Science-based Targets towards Carbon Neutrality

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14th April 2025

About the Speaker – Ir Raymond Fong

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Agenda

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2. Various Carbon Neutrality Claims
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4. Science-Based Targets Initiatives
5. Hong Kong Exchange Net-Zero Strategies
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    c. Strategy 3: Positive Green Strategy (SBT + Neutralization + BVCM)
6. Internal Carbon Pricing
7. Examples
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    b. SBT target setting

1. What is Carbon Neutrality?

- IPCC: human-caused carbon dioxide emissions are balanced globally by carbon dioxide removals over a specified period
- More liberally: total GHG emissions arising from an entity, facility, product or event are offset by accredited carbon credits, which may involve either carbon avoidance or removal
- At corporate level: “Carbon Neutrality” as a target covering Scope 1, Scope 2 and part of Scope 3 GHG emissions

Robust Verification Standard for Carbon Neutrality Claim: e.g. PAS2060

1. What is Carbon Neutrality? (Cont'd)

Carbon Neutrality Claim

- Base year GHG emissions = $\{\sum_i S1_i + \sum_i S2_i + \sum_i S3_i\}_{base\ year}$
- Unabated GHG emissions at year t = $\{\sum_i S1_i + \sum_i S2_i + \sum_i S3_i\}_t$
- Carbon credits at year t = $\{\sum_i CC_i\}_t$
- Carbon neutrality at target year T = Balance out GHG emissions by carbon credits at target year T

$$\{\sum_i S1_i + \sum_i S2_i + \sum_i S3_i\}_T - \{\sum_i CC_i\}_T = 0$$

Where:

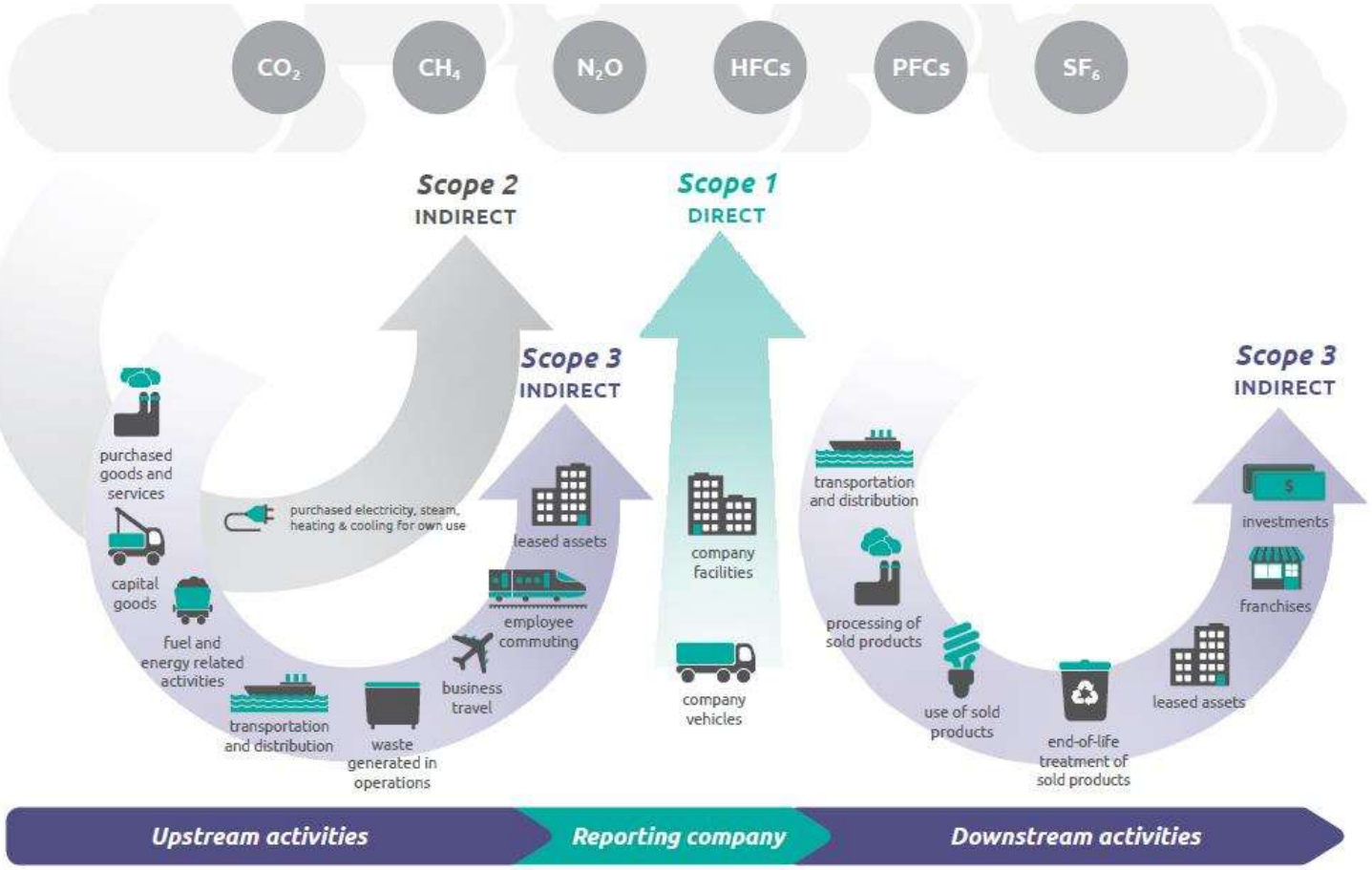
S1: Scope 1 GHG emissions

S2: Scope 2 GHG emissions

S3: Scope 3 GHG emissions

CC: Carbon Credits

Greenhouse Gas Emissions



Courtesy of Greenhouse Gas Protocol: Corporate Value Chain (Scope 3) Accounting and Reporting Standard

Greenhouse Gas Emissions (cont'd)

Greenhouse gas to be reported:

- Carbon dioxide (CO2) - mostly emitted by burning fossil fuels
- Methane (CH4) - mostly emitted by growing ruminant animals such as sheep and cows, and from landfills
- Nitrous oxide (N2O) - mostly emitted by growing crops (fertilizer usage) and livestock (manure)
- Hydrofluorocarbons (HFCs) - mostly emitted by refrigeration equipment
- Perfluorocarbons (PFCs) - mostly emitted by the aluminum industry
- Sulphur hexafluoride (SF6) - mostly emitted by switchgear
- Nitrogen trifluoride (NF3) - mostly emitted in computer manufacturing (not required to be reported in Hong Kong)

2. Various Carbon Neutrality Claims

- **Carbon neutrality**: organization's CO2 emissions are balanced globally by CO2 removal, typically over one year
- **Climate positive:** activity goes beyond achieving net-zero carbon emissions to create an environmental benefit by removing additional carbon dioxide from the atmosphere
- **Carbon negative**: same thing as "climate positive"
- **Climate Neutrality:** organizational activities result in no net effect on the climate system. In climate-neutral claims, regional or local bio-geophysical effects have to be accounted for as well, such as radiative forcing (e.g. from aircraft condensation trails)
- **Net-Zero carbon emissions:** same as "carbon neutrality"
- **Net-Zero emissions:** organization's emissions of all greenhouse gases (CO_2-e) are balanced by greenhouse gas removals, typically over one year

3. How to Achieve Carbon Neutrality: Australia Climate Active Program

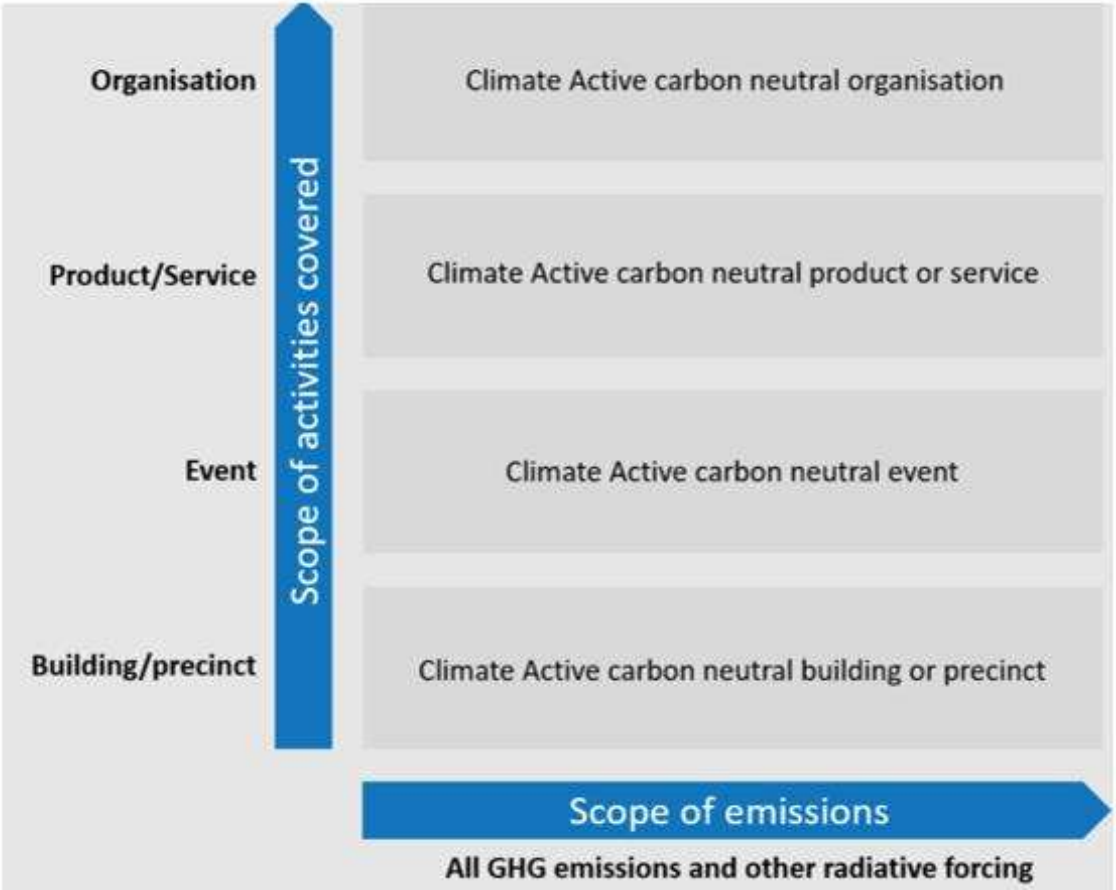
- A Commonwealth Government program that allows Australian organizations to achieve certified carbon neutral status for their whole organization, products/services, events and buildings/precincts.
- All GHG emissions must be included, including the organization's emissions, emissions in the value chain, and radiative forcing for flights.
- Need to develop a strategy to reduce emissions in the organization, not just offset them.

The Department of Industry, Science, Energy and Resources of Australian Government administers carbon neutral certification and maintains the Climate Active Carbon Neutral Standard, the framework that underpins that certification.

There are many Carbon Neutrality Programs in the world

Source: https://www.climateactive.org.au/what-climate-active/how-it-works

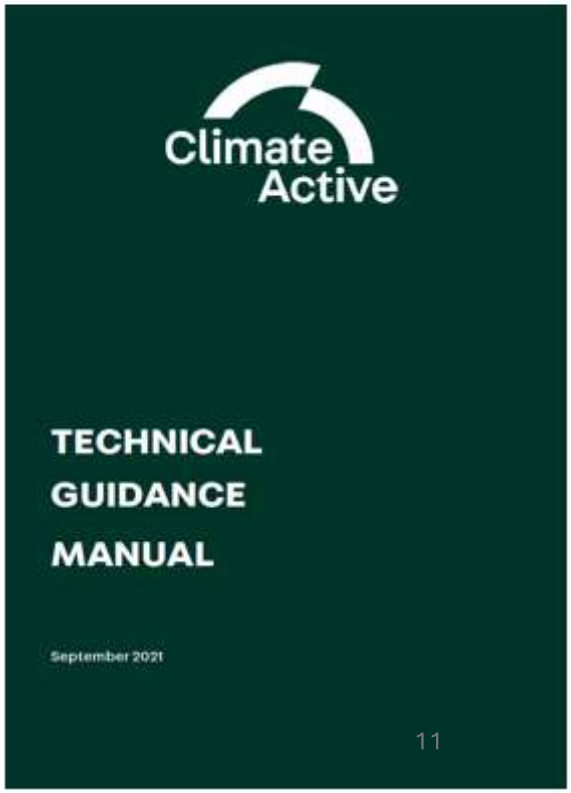
3. How to Achieve Carbon Neutrality: Australia Climate Active Program (cont'd)



3. How to Achieve Carbon Neutrality: Australia Climate Active Program (cont'd)

Certification Process for Organizations

- ❒ Step 1: Registration
- ❒ Step 2: License agreement
- ❒ Step 3: Prepare the report by registered consultants
- ❒ Step 4: Third-party validation of the report
- ❒ Step 5: Purchase offsets (from the approved project list) and complete a public disclosure statement
- ❒ Step 6: Fees
- ❒ Step 7: Certification and trademark use



