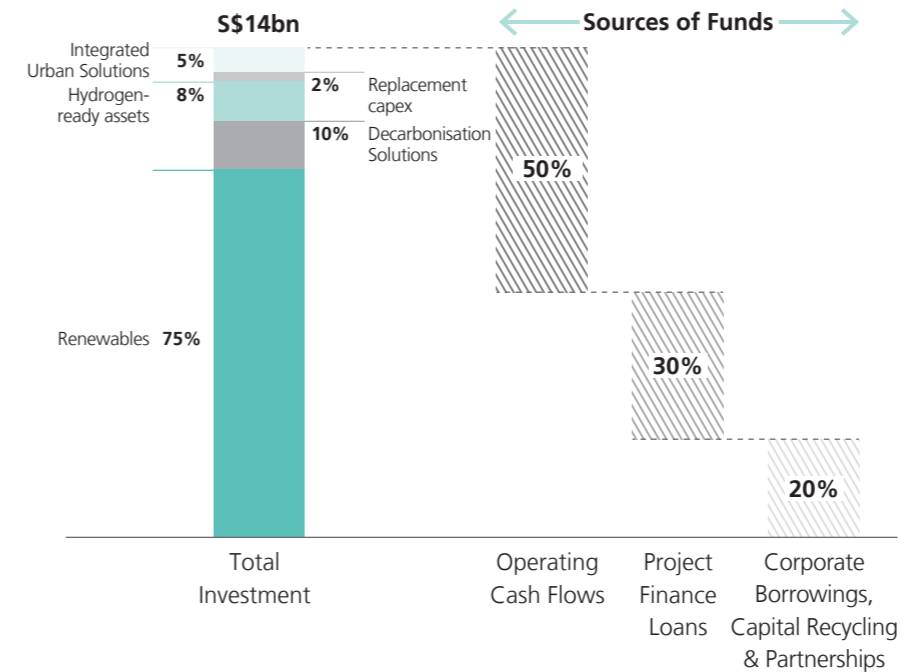
#### Access to capital

2021 marked Sembcorp's first foray into sustainable finance with our inaugural S\$400 million green bond and S\$675 million sustainability-linked

bond. Proceeds from these issuances supported the Group's strategic transformation plan. In November 2023, Sembcorp announced our refreshed targets for 2028. In line with our strategic plan, we updated our Green Financing Framework (2024) to include new eligible green projects categories, reinforcing our commitment to tap on sustainable financing instruments as a source of capital. The Green Financing Framework (2024) references the relevant international market standards and guidelines including the Green Bond Principles (June 2021) issued by the International Capital Market Association, Green Loan Principles (February 2023) issued by the Loan Market Association, the Asia Pacific Loan Market Association, and the Loan Syndications and Trading Association, and the Singapore-Asia Taxonomy (December 2023) issued

by the Green Finance Industry Taskforce convened by the Monetary Authority of Singapore. We have also received pre-issuance assurance from Ernst & Young Singapore on the alignment of the Green Financing Framework (2024) to the relevant international market standards and guidelines.

In 2024, we issued a S\$350 million green bond under our S\$5,000,000,000 Euro Medium Term Note Programme. It was multiple times oversubscribed with strong demand from a diverse base of high-quality fixed income investors including global insurance companies, asset managers and banks. The proceeds arising from the issuance of the notes were used to finance or refinance Eligible Green Projects in line with our Green Financing Framework (2024).



Under our Green Financing Frameworks and Sustainable Financing Framework, Sembcorp and its subsidiaries have secured S\$5.4 billion<sup>1</sup> of borrowing facilities as at December 31, 2024, of which S\$3.6 billion are outstanding borrowings.

Half of our targeted capital needs for the next five years will be funded by operating cash flows. The remaining will come from corporate debt and / or capital recycling from certain assets through partnerships.

*For more information on our Green and Sustainable Financing Frameworks and issuances, please refer to the Sustainable Financing section on the Creating Shareholder Value webpage.*

#### Acquisitions, divestments and concession expiry

In November 2024, we completed the acquisition of a 30% stake in Senoko Energy in Singapore, with 2.6GW of gas-fired generation capacity.

We also announced the acquisitions of renewable energy assets in China, India and Vietnam totalling 1.3GW.

In February 2024, the concession for Phu My 3, a 67%-owned joint venture in Vietnam, ended and the 0.7GW gas-fired power plant was successfully transferred back to the Vietnam government. In December 2024, we divested our 49% equity in Chongqing Songzao, a 1.3GW coal-fired power plant in China, which was impaired in 2021.

#### Direct cost

In our existing operations, we have integrated a carbon budget assessment as part of our annual financial budget and forecast exercise. The output of this assessment provides market-specific GHG emissions and carbon cost forecast. This forecast forms the basis for the setting of the market's emissions intensity targets, and provides an estimate of the financial impact of our carbon exposure.

## 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

*For more information on our climate-related metrics and targets, please refer to our performance in the Decarbonisation section on pages 44 and 45.*

*For more information on other environmental metrics, please refer to the Performance Indicators section on page 64.*



#### Renewables

Continue to grow in new and existing markets



#### Business-As-Usual

Investments into hydrogen-ready assets (8%) and replacement capex (2%) to maintain strong cash flow generation and fund green investments



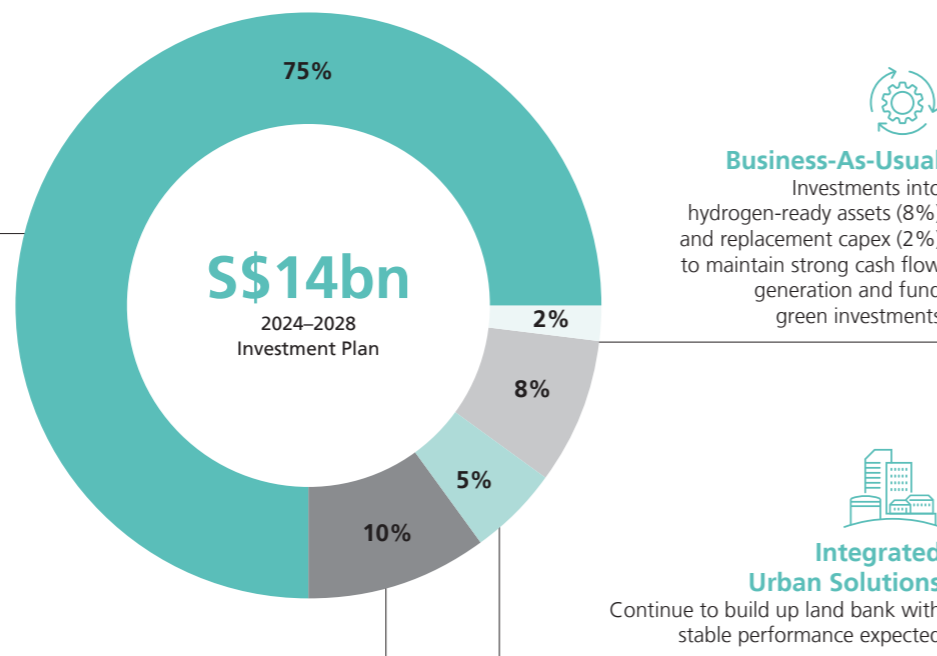
#### Integrated Urban Solutions

Continue to build up land bank with stable performance expected



#### Decarbonisation Solutions

Explore and expand offerings on decarbonisation solutions for growth beyond 2028



bn: billion

<sup>1</sup> Values are derived using December 2024 month-end closing exchange rates