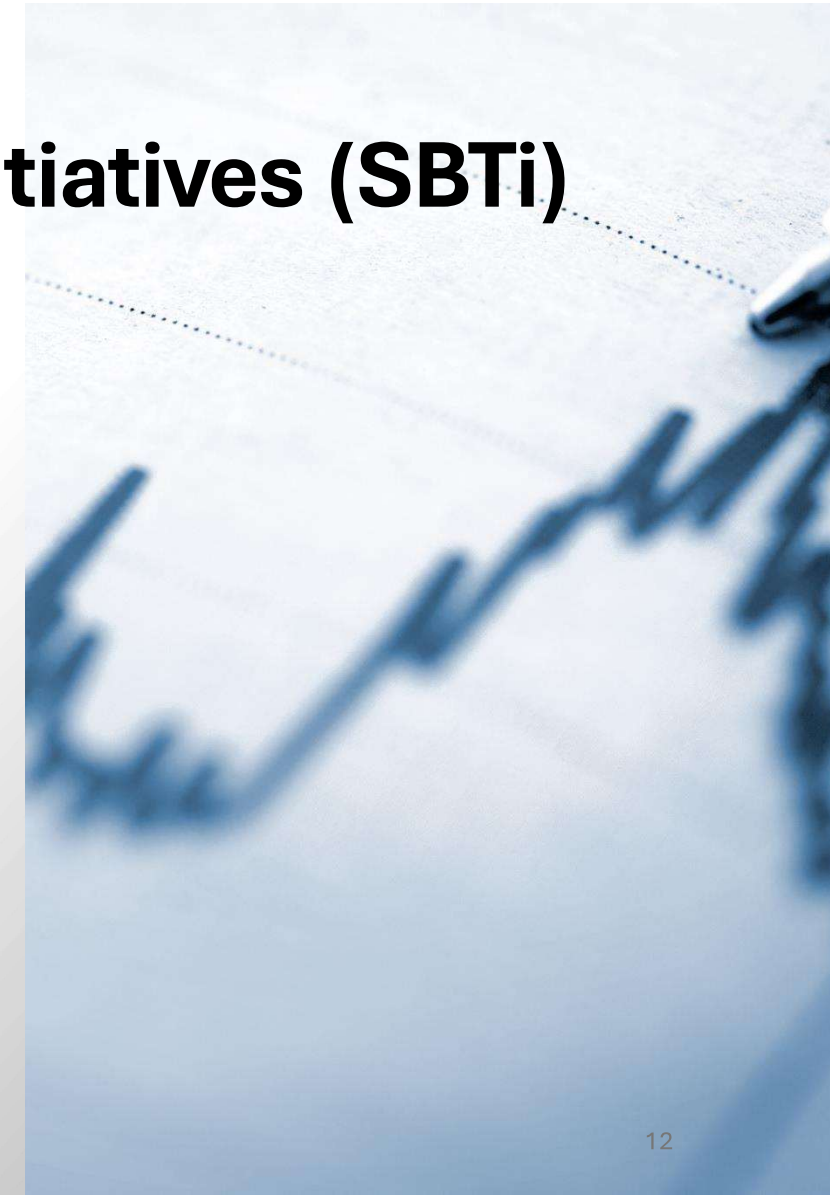
4. Science-Based Targets Initiatives (SBTi)

(a) Genesis

The Science Based Targets initiative (SBTi) registered in England as a UK Charity. A Climate action organization to facilitate companies and financial institutions worldwide to play their part in combating the climate crisis

- Develop standards, tools and guidance to facilitate companies to set **GHG emission** reduction targets in line with climate science, limit global temperature rise to 1.5 ^{0}C above pre-industrial levels and reach net-zero CO_2 emission by 2050 at the latest

- As of October 2021, more than 2,000 companies have committed to setting near term targets in- line with SBTi guidance and criteria, with over 1,000 targets validated and two thirds of all approved targets being 1.5°C aligned.



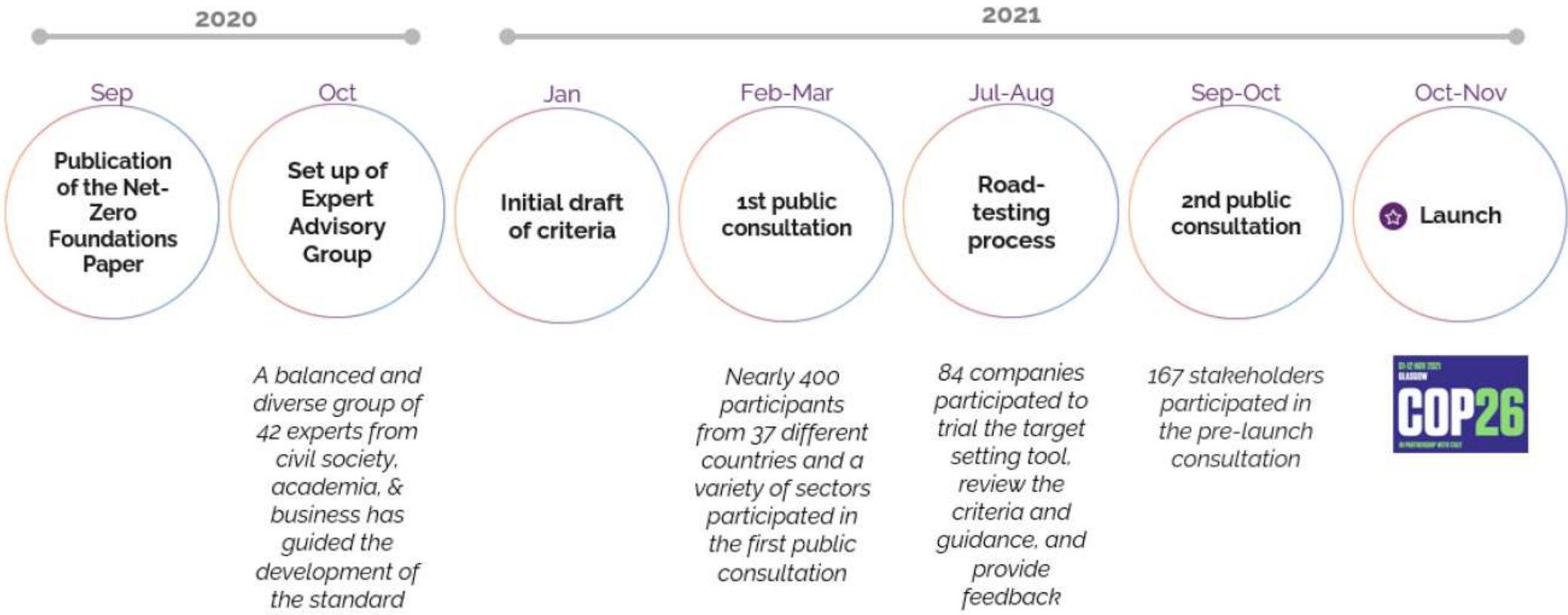


Figure 1. An outline of key milestones in the Corporate Net-Zero Standard development process.

Source: SBTi Corporate Net-Zero Standard, Version 1.2, March 2024

(b) Snapshot of SBT at Corporate Level

Net-Zero at Corporate Level

Reducing scope 1, 2 & 3 emissions to zero or a residual level consistent with reaching net-zero emissions at the global or sector level in 1.5 ºC aligned pathway

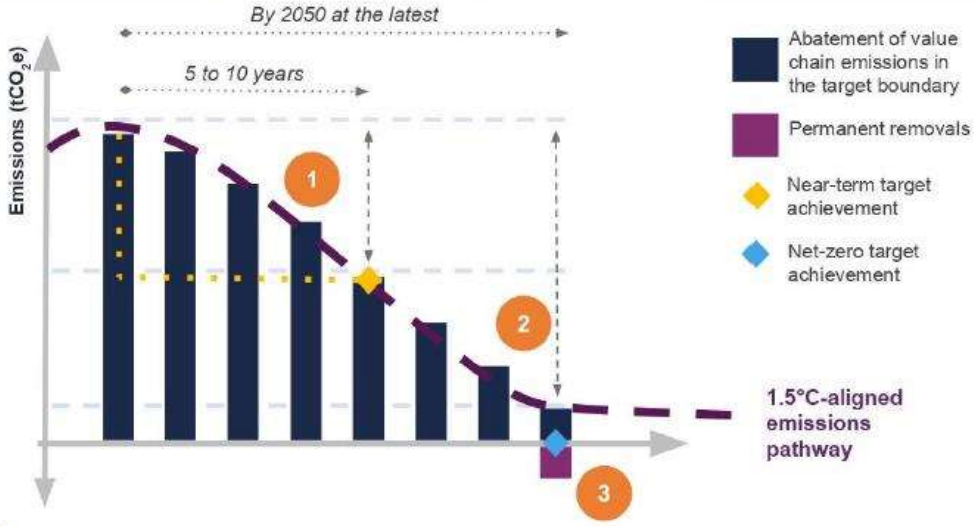
Permanently neutralizing any residual emissions at the net-zero target year and any GHG emissions released into the atmosphere thereafter

Four Key Elements of Corporate Net-Zero

- Near-term Science-based Target
- Long-term Science-based Target
- Neutralization of any Residual Emissions
- Beyond Value Chain Mitigation(BVCM)

Science-Based Net-Zero Targets

SET NET-ZERO SCIENCE-BASED TARGETS



1 **Near-term SBTs**: 5-10 year emission reduction targets in line with 1.5°C pathways.

2 **Long-term SBTs:** Target to reduce emissions to a residual level in line with 1.5°C scenarios by no later than 2050.

NEUTRALIZATION

3 **Neutralization of residual emissions:** GHGs released into the atmosphere when the company has achieved their long-term SBT must be counterbalanced through the permanent removal and storage of carbon from the atmosphere.

Neutralization on the way to net-zero → Near-term investments to **scale carbon removal solutions**

Recommendation 10 - Neutralization milestones: *Companies should disclose information such as planned milestones and near-term investments that demonstrate the integrity of commitments to neutralize unabated emissions at net-zero.*

BEYOND VALUE CHAIN MITIGATION (BVCM)

Recommendation 9 - Beyond value chain climate mitigation: *Companies should take action or make investments outside their own value chains to mitigate GHG emissions in addition to their near-term and long-term science-based targets. For example, a company could provide annual support to projects, programs and solutions providing quantifiable benefits to climate, especially those that generate additional co-benefits for people and nature. Companies should report annually on the nature and scale of those actions.**

** Please see "Above and Beyond: An SBTi report on the design and implementation of beyond value chain mitigation (BVCM)".*

BVCM Goals

Goal 1: Deliver additional near-term mitigation outcomes to achieve the peaking of global emissions in the mid-20s and the halving of global emissions by 2030.

Goal 2: Drive additional finance into the scale-up of nascent climate solutions and enabling activities to unlock the systemic transformation needed to achieve net-zero by mid-century globally.

BVCM Principles

SCALE: Maximising climate action | **FINANCING NEED**: Focusing on under financed mitigation | **CO-BENEFITS**: Supporting the SDGs | **CLIMATE JUSTICE**: Addressing inequality

Figure 2. Key elements of the Corporate Net-Zero Standard.

Source: SBTi Corporate Net-Zero Standard, Version 1.2, March 2024

Science-Based Net-Zero Targets (cont'd)

Science-Based Target(SBT) Net-Zero Claim

Compensation at year t = $\{\sum_i BVCM_i\}_t$

Neutralization at year t = $\{\sum_i CR_i\}_t$

Where:

BVCM: Beyond Value Chaim Mitigation

CR: Carbon Removing (Neutralization)

Conditions of Science-Based Target (SBT) Net Zero claims:

Condition 1 and 2: Follow SBT trajectories of GHG emission reduction from base year to target year *T* (Note: (a) mid-term target, say at 2030 GHG emission reduced by 50%; (b) *T* should be 2050 or earlier)

Condition 3: At Target year *T*, achieve net zero GHG emissions (neutralization as needed, no compensation allowed in this year *T*)

$\{\sum_i S1_i + \sum_i S2_i + \sum_i S3_i\}_T - \{\sum_i CR_i\}_T = 0$

Condition 4: Compensate <u>all</u> unabated GHG emissions during transition period (from base year to target year *T*) by compensation and/or neutralizations

$\{\sum_i S1_i + \sum_i S2_i + \sum_i S3_i\}_t - \{\sum_i BVCM_i\}_t - \{\sum_i CR_i\}_t = 0$ as far as possible for each year *t*

SBTi Priority of Mitigation Measures

EMISSION REDUCTIONS ARE KEY TO TRANSITION TO GLOBAL NET-ZERO	BUT BEYOND VALUE CHAIN MITIGATION CAN ACCELERATE THE TRANSITION
• Complete an emission inventory following the GHG Protocol • Set near- and long-term science-based targets to reduce value chain emissions • Implement a strategy to achieve science-based targets • Disclose target progress annually	• **In the near-term**, prioritize securing and enhancing carbon sinks (terrestrial, coastal and marine, etc.) to avoid the emissions that arise from their degradation. There is also a critical need for companies to invest in nascent GHG removal technologies (e.g. direct air capture (DAC) and storage). • **In the long-term,** when the net-zero target date is reached, companies must neutralize any residentual emissions by permanently removing carbon from the atmosphere. Companies must continue to neutralize any remaining emissions.

(c) Development of Science-Based Target (SBTs)

Science-Based Targets: Science-based targets (SBTs) are set in alignment with the latest climate science and the goals of the Paris Agreement. They aim to limit global warming to well below 2 degrees Celsius or pursue efforts for a 1.5-degree Celsius limit. SBTs are typically developed by conducting a rigorous scientific assessment of emissions pathways required to achieve the temperature goals.

Process of Developing SBTs

The process of developing SBTs involves the following key elements:

Emissions Pathways: Climate models and scenarios are used to project the emissions pathways required to achieve the temperature goals of the Paris Agreement. These models take into account factors such as historical emissions, future energy consumption, technological advancements, and policy scenarios.

Carbon Budgets: Carbon budgets represent the total amount of greenhouse gases that can be emitted within a given timeframe to stay within a specific temperature limit. These budgets are derived from the emissions pathways and are used to guide the development of SBTs.

Sectoral Analysis: Different sectors have varying contributions to global emissions and mitigation potential. Sectoral analysis examines the specific characteristics, emissions sources, and opportunities for emissions reduction within each sector. It helps identify sector-specific targets and strategies that contribute to overall emissions reduction goals.

Process of Developing SBTs (Con't)

Equity Considerations: The science behind SBTs also recognizes the need for equitable distribution of emission reduction efforts. It acknowledges that countries and organizations have different historical emissions and capacities to undertake mitigation actions. SBT methodologies often incorporate considerations of fairness and equity to ensure a balanced approach.

Review and Validation: SBTs undergo a rigorous review and validation process conducted by independent organizations such as the Science-Based Targets initiative (SBTi). These organizations assess whether the targets are consistent with the latest climate science, align with the temperature goals of the Paris Agreement, and meet specific criteria for ambition and credibility.

SBTi Target Setting Elements

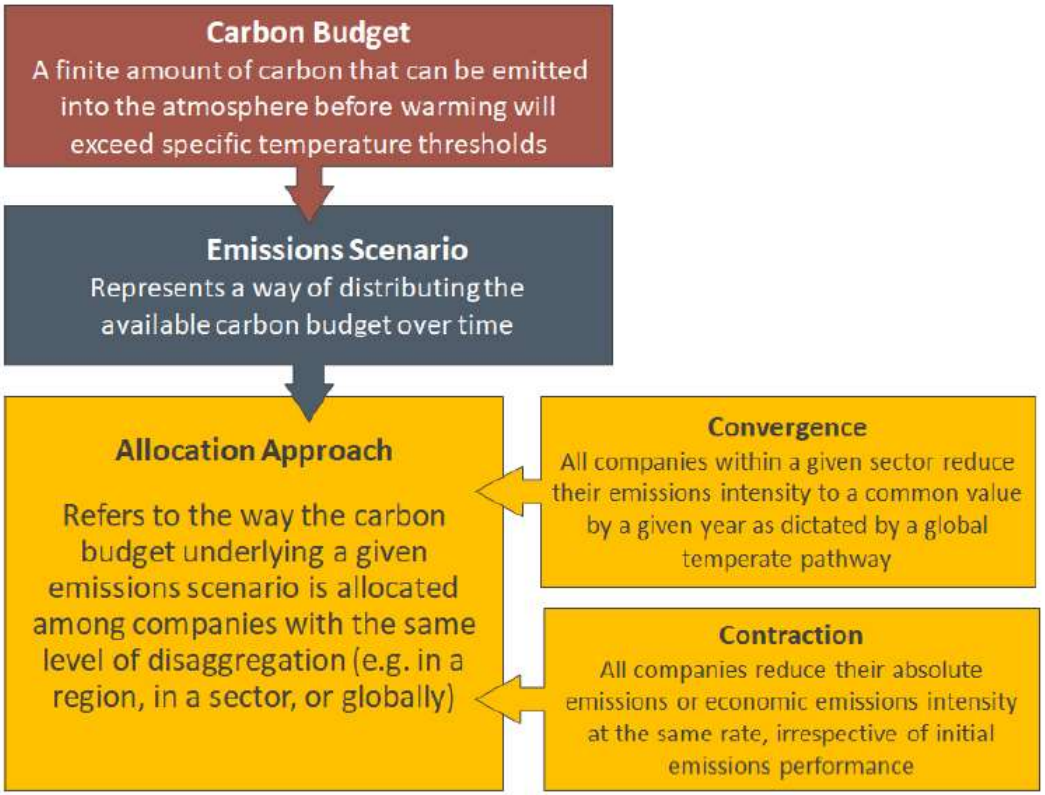


*Figure 1: Schematic of target-setting elements (please note that the SBTi uses **GHG budgets**, instead of **carbon budgets**, where applicable)*

Source: Foundation of Science-Based Target Setting, Version 1.0, April 2019

SBTi Allocation Approach for Various Industries

1. ***Convergence***, where all companies within a given sector reduce their emissions intensity to a common value by some future year as dictated by a global emissions pathway (e.g., the emissions intensity of all electric power companies converges to a maximum of 29 g CO^2e per kWh of electricity in 2050). The reduction responsibilities allocated to a company vary depending on its initial carbon intensity and growth rate relative to those of the sector, as well as the sector-wide emissions intensity compatible with the global emissions pathway. The convergence approach can only be used with sector-specific emissions scenarios and physical intensity metrics (e.g., tonnes GHG per tonne product or MWh generated).
2. ***Contraction***, where all companies reduce their absolute emissions or economic emissions intensity (e.g., tonnes GHG per unit value-added) at the same rate, irrespective of initial emissions performance, and do not have to converge upon a common emissions value. The contraction approach can be used with sector-specific or global emissions scenarios.

Source: Foundation of Science-Based Target Setting, Version 1.0, April 2019

The Scientific Rationales behind net-zero target

- Full or near-full decarbonization for energy and industrial CO2 emission achieving a zero-emissions energy supply system by mid century
- Eliminating CO_2 emissions associated with Forestry, Land-use and Agriculture (FLAG)
- Substantial reductions in non-CO_2 emissions from all sectors
- Removing CO_2 from the atmosphere to neutralize residual emissions and potentially, sustain net negative emissions that reduce cumulative CO_2 in the atmosphere over time.
- **500 gigatonne(GT)** carbon under the assumption of about 20-40 gigatonnes off cumulative CO_2 removal **by 2050 by a top-down approach**

Assumption of 500GT

- Assumption of 500GT refers to the estimated remaining carbon dioxide (CO_2) emissions budget that would keep global warming below a certain temperature threshold, typically 2 degrees Celsius or 1.5 degrees Celsius above pre-industrial levels. This assumption is based on the concept of a carbon budget, which represents the total amount of CO_2 that can be emitted while still staying within a specific temperature limit.
- Assuming that emitting more than 500 billion metric tons of CO_2 would lead to a high likelihood of exceeding the desired temperature threshold. This assumption takes into account historical emissions and estimates of future emissions based on various scenarios and models.
- Specific value of the remaining carbon budget and the associated assumptions can vary depending on factors such as the baseline period, the level of confidence in climate models, and the target temperature limit. Different studies and assessments may provide different estimates of the remaining carbon budget.
- Assumption of 500GT assumes that only CO_2 emissions are considered and does not include other greenhouse gases or feedback mechanisms that can influence climate change.

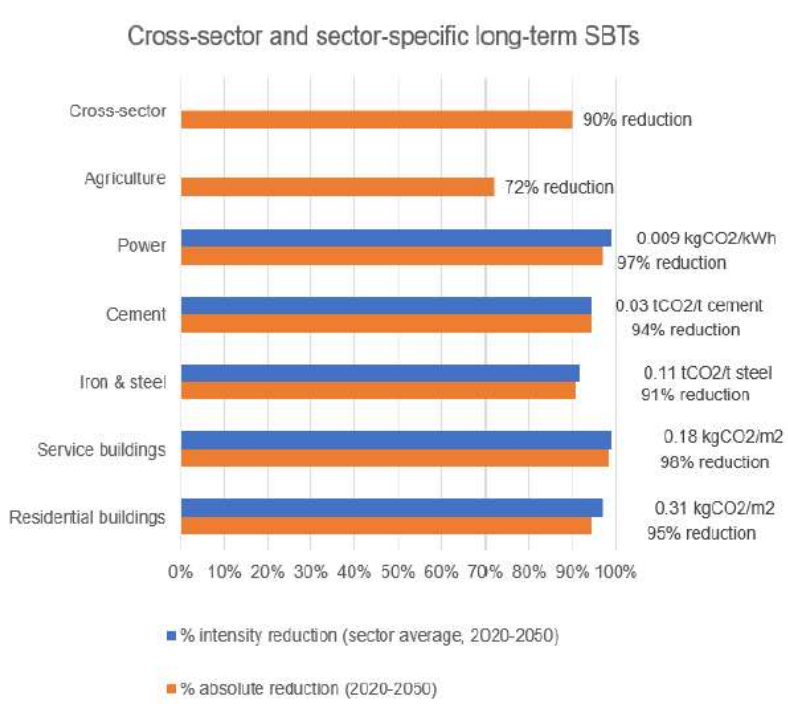
2020-2050 CO2 Emissions Budgets used by SBTi

Sector	2019 CO_2 emissions (GT CO_2)	2020-2050 CO_2 budget used by the SBTi to assess 1.5°C pathways (GT CO_2)	Share of 2020-2050 energy and industrial processes CO_2 budget relative to sector's share in 2019 (%)
Energy supply	**15.3**	**115-146**	**59-75**
Electricity and heat	13.8	102-133	58-76
Transport	**8.3**	**100-129**	**95-123**
Road transport	6.1	73-91	92-117
Maritime transport	0.9	12-16	101-143
Aviation	1.0	15-19	110-147
Industry	**8.9**	**134-153**	**116-135**
Iron and steel	2.5	20-40	62-126
Cement	2.5	35-41	109-131
Chemicals	1.3	13-26	73-153
Buildings	**3.0**	**30-41**	**75-107**
Residential buildings	2.0	20-30	74-117
Service buildings	1.0	10-11	76-89
Cross-sector total (CO_2 only)	**35.5**	**450-480**	**-**

Table 1. *2020-2050 CO_2 emissions budgets used by the SBTi for the energy supply, transportation, industry, and buildings sectors. Budgets cover direct emissions only (i.e., scope 1) but when setting SBTs, companies must set targets that also cover indirect emissions (i.e., scopes 2 and 3). Due to expected mitigation trade-offs across sectors, the lower bound of "Total" CO_2 emissions is higher than aggregating the lower bound of all sectors. 2019 CO_2 emissions data are sourced from IEA (2021). Sector-specific pathways in-line with the budget ranges in this table do not automatically qualify for use by the SBTi.*

Source: Pathway to Net Zero, SBTi Technical Summary, Version 1.0, October 2021

Decarbonization Pathways for Various Industries



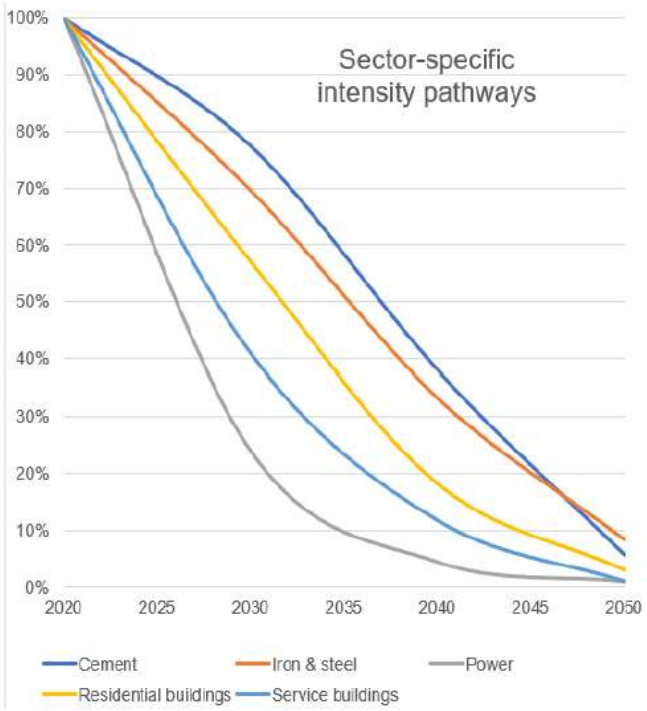


Figure 4a (on the left): Cross-sector and sector-specific long-term SBTs included in the Corporate Net-Zero Standard.

Figure 4b (on the right): Sector-specific intensity pathways (2020-2050) for different sectors.

Source: SBTi Corporate Net-Zero Standard, Version 1.2, March 2024

Table 7. Ambition ranges for target classifications of near-term science-based targets

Method	Minimum annual linear reduction rate over target period
Cross-sector absolute reduction method with 1.5˚C long-term temperature goal for scopes 1 and 2	*Absolute reduction target Scope 1,2* = { Base year ≤ 2020, 4.2% x (Target year - Base year); Base year > 2020, 4.2% x (Target year - 2020) }
Cross-sector absolute reduction method with well-below 2˚C long-term temperature goal for scope 3	*Absolute reduction target Scope 3* = { Base year ≤ 2020, 2.5% x (Target year - Base year); Base year > 2020, 2.5% x (Target year - 2020) }
Economic intensity reduction method with well-below 2˚C long-term temperature goal for scope 3	*Economic intensity target Scope 3* = { Base year ≤ 2020, $100\% - (93\%)^{(\text{Target year- Base year})}$; Base year > 2020, $100\% - (93\%)^{(\text{Target year- 2020})}$ }
Physical intensity reduction method with well-below 2˚C long-term temperature goal for scope 3	*Physical intensity target Scope 3* = { Base year ≤ 2020, $100\% - (93\%)^{(\text{Target year- Base year})}$; Base year > 2020, $100\% - (93\%)^{(\text{Target year- 2020})}$ }

Source: SBTi Corporate Net-Zero Standard, Version 1.2, March 2024

Table 3. A comparison of boundary, ambition, timeframe, and methods between near and long-term targets.

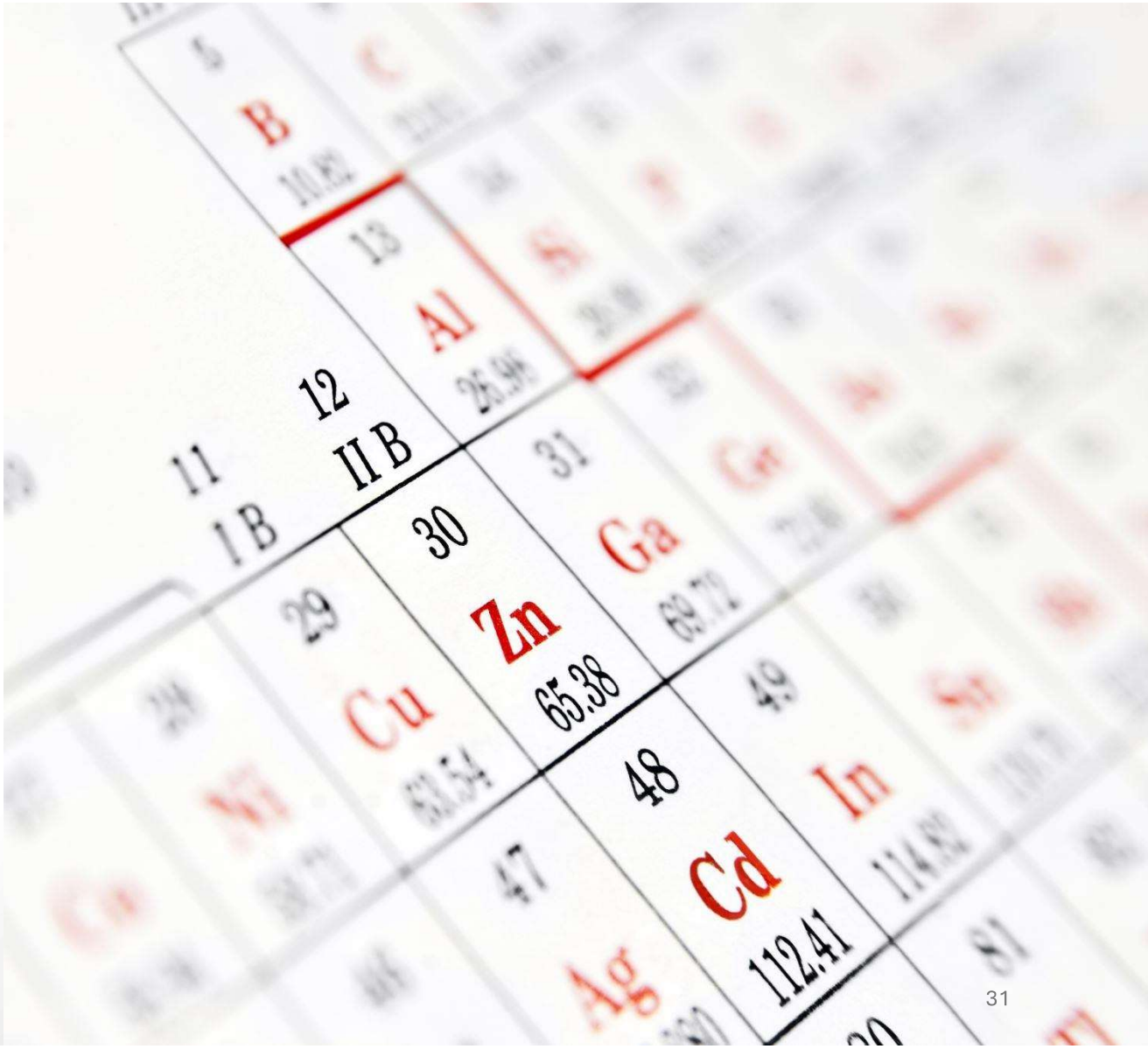
		Boundary *What percentage is required for the emissions inventory coverage?*	Ambition *What is the ambition level of limiting temperature rise?*	Timeframe *What is the timeframe to meet targets?*	Methods *What are the eligible methods to set targets?*
Near-term SBTs	Scope 1 and 2	95%	1.5°C	5-10 years[14]	Cross-sector absolute reduction Sector-specific absolute reduction Sector-specific intensity convergence (i.e., SDA) Renewable electricity
	Scope 3	If >40% of total emissions, 67% coverage	Well-below 2°C		Cross-sector absolute reduction Sector-specific absolute reduction Sector-specific intensity convergence (i.e., SDA) Supplier/customer engagement Scope 3 economic intensity reduction Scope 3 physical intensity reduction
Long-term SBTS	Scope 1 and 2	95%	1.5°C	2050 latest (2040 for the power and maritime transport sectors)	Cross-sector absolute reduction Sector-specific absolute reduction Sector-specific intensity convergence (i.e., SDA) Renewable electricity (maintenance target)
	Scope 3	90%			Cross-sector absolute reduction Sector-specific absolute reduction Sector-specific intensity convergence (i.e., SDA) Scope 3 economic intensity reduction Scope 3 physical intensity reduction

Source: SBTi Corporate Net-Zero Standard, Version 1.2, March 2024

5-step to set SBT

(i) Select a Base Year

- Base year must be no earlier than 2015
- Base year emissions should be representative of a company's typical GHG profile
- If near-term SBTs are set, it must use the same base year for its long-term SBT
- Scope 1, 2 and 3 emission data should be accurate and verifiable and must use the same base year.
- Scope 3 targets are recommended but not required to use the same based year as scope 1 & 2.



(ii) Develop Full GHG Inventory

-High data quality : complete, reliable and representative

-Ensure target boundary is aligned with the GHG inventory boundary

-Determine how to treat complex business relationship (i.e. subsidiaries, joint venture etc)

-Include all mandatory scope 3 emissions

-Review relevant sector-specific guidance

Exclude the use of carbon credits : do not count as reductions towards meeting near-term and long-term SBTs. But can be used as an option for neutralizing residual emissions

(iii) Set Target Boundaries

GHG Inventory Scope	Near-term targets	Long-term targets
Scope 1 & 2	95% minimum coverage	
Scope 3	67% minimum coverage (if Scope 3 emissions are at least 40% of the total 1,2, & 3 emissions)	90% minimum coverage (all companies)
Special Boundary Coverage Requirements by Emissions Source		
Emissions Source	Near-term targets	Long-term targets
Use-phase emissions from sold or distributed fossil fuels	Must be covered by a separate absolute reduction target	
Direct CO2 Emissions from biomass combustion, processing & distribution, land-use emissions & carbon removals from bioenergy feedstocks	Must be included in target boundary	

Illustration of Setting Organizational Boundary

A clothing manufacturer wants to set GHG emissions reduction targets and define their target boundaries.

Organizational Boundaries: its organizational boundaries include all owned manufacturing facilities, warehouses, and administrative offices that have direct control over these entities, making them clear candidates for inclusion in the target.

Value Chain Stages: identifies several stages in its value chain, including raw material sourcing, manufacturing, distribution, retail sales, and product use by customers.

Illustration of Setting Organizational Boundary (cont'd)

Materiality Assessment: conducts a materiality assessment to determine the significance of emissions from each value chain stage. The factory finds that manufacturing activities contribute the most emissions, followed by raw material sourcing and distribution.

Influence and Control: recognizes that it has limited control over raw material sourcing and distribution, as these activities involve external suppliers and logistics partners. However, they have some influence through supplier engagement and transportation optimization initiatives.

Stakeholder Engagement: engages with suppliers, logistics partners, and industry experts to gain insights on emissions hotspots and understand stakeholder expectations regarding target boundaries. The factory consider sfeedback and perspectives from these stakeholders in their decision-making process.

Illustration of Setting Organizational Boundary (cont'd)

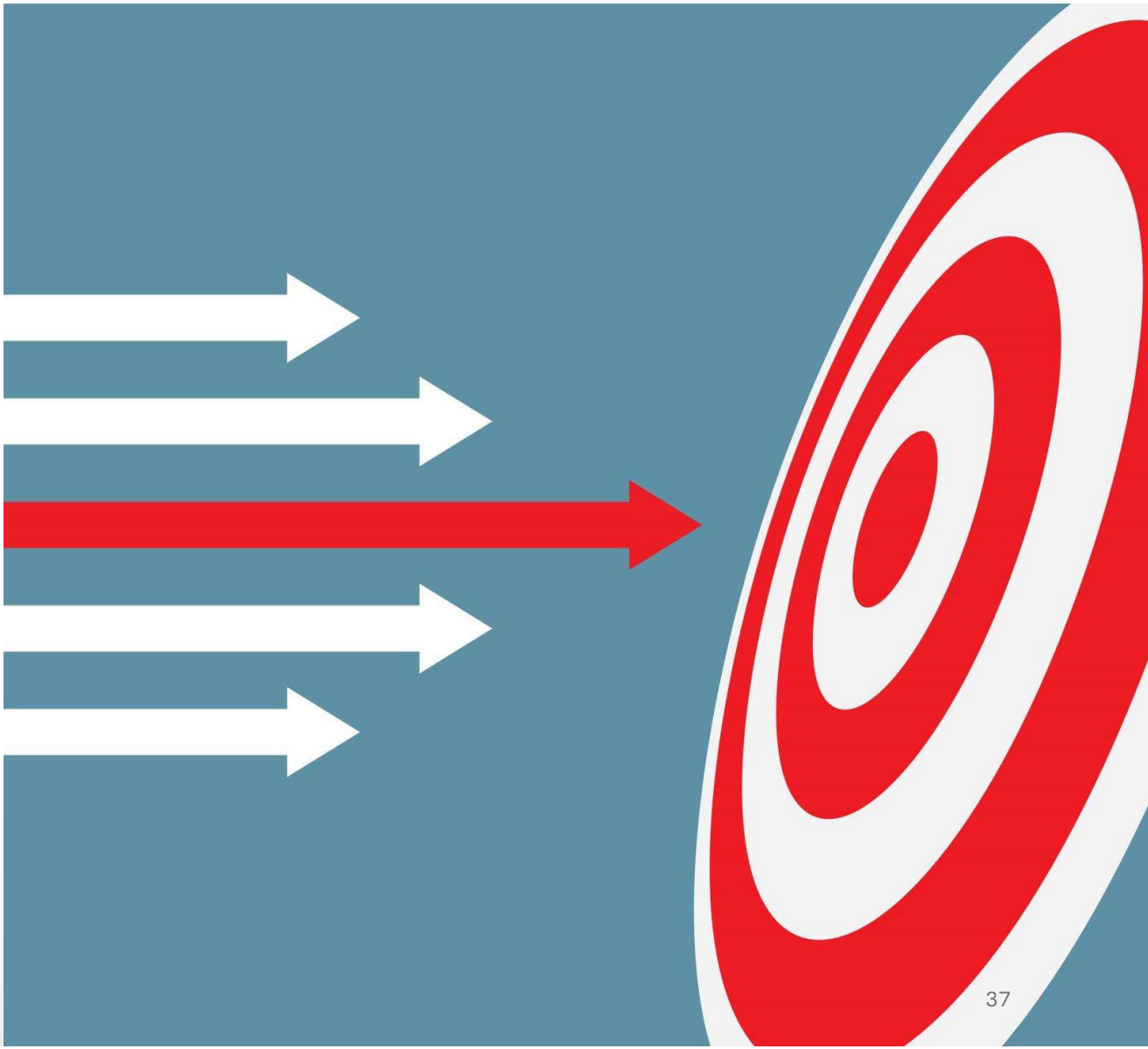
Inclusion and Exclusion Criteria: Based on their materiality assessment and stakeholder engagement, the company decides to include manufacturing activities (Scope 1 and Scope 2 emissions) and consider a subset of significant suppliers and distribution partners in their target boundaries (selected Scope 3 emissions). They exclude emissions from retail sales and customer product use, as these are beyond their direct control and influence.

Rationale Documentation: the factory documents the rationale behind their target boundaries, explaining that they focus on areas where they have direct control (manufacturing) and areas where they can influence emissions reductions (selected suppliers and distribution partners). They outline the criteria used for inclusion and exclusion, ensuring transparency and clarity.

Regular Review and Update: commits to regularly reviewing and updating their target boundaries as they expand operations, engage new suppliers, or identify emerging emission sources. It aims to stay aligned with industry best practices and evolving sustainability standards.

(iv) Choose a Target Year

- Near-term target : 5-10 years from the date of submission to the SBTi
- Long-term target : By 2050 or sooner



(v) Calculate Targets

Companies must :

- set near-term targets with a minimum ambition of 1.5^{0}C for scopes 1 and 2 and

- Minimum ambition of well-below 2^{0}C for scope 3

- Set long-term targets with a mimimum ambition of 1.5^{0}C across scopes

(v) Calculate Targets (cont'd)

Target setting Methods

- Cross-Sector Absolute Reduction (all scopes)
- Sector-specific Absolute Reduction (all scopes)
- Sector-specific Intensity Convergence (Sectoral Decarbonization Approach (SDA, all scopes)
- Renewable Electricity (scope 2)
- Physical Intensity Reduction (scope 3)
- Economic Intensity Reduction (scope 3)
- Supplier and/or Customer Engagement Targets (Scope 3)

Pathways

Sector/Activity	Cross Sector with Absolute Reduction	SDA with Intensity Convergence	Remarks
Aluminum	X		
Apparel	X		
Air Transport	X	X	2022-2022 are not used as based year due to COVID
Building	X	X	
Cement	X	X	
Financial Institutions	X	X	
FLAG	X	X	
ICT	X		
Power Generation		X	Long-term target shall be no later than 2040
Land Transport Road & Rail	X	X	

Example of Target Temperature Alignment

A multinational manufacturing company aims to align its climate targets with the temperature goals of the Paris Agreement.

Temperature Goal: commits to aligning its targets with the ambition of limiting global warming to well below 2 degrees Celsius above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5 degrees Celsius.

Science-Based Targets: engages in a rigorous scientific assessment to determine its science-based targets in line with the temperature goals. Based on the assessment, the company sets the following targets:

Scope 1 and 2 Emissions: commits to reducing its direct emissions (Scope 1) and indirect emissions from purchased electricity (Scope 2) by 50% by 2030 compared to a 2015 baseline.

Scope 3 Emissions: establishes a target to reduce its value chain emissions (Scope 3) by 20% by 2030 compared to a 2015 baseline. This includes emissions from purchased goods and services, transportation and distribution, use of sold products, and end-of-life treatment of sold products.

Example of Target Temperature Alignment (cont'd)

Pathways to Achieve Targets: develops comprehensive strategies and action plans to achieve its science-based targets. This may involve implementing energy efficiency measures, transitioning to renewable energy sources, optimizing transportation logistics, engaging suppliers to reduce emissions, and promoting circular economy practices.

Validation: To ensure the credibility and transparency of its targets, the company submits its science-based targets to the SBTi for validation. The SBTi evaluates the alignment of the targets with the latest climate science and provides an official validation if they meet the criteria.

By aligning its targets with the temperature goals of the Paris Agreement, the company demonstrates its commitment to addressing climate change in a manner that is consistent with global efforts. It signifies the organization's recognition of the urgency to reduce greenhouse gas emissions and transition to a low-carbon economy, contributing to the collective goal of limiting global warming and mitigating the impacts of climate change.

GHG Protocol Corporate Value Chain (Scope 3) Standard provides 15 categories for reporting Scope 3 emissions

1. Purchased goods and services: Emissions from the production and transportation of purchased goods and services used by the reporting company.

2. Capital goods: Emissions from the production and transportation of capital goods, such as buildings and equipment, used by the reporting company.

3. Fuel- and energy-related activities not included in Scope 1 or Scope 2: Emissions from activities such as extraction, production, and transportation of purchased or acquired fuels and energy

4. Upstream transportation and distribution: Emissions from the transportation and distribution of products or materials upstream in the value chain, such as from suppliers to the reporting company.

5. Waste generated in operations: Emissions from waste generated by the reporting company's operations, including both hazardous and non-hazardous waste.

GHG Protocol Corporate Value Chain (Scope 3) Standard provides 15 categories for reporting Scope 3 emissions (Con't)

6. Business travel: Emissions from employee travel for business purposes, including air travel, rail travel, car rentals, and other modes of transportation.

7. Employee commuting: Emissions from employee travel to and from the reporting company's facilities, such as commuting by car, public transportation, or other means.

8. Upstream leased assets: Emissions from the production, transportation, and disposal of assets leased or rented by the reporting company, such as leased vehicles or machinery.

9. Downstream transportation and distribution: Emissions from the transportation and distribution of products or materials downstream in the value chain, such as from the reporting company to customers.

10. Processing of sold products: Emissions from activities involved in the processing, use, or treatment of products sold by the reporting company

GHG Protocol Corporate Value Chain (Scope 3) Standard provides 15 categories for reporting Scope 3 emissions (Con't)

11. Use of sold products: Emissions resulting from the use of products sold by the reporting company, including energy consumption and other activities associated with product use.

12. End-of-life treatment of sold products: Emissions from activities involved in the disposal, recycling, or treatment of products at the end of their useful life.

13. Downstream leased assets: Emissions from the production, transportation, and disposal of assets leased or rented by the reporting company's customers or end-users.

14. Franchises: Emissions from activities of franchisees or other entities that use the reporting company's brand or trademark.

15. Investments: Emissions from the activities and operations of companies in which the reporting company has made investments, such as equity investments or loans

Illustration of Mitigation Pathway to achieve net-zero emission target

Sector	Current Emission (% of total emissions attributed to each sector within the company)	Short-term Mitigation Measures	Long-term Mitigation Measures
Energy	60%	Purchase renewable energy certificates	Install on-site renewable energy generation
Operation	30%	Improve energy efficiency in facilities	Transition to green building standards
Supply Chain	40%	Engage suppliers on emissions reduction	Implement sustainable sourcing and circular economy practices
Transportation	20%	Promote telecommuting and video conferencing	Transition to electric or hybrid vehicle fleet
Waste Management	10%	Implement waste reduction and recycling	Adopt waste-to-energy or waste-to-value solutions

Illustration of Mitigation Pathway to achieve net-zero emission target (Con't)

- In this illustration, it outlines both short-term and long-term mitigation measures that a company can undertake to achieve a net-zero emissions target. The short-term measures focus on immediate actions that can be taken to reduce emissions, while the long-term measures involve more transformative changes that may require investments and longer implementation timelines.

- It's important for companies to conduct a comprehensive emissions assessment and develop a tailored mitigation strategy based on their specific operations and industry. The actual pathway to net-zero will depend on various factors, including the company's emissions profile, available technologies, industry best practices, and stakeholder engagement. Regular monitoring and reporting of emissions reductions progress will also be essential to track the company's pathway to net-zero.

Target Dashboard

https://sciencebasedtargets.org/target-dashboard

A centralized platform to monitor, report, and communicate an organization's progress towards its science-based targets. It provides a comprehensive view of emissions data, target progress, and the strategies being implemented to address climate change, helping organizations demonstrate their commitment to sustainability and environmental stewardship. The dashboard includes several key components:

Target Summary: a snapshot of the organization's overall target and its alignment with the goals of the Paris Agreement. It includes information such as the target's baseline year, target year, and the percentage reduction in emissions required to meet the target.

Target Progress: tracks the organization's progress towards its science-based targets over time. It typically includes graphical representations of emissions reductions, showing actual emissions compared to the required trajectory to meet the target.

Emission Data: presents detailed information on the organization's GHG emissions. It includes data on Scope 1 (direct emissions from owned or controlled sources), Scope 2 (indirect emissions from purchased electricity, heat, or steam), and Scope 3 (indirect emissions from sources not owned or controlled by the organization). It may also include additional information on emissions intensity, emissions by location, or emissions by activity.

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Target Dashboard (cont'd)

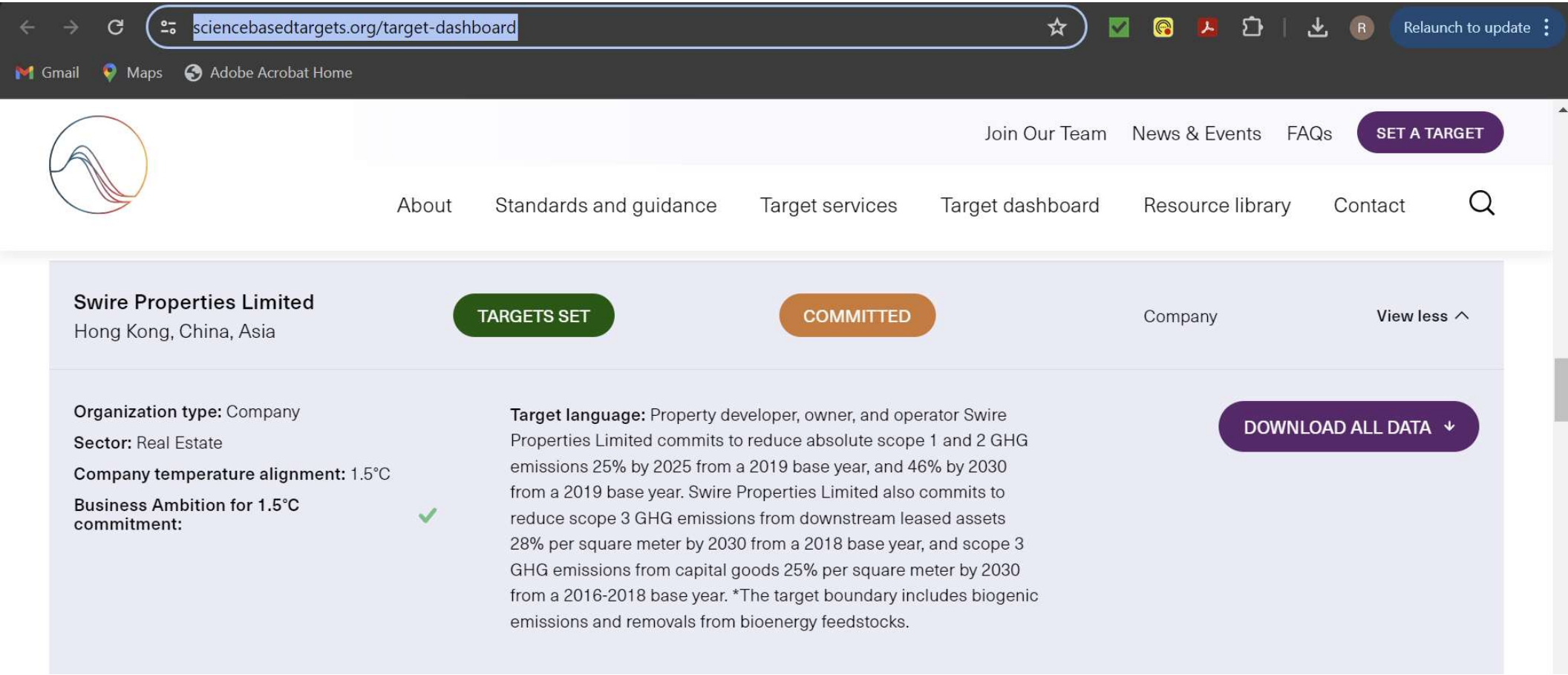
https://sciencebasedtargets.org/target-dashboard

Target Validation: provides information on the approval and validation of the organization's science-based targets by the SBTi. It may include details on the target submission process, any required revisions, and the final validation status.

Mitigation Actions: outlines the specific actions and strategies that the organization is implementing to achieve its science-based targets. It may include initiatives such as energy efficiency improvements, renewable energy adoption, supply chain emissions reduction, or other measures aimed at reducing emissions.

Performance Indicators: KPIs or metrics that help track the organization's progress. These indicators can vary depending on the sector and the specific targets set by the organization but commonly include metrics such as energy consumption, carbon intensity, or emissions intensity per unit of production.

Reporting and Transparency: highlights the organization's commitment to transparency and provides information on the reporting standards followed, such as the Global Reporting Initiative (GRI) or the Carbon Disclosure Project (CDP). It may also include references to other sustainability reports or disclosures.



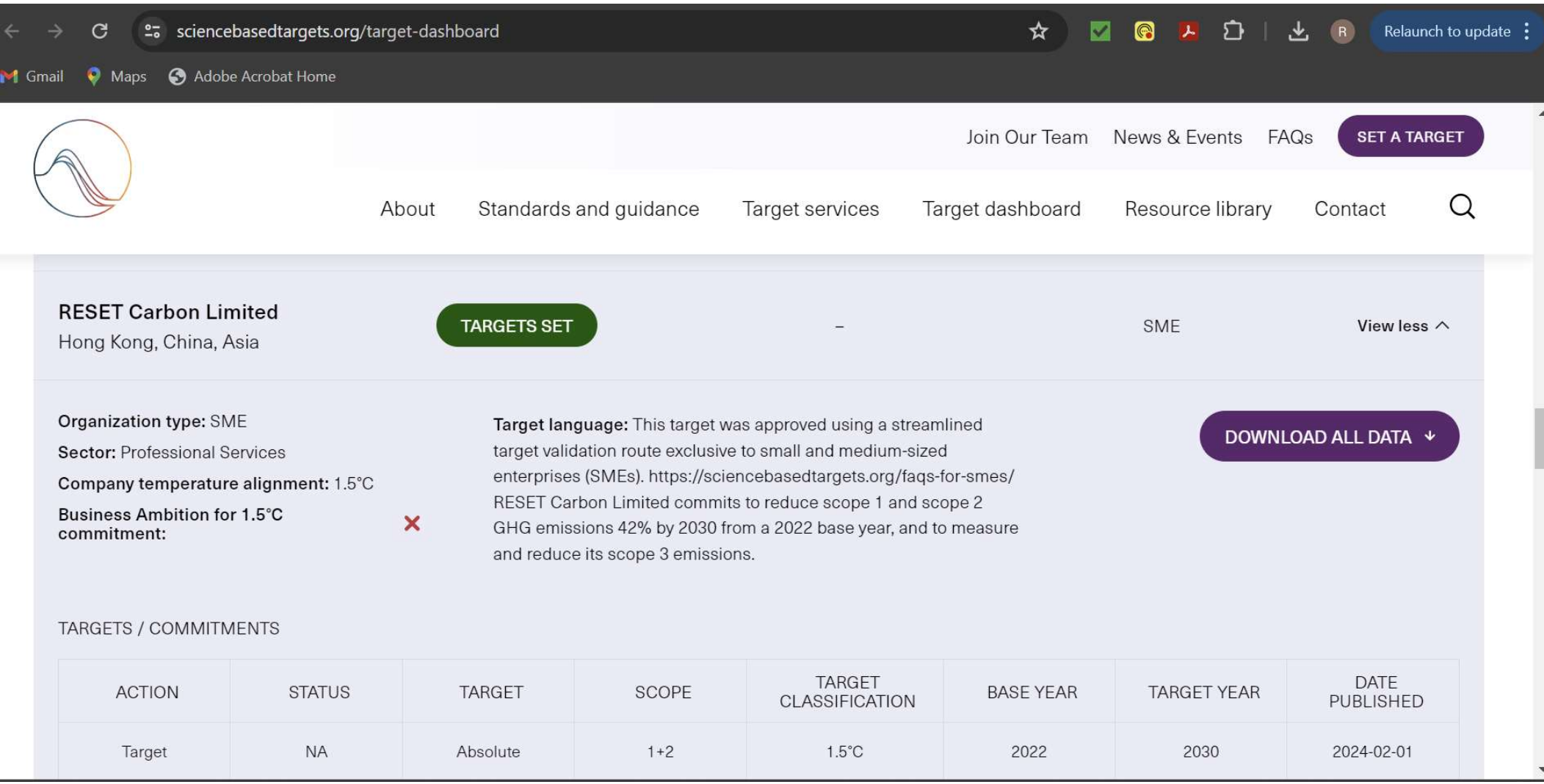
As at 30th May 2024, 82 companies in Hong Kong joined SBTi of which 51 companies with approved targets.

Source: Science-Based Target Initiatives website at https://sciencebasedtargets.org/target-dashboard

TARGETS / COMMITMENTS

ACTION	STATUS	TARGET	SCOPE	TARGET CLASSIFICATION	BASE YEAR	TARGET YEAR	DATE PUBLISHED
Target	NA	Intensity	3	NA	2018	2030	2021-10-04
Target	NA	Intensity	3	NA	2018	2030	2021-10-04
Target	NA	Absolute	1+2	1.5°C	2019	2030	2021-10-04
Target	NA	Absolute	1+2	1.5°C	2019	2025	2021-10-04
Commitment	Active	NA	NA	NA	NA	NA	2021-01-01

Source: Science-Based Target Initiatives website at https://sciencebasedtargets.org/target-dashboard



Source: Science-Based Target Initiatives website at https://sciencebasedtargets.org/target-dashboard

Illustrative disclosure 8a: GHG emission target

Target information

Target set	Reduce net Scope 1 and Scope 2 GHG emissions to zero by 2050, with an interim target to cut emissions by 70% relative to a 2020 baseline by 2035. C2 37(a)
Target type (Absolute/ intensity)	Absolute C2 37(g)
Objective of target	To align with Science Based Targets initiative ("SBTi") and reduce GHG emissions of own operations to reach net zero. C2 37(b) The target aligns with the Paris Agreement's goal in limiting warming to 1.5°C above pre-industrial levels, C2 37(h) and was validated by SBTi in 2021. C2 38(a)
Monitoring progress	Our Climate Committee reviews the target and our performance on Scope 1 and 2 GHG emissions on an annual basis C2 38(c) and assesses whether any revision is required. C2 38(b)
Scope of target	Covers our real estate operations and headquarters operation, representing 90% of our total revenue. C2 37(c)

Target set

	Scope 1 & 2 GHG emissions (tCO_2e)	Reduction from base period(%)
Gross emissions - Base period (2020) C2 37(e)	7,500	-
Gross emission interim target (2035) C2 37(f)	2,250	▼ 70%
Gross emission target - Target period (2050) C2 37(d)	1,000	▼ 87%

Progress to date

C2 39

	Scope 1 & 2 GHG emissions (tCO_2e)	Reduction from base period (%)
2021	7,300	▼ 2.6%
2022	6,800	▼ 9.3%
Current period (2023)	6,000	▼ 20%

During the reporting period, our chillers and some office equipment were replaced with more energy-efficient models, resulting in a gradual reduction in our GHG emissions.

Source of GHG emissions disclosure example: Illustrative disclosure example 6.3 for a real estate company in "Implementation Guidance for Climate Disclosures under HKEX ESG Reporting Framework" published by HKEx in April 2024 (Page 116 to Page 117).

Commentaries

C2 37(a)	Highlighted the specific target set by issuer for addressing climate-related risks and opportunities.
C2 37(b)	Indicated the objective of the target is to align with Science Based Targets initiative ("SBTi").
C2 37(c)	Disclosed that the scope of the target covers the company's real estate operations including its headquarters.
C2 37(d)	Indicated that the target will be applicable from the base period of 2020 to target period of 2050.
C2 37(e)	Indicated that base period from which progress is measured is in 2020.
C2 37(f)	Indicated that interim target of 2035 is set to monitor the progress of target.
C2 37(g)	Indicated that target set is an absolute target.
C2 37(h)	Indicated that target is aligned with the Paris Agreement as the latest international agreement on climate change to limit warming to 1.5°C above pre-industrial levels.
C2 38(a)	Indicated the target is validated by SBTi.
C2 38(b)	Indicated that the issuer's Climate Committee is responsible in reviewing the target and monitors the Scope 1 and 2 GHG emissions on an annual basis to determine the need to revise the target.
C2 38(c)	
C2 38(d)	No revisions to the target at the moment and no disclosures made.
C2 39	Disclosed the progress made in the reporting period and the reduction compared to the base period, as well as historical information to enable assessment of progress in addressing climate-related issues.

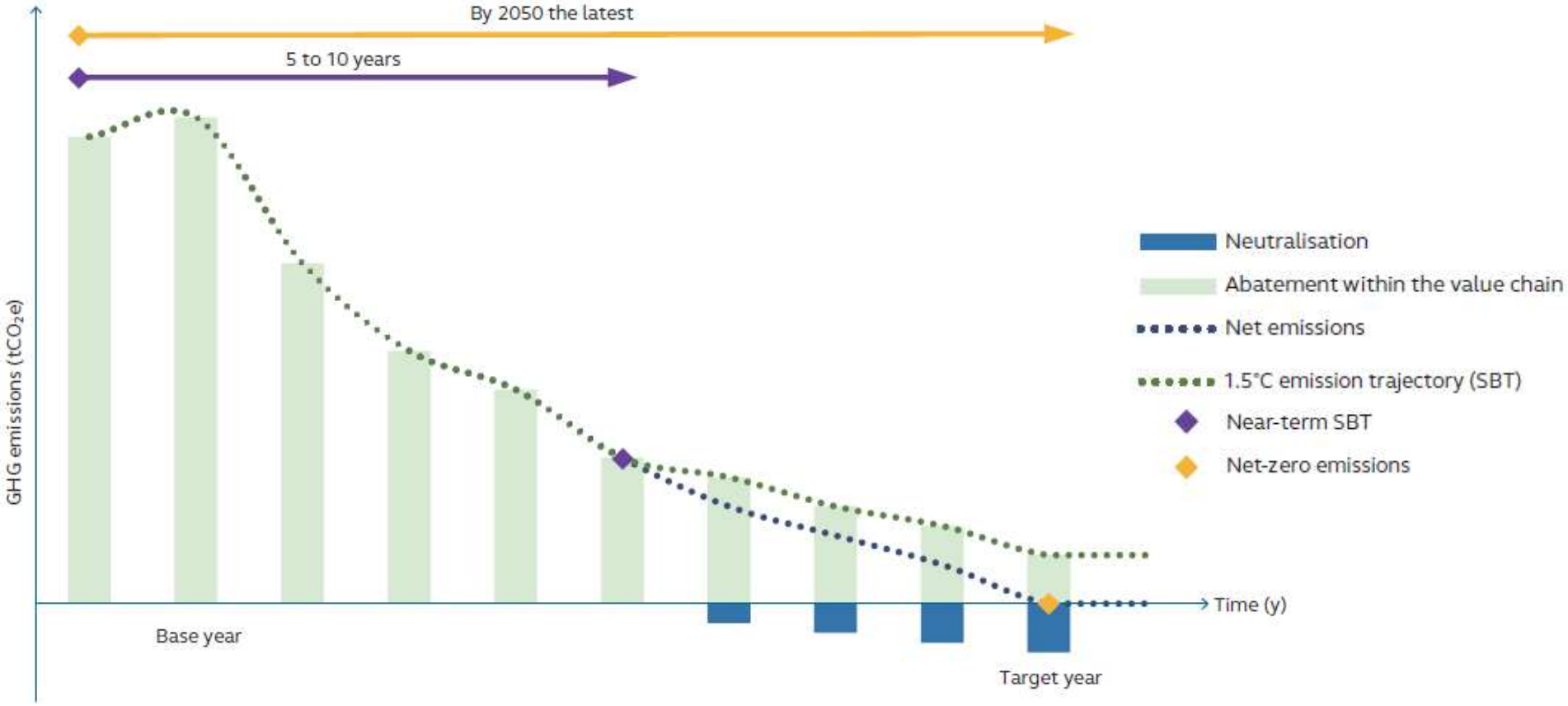
5. Hong Kong Exchange Net Zero Strategies

Hong Kong Exchange Net Zero Strategies

- **Strategy 1:** Deep Green Strategy (SBT + Neutralization)
- **Strategy 2:** Light Green Strategy (SMART + BVCM)
- **Strategy 3:** Positive Green Strategy (SBT + Neutralization + BVCM)

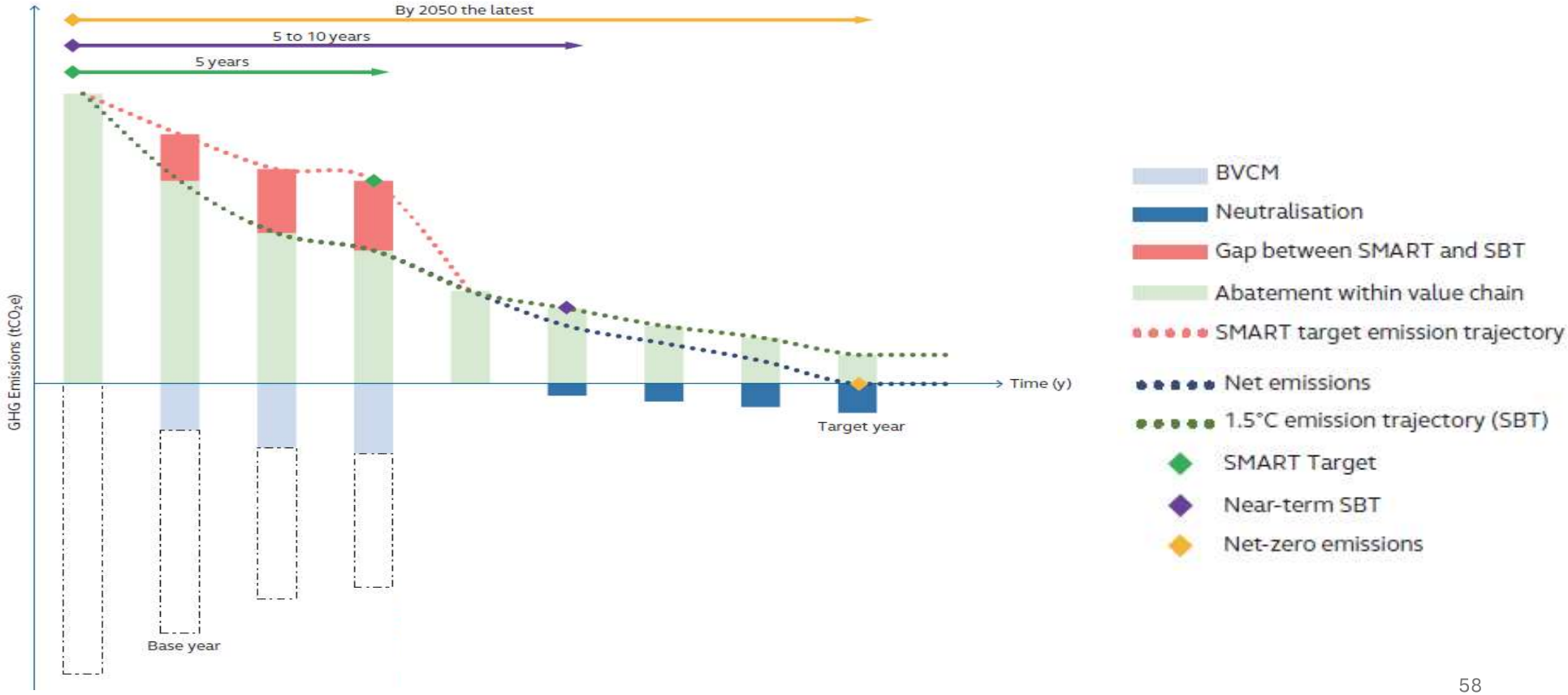
Courtesy of Hong Kong Exchange's Advancing Corporate Climate Action: Practical Net-Zero Guide for Business, December 2021

Strategy 1: Deep Green Strategy (SBT + Neutralization)



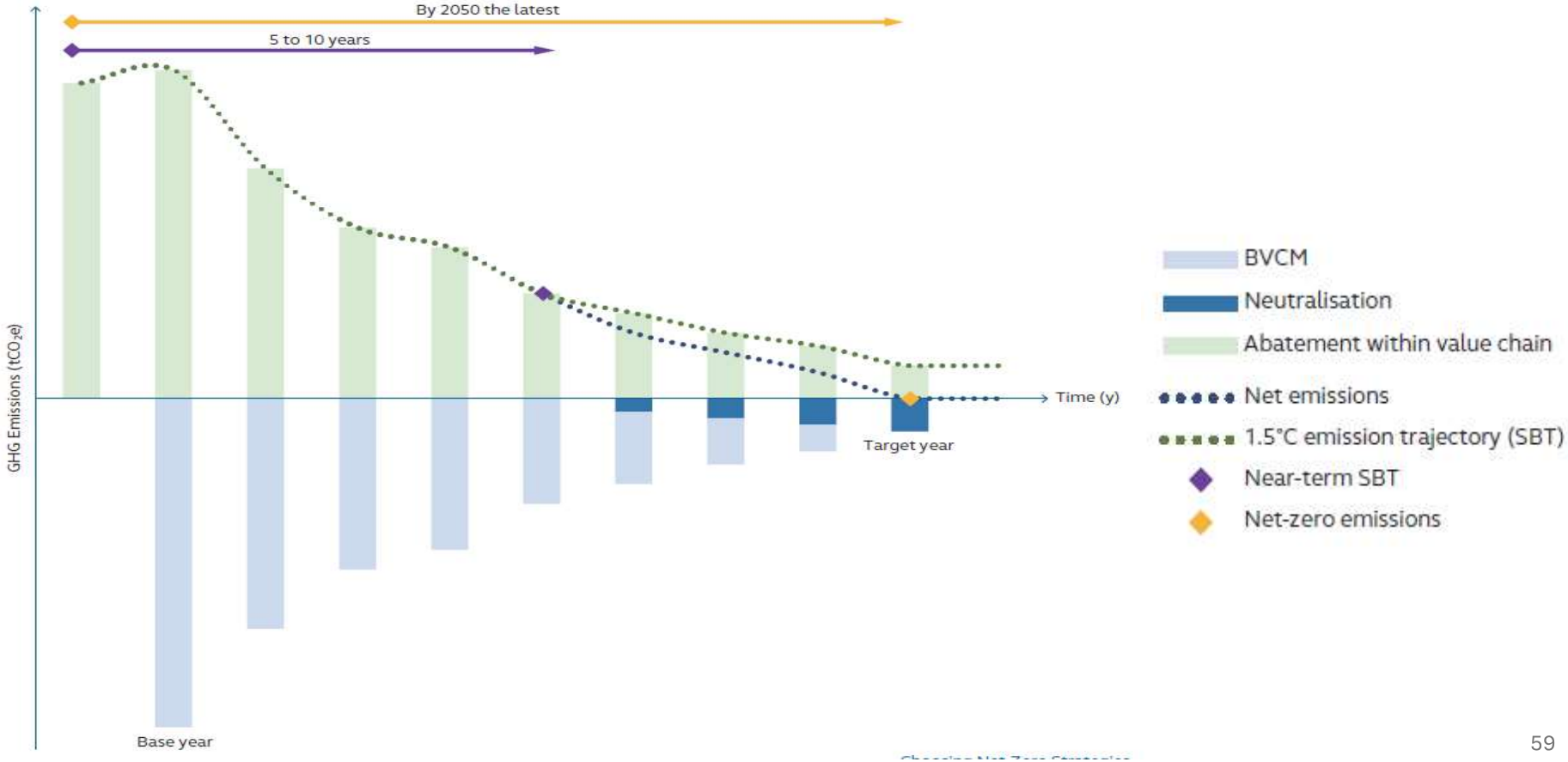
Courtesy of Hong Kong Exchange's Advancing Corporate Climate Action: Practical Net-Zero Guide for Business, December 2021

Strategy 2: Light Green Strategy (SMART + BVCM)



Courtesy of Hong Kong Exchange's Advancing Corporate Climate Action: Practical Net-Zero Guide for Business, December 2021

Strategy 3: Positive Green Strategy (SBT + Neutralization + BVCM)



Courtesy of Hong Kong Exchange's Advancing Corporate Climate Action: Practical Net-Zero Guide for Business, December 2021

6. Internal Carbon Pricing

Reference: "Implementation Guidance for Climate Disclosures under HKEX ESG Reporting Framework" published by HKEx in April 2024 (Page 102 to Page 107)

Internal carbon prices

Paragraph 34 S2 29(f)

An issuer shall disclose:

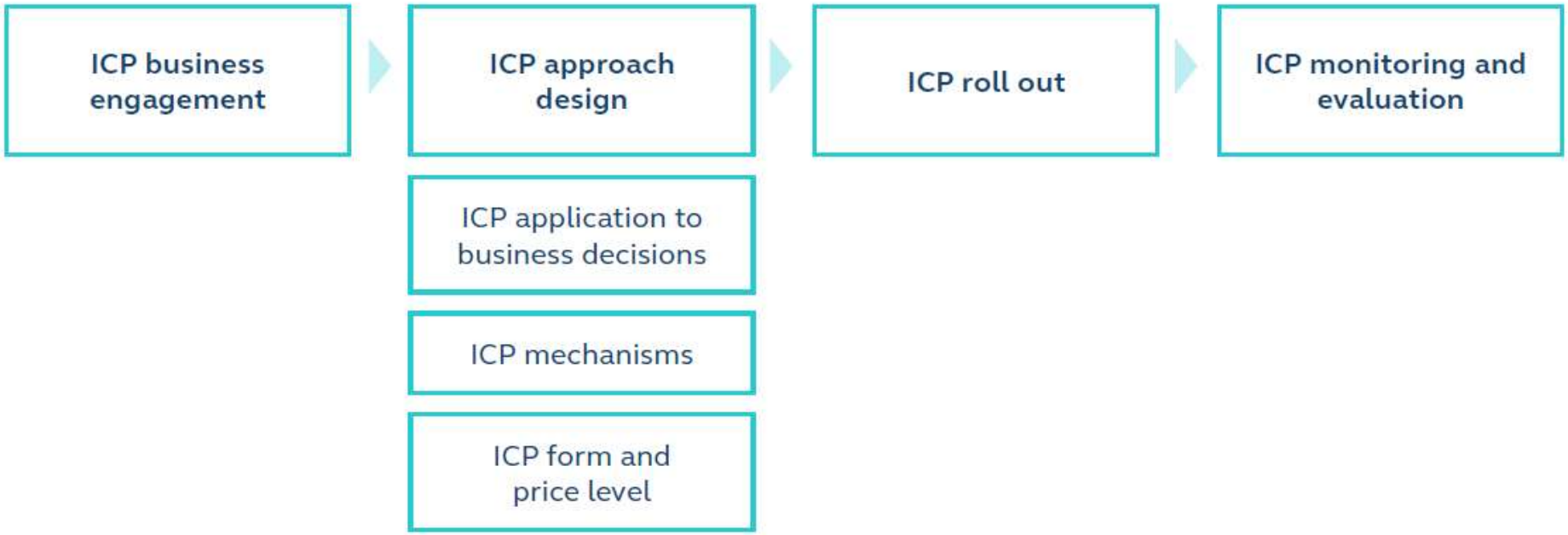
(a) an explanation of whether and how the issuer is applying a carbon price in decision-making (for example, investment decisions, transfer pricing, and scenario analysis); and

(b) the price of each metric tonne of greenhouse gas emissions the issuer uses to assess the costs of its greenhouse gas emissions;

or an appropriate negative statement that the issuer does not apply a carbon price in decision-making.

Source: "Implementation Guidance for Climate Disclosures under HKEX ESG Reporting Framework" published by HKEx in April 2024 (Page 102)

Workflow for Developing an Internal Carbon Pricing (ICP)



ICP business engagement

- Crucial to get early support and buy-in from relevant business units, the board and management
- Can consider to set up Committee or Working Group to monitor the development of an ICP
- Representatives with different competencies from departments such as Sustainability and Finance departments

ICP approach design

- ICP application to decision making (gathering information on the following):
  - GHG profile
  - Drivers and actors responsible for GHG emissions
  - Types of business decisions that influence GHG emissions profile and relevant decision-makers
  - Existing initiatives and approaches influencing value chain GHG emissions

Practical application 17: Common types of decision-making induced by ICP[75]

Decision-making	Example approach
Capital expenditure decisions	• Use of ICP in return-on-investment calculations to evaluate investment projects on the risks of climate-related regulatory costs • Use of ICP in investment decisions on production sites to M&A decisions to determine the potential climate-related liabilities or assets of the target company
Procurement decisions	• Apply ICP to carbon footprint of purchased goods and services to push suppliers towards more low-carbon operations • Shift procurement towards low-carbon suppliers
R&D decisions	• Use of ICP to evaluate R&D proposals on the risks of climate-related regulatory costs, cost savings, and potential and commercial viability in a low-carbon future • A shadow price on the expected carbon footprint of new products and services to drive R&D decisions or allocate R&D budgets towards low-carbon innovation
Operational decisions	• Use of ICP to reveal hidden climate-related costs and opportunities by applying a shadow price to the carbon footprint of their assets
Business units	• Use of transfer pricing to charge internal departments or business units for their carbon footprint with an actual fee, directly affecting their profit and loss accounts

ICP approach design (Cont'd)

- ICP mechanism

Type of ICP mechanism	Description	Objectives and usage
Shadow price	Hypothetical cost of carbon emissions	• The most common form of ICP • Helps an issuer understand the impacts of climate-related risks such as technological shifts or future regulations • Helps an issuer with risk management as well as internal strategic planning • Allows issuers to model or test how a range of carbon prices affect their divisions, capital investments and other planned projects
Carbon fee	A per-unit fee based on the amount of GHG the company emits	• Helps create an actual pool of funds, generating a revenue stream to help pave the way for greener projects and further R&D • Prepares an issuer for a carbon-resilient world • Encourages a business to transform into an environmental leader • Allows for the creation of internal funds to invest into energy efficiency or renewable energy projects in order to cut energy costs • Builds awareness of the importance of emission reductions within different business units
Implicit price	Helps quantify the capital investments required to meet climate-related targets	• Helps issuers understand their initial carbon footprint • Used as a benchmark to implement a more strategic internal price
Internal trading	Allows business units of an issuer to trade their allocated carbon credits based on respective emissions	• Helps create awareness • Allows issuers to prepare for more stringent measures such as shadow prices or carbon fees

ICP approach design (Cont'd)

- ICP form and price level

Practical application 18:
Common sources for setting the price level of ICP[77]

Sources	Examples
Based on external sources	• Prices from compliance or voluntary carbon trading markets • Price projections from climate-related regulation (e.g. the expected future emissions trading system or carbon tax price and/ or implicit carbon price) or the social cost of carbon
Based on a benchmark against peers	• Prices set by peers within the issuer's own sector/ industry associations
Based on internal consultation	• Internally set price to drive a change to business strategy or decisions after consultation with key stakeholders
Based on technical analysis	• Internal technical analysis to calculate the price by reference to a detailed assessment of the future costs associated with potential measures required in order to reduce the issuer's carbon footprint to meet its set targets

ICP roll out

- Simulation within the company
- Application to specific department / business unit
- Application to specific decisions

ICP monitoring and evaluation

- After the trial, can consider rolling out on a larger scale:
  - Guidelines / Directives on the use of ICP
  - Training sessions
  - Use of KPIs
  - Feedback mechanism
- Regular monitoring and evaluation of the ICP for re-adjustment, if needed

7. Examples

(a) Scope 3 Emissions Quantification

GREENHOUSE GAS PROTOCOL

Technical Guidance for Calculating Scope 3 Emissions (version 1.0)

Supplement to the Corporate Value Chain (Scope 3) Accounting & Reporting Standard

WORLD RESOURCES INSTITUTE

wbcsd

Appendix D: Calculation formula summary tables

GHG Protocol Corporate Value Chain (Scope 3) Standard provides 15 categories for reporting Scope 3 emissions

1. Purchased goods and services: Emissions from the production and transportation of purchased goods and services used by the reporting company.

2. Capital goods: Emissions from the production and transportation of capital goods, such as buildings and equipment, used by the reporting company.

3. Fuel- and energy-related activities not included in Scope 1 or Scope 2: Emissions from activities such as extraction, production, and transportation of purchased or acquired fuels and energy

4. Upstream transportation and distribution: Emissions from the transportation and distribution of products or materials upstream in the value chain, such as from suppliers to the reporting company.

5. Waste generated in operations: Emissions from waste generated by the reporting company's operations, including both hazardous and non-hazardous waste.

GHG Protocol Corporate Value Chain (Scope 3) Standard provides 15 categories for reporting Scope 3 emissions (Con’t)

6. Business travel: Emissions from employee travel for business purposes, including air travel, rail travel, car rentals, and other modes of transportation.

7. Employee commuting: Emissions from employee travel to and from the reporting company's facilities, such as commuting by car, public transportation, or other means.

8. Upstream leased assets: Emissions from the production, transportation, and disposal of assets leased or rented by the reporting company, such as leased vehicles or machinery.

9. Downstream transportation and distribution: Emissions from the transportation and distribution of products or materials downstream in the value chain, such as from the reporting company to customers.

10. Processing of sold products: Emissions from activities involved in the processing, use, or treatment of products sold by the reporting company

GHG Protocol Corporate Value Chain (Scope 3) Standard provides 15 categories for reporting Scope 3 emissions (Con’t)

11. Use of sold products: Emissions resulting from the use of products sold by the reporting company, including energy consumption and other activities associated with product use.

12. End-of-life treatment of sold products: Emissions from activities involved in the disposal, recycling, or treatment of products at the end of their useful life.

13. Downstream leased assets: Emissions from the production, transportation, and disposal of assets leased or rented by the reporting company's customers or end-users.

14. Franchises: Emissions from activities of franchisees or other entities that use the reporting company's brand or trademark.

15. Investments: Emissions from the activities and operations of companies in which the reporting company has made investments, such as equity investments or loans

Appendix D: Calculation formula summary tables

Summary of calculation methods for category 1 (Purchased goods and services)

Method	Calculation Formula	Activity Data Needed	Emission Factor Needed
Supplier-specific method	**sum across purchased goods and services:** Σ (quantities of good purchased (e.g., kg) × supplier-specific product emission factor of purchased good or service (e.g., kg CO_2e/kg))	• Quantities or units of goods or services purchased	• Supplier-specific emission factors for the purchased goods or services (e.g., if the supplier has conducted a reliable cradle-to-gate GHG inventory, product footprint or internal LCA report)

Source: https://ghgprotocol.org/sites/default/files/standards/Scope3_Calculation_Guidance_0.pdf

Source: SBTi Corporate Net-Zero Standard, Version 1.2, March 2024

Scope 3 Online Tools (Curtesy of ESG Matters Limited)

- Commercially available ESG online reporting tools
- It covers GHG scope 1, 2 and 3 modules for easy calculation of these emissions
- https://trial.bondgreen.com/demo1/User/Login

UNFCCC GHG Emissions Calculator

- Prepared by UNFCCC with 2021 Emission factors included
- Excel file for free download at https://unfccc.int/documents/271269

(b) SBTi Target Setting

6.3 Advanced – Real estate company

- Quantifies absolute gross GHG emissions for all Scope 3 categories

Data table

C2 28(a)-(c) C2 29(b)

Scope	Source	Unit	2023	2022	2021
Scope 1	GHG Protocol Emission Factors from Cross-Sector Tools	$MtCO_2e$	15,375	10,294	11,396
Scope 2 (Location-based) C2 29(c)	CLP Power Hong Kong Limited and Hongkong Electric Sustainability Reports	$MtCO_2e$	38,734	39,081	38,903
Scope 3	See Scope 3 reporting boundary	$MtCO_2e$	256,153	257,496	259,210

Our approach

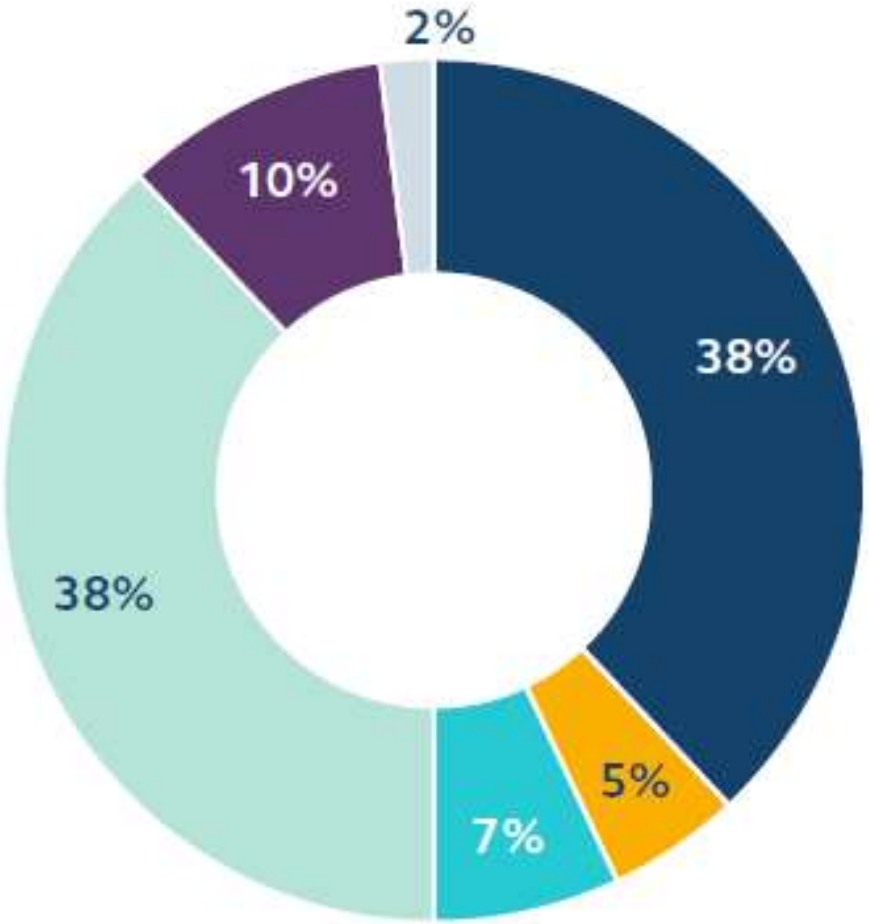
Our approach	
Standard used C2 29(a)	GHG Protocol Corporate and Reporting Standard (2004) GHG Protocol Value Chain (Scope 3) Accounting and Reporting Standard (2011)
Measurement approach C2 29(b)	Operational control due to the ability to take full ownership of all GHG emissions we can directly influence and reduce
Operational boundary	• 80 assets that are owned and managed in Hong Kong • Including Headquarter and operating offices

Source of GHG emissions disclosure example: Illustrative disclosure example 6.3 for a real estate company in "Implementation Guidance for Climate Disclosures under HKEX ESG Reporting Framework" published by HKEx in April 2024 (Page 97 to Page 99).

Scope 3 reporting boundary C2 29(b) C2 29(d)

Scope 3 category	Source of emission factor	Basis for selection
1 Purchased goods & services	Data collected directly from suppliers	Extraction, production and transportation of goods and services purchased as well as purchase of materials with recycled content
2 Capital goods	No local source available, proxy for factor referred to UKGOV: Conversion factors ($KgCO_2$ per £ spent, by SIC code 2020)	Emissions associated with the production and use of fixtures, vehicles and equipment used in the construction and operations of properties
5 Waste generated in operations	No local source available, proxy for factor referred to UK Defra: Government Conversion Factors for Company Reporting of Greenhouse Gas Emissions	Waste generated through construction and maintenance of properties
13 Downstream leased assets	Data collected directly from tenants and applying the same emission factor for Scope 1 and 2 emissions	Operations (e.g. electricity usage) of owned assets leased out to tenants
15 Investments	Emission data from investees	Equity investments made using the company's own capital and balance sheet
Others 3 Fuel- and energy-related activities 6 Business travel 7 Employee commuting	IEA Emissions Factors No local source available, proxy for factor referred to UK Defra: Government Conversion Factors for Company Reporting of Greenhouse Gas Emissions	Extraction, production and transportation of fuels and energy purchased not accounted for in Scope 1 and 2 Emissions associated with our employees business air travel as well as the transportation between homes and offices

Scope 3 GHG emissions breakdown (2023)



- Category 1: Purchased goods & services
- Category 2: Capital goods
- Category 5: Waste generated in operations
- Category 13: Downstream leased assets
- Category 15: Investments
- Others (Categories 3, 6, 7)

Commentaries

C2 28(a)-(c)	Disclosed absolute Scopes 1, 2 and 3 GHG emissions generated during the reporting period.
C2 29(a)	Disclosed the use of GHG Protocol to measure GHG emissions.
C2 29(b)	Disclosed the use of operational control as the measurement approach to measure GHG emissions due to its ability to directly influence and reduce GHG emissions. In addition, information related to the emission factor sources and basis for selection are included to provide transparency in the approach the issuer uses.
C2 29(c)	Disclosed Scope 2 GHG emissions with the use of location-based method.
C2 29(d)	Provided a breakdown of the Scope 3 GHG emissions in scope under Scope 3 categories in the GHG Protocol.

Further guidance on GHG emissions measurement

IFRS (2023) IFRS S2 Accompanying Guidance on Climate-related Disclosures

HKEX (2022) How to prepare an ESG Report Appendix 2: Reporting Guidance on Environmental KPIs

Partnership for Carbon Accounting Financials (2022) The Global GHG Accounting & Reporting Standard Part A – Financed Emissions

GHG Protocol provides both Standard and Supplemental Guidance that are helpful for issuers to measure their GHG emissions. Issuers can refer to Appendix 5 > Useful standards and guidance from the GHG Protocol for a description of each document.

Exercise:

- Please propose Short-term and Long-term targets covering scope 1, 2 and 3 for the company

For reference only

Illustrative disclosure 8a: GHG emission target

Target information

Target set	Reduce net Scope 1 and Scope 2 GHG emissions to zero by 2050, with an interim target to cut emissions by 70% relative to a 2020 baseline by 2035. C2 37(a)
Target type (Absolute/ intensity)	Absolute C2 37(g)
Objective of target	To align with Science Based Targets initiative ("SBTi") and reduce GHG emissions of own operations to reach net zero. C2 37(b) The target aligns with the Paris Agreement's goal in limiting warming to 1.5°C above pre-industrial levels, C2 37(h) and was validated by SBTi in 2021. C2 38(a)
Monitoring progress	Our Climate Committee reviews the target and our performance on Scope 1 and 2 GHG emissions on an annual basis C2 38(c) and assesses whether any revision is required. C2 38(b)
Scope of target	Covers our real estate operations and headquarters operation, representing 90% of our total revenue. C2 37(c)

Target set

	Scope 1 & 2 GHG emissions (tCO_2e)	Reduction from base period(%)
Gross emissions - Base period (2020) C2 37(e)	7,500	-
Gross emission interim target (2035) C2 37(f)	2,250	▼ 70%
Gross emission target - Target period (2050) C2 37(d)	1,000	▼ 87%

Progress to date

C2 39

	Scope 1 & 2 GHG emissions (tCO_2e)	Reduction from base period (%)
2021	7,300	▼ 2.6%
2022	6,800	▼ 9.3%
Current period (2023)	6,000	▼ 20%

During the reporting period, our chillers and some office equipment were replaced with more energy-efficient models, resulting in a gradual reduction in our GHG emissions.

Source of GHG emissions disclosure example: Illustrative disclosure example 6.3 for a real estate company in "Implementation Guidance for Climate Disclosures under HKEX ESG Reporting Framework" published by HKEx in April 2024 (Page 116 to Page 117).

Q & A