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STARHUB

StarHub Ltd
Climate Transition Plan
Sept 2024



STARHUB

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Foreword

About this Report

StarHub's 2024 Climate Transition Plan documents our journey towards a sustainable and climate resilient future.

StarHub is committed to creating a better world enabled by more sustainable digital solutions, while managing and minimising our environmental and carbon footprint. Our goal of achieving net-zero by 2050 signifies our commitment to eliminate greenhouse gas (GHG) emissions from our operations and value chains. The consequences of inaction can and will impact both our company as well as our stakeholders.

In developing our Climate Transition Plan, we have outlined a comprehensive roadmap towards decarbonisation, including our climate ambition, our Board and senior leadership's oversight of the transition plan, climate-related risks and opportunities, decarbonisation strategies, key stakeholder engagements, and the annual progress made against the near-term targets set.

Scope and Boundary

This report covers StarHub Ltd and our subsidiaries ("StarHub Group" or "the Group"). Operational control is used to set the basis for determining GHG emissions data consolidation boundaries across multiple entities.

Reporting Framework

This report is prepared with guidance from the *CDP Technical Note: Reporting on Climate Transition Plans*, first published in February 2022. StarHub will continue to participate in the annual CDP Climate Change Questionnaire and report with reference to the Taskforce on Climate-related Financial Disclosures (TCFD) recommendations, where monitoring of the climate-related disclosures has been transferred to the International Financial Reporting Standards (IFRS) Foundation since July 2023.

Feedback

We welcome feedback on our Climate Transition Plan and any aspect of our sustainability performance. Please address all comments to StarHub Group Sustainability at sustainability@starhub.com.



Climate ambition

Our transformative journey towards a sustainable and climate-resilient future

In 2024, we are proud to be named the **World's Most Sustainable Wireless Telecommunication Service Provider in the Corporate Knights Global 100 rankings**. We also maintained **"A-" Leadership Score for CDP Climate Change** for two consecutive years since FY2022. On the back of this recognition, we will double down on our decarbonisation efforts and support the global race to net-zero.

Our Climate Transition Plan represents a comprehensive and strategic approach to adapt and mitigate against climate change, focusing on one of four sustainability framework pillars: **Driving Sustainable Growth**. This pillar is part of StarHub's overall sustainability strategy and features three key environmental-related priority areas: **Climate Change and Energy, Circularity and Green Tech Solutions**.



For additional details regarding StarHub's Sustainability Framework pillars and material topics, please refer to [StarHub Sustainability Report 2023 \(SR2023\)](#), pg 74, 81.



Climate ambition

Aligned with our support for the Paris Agreement and the Singapore Green Plan 2030, StarHub Group is committed to further strengthen our climate ambition and decarbonisation strategies. In early 2023, we secured the Board’s approval to set near- and long-term and net-zero targets, and have since developed a comprehensive decarbonisation roadmap, including well-defined interim milestones. We are pleased to announce that **both our near- and long-term GHG emissions reduction as well as overall net-zero 2050 targets have been validated and approved by the Science Based Targets initiative (SBTi) on 2 November 2023.**

We recognise the rapid evolving nature of the climate crisis and understand the importance of regular reassessment and refinement. As such, the Group will review these targets every five years to ensure our targets remain relevant and aligned with the latest climate science findings and global efforts in response to climate change.

FY2023 GHG emissions & energy reduction performance

- + Achieved **16.3% reduction** in Scope 1 and 2 absolute emissions from baseline year 2021
- Increased Scope 3 absolute emissions by 28.4% compared to baseline year 2021
- + Achieved interim target of **14.0% energy use** generated from renewable sources
- + **Completed the Green Mark gap analysis** for our data centres, including putting in place action plans to meet the certification requirements for RCG
- + Achieved **carbon neutrality** for our corporate office and four main retail shops

Key climate-related targets for FY2024 and beyond

Reach net-zero by 2050 across the value chain

Reduce 50% Scope 1 and 2 absolute emissions by 2030

Reduce 25% Scope 3 emissions^{1/} by 2030

Increase energy use from renewable sources to 30% by 2030

Achieve Green Mark certification for our data centres:
RCG by 2024, NC CO1 by 2025 and SH CO2 by 2026

Maintain carbon neutrality for our corporate office and four main retail shops

^{1/}Only emissions from purchased goods and services, capital goods, fuel and energy-related activities, and downstream leased assets are included in scope



Governance

Board and Board Committees

The **Board** and the **Board Risk & Sustainability Committee (RSC)** are responsible for all sustainability and climate-related matters at StarHub. The Board provides oversight, with support primarily from the Board RSC, of the Group's sustainability vision, strategies, policies, initiatives and practices, in alignment with the Management's planning and execution.

The Board RSC reviews sustainability and climate-related issues such as our 2050 net-zero target setting, decarbonisation and performance tracking, sustainability reporting, among other strategic sustainability priorities.

Concurrently, the **Audit Committee (AC)**, the **Nominating and Governance Committee (NGC)** and the **Organisation Development and Compensation Committee (ODCC)** support in other focus areas such as internal controls and compliance, board effectiveness and corporate governance, as well as executive remuneration and the review of sustainability-linked performance respectively.

Our Sustainability Governance Structure

The Board

- Reviews and considers sustainability and climate-related issues as part of its strategic formulation, performance objective and target setting, and review of business plans including major capital expenditures. This includes consideration of StarHub's existing sustainability performance in managing its impact and exposure to ESG risks (such as climate risks and opportunities)
- Reviews and approves StarHub's material topics and sustainability report



Board RSC

- Comprises members of the Board and the Chief Executive who are tasked with specific oversight of sustainability and climate-related matters
- Keeps the Board informed on identification, assessment and monitoring of StarHub's impact on the environment, people and the economy, as well as climate-related risks and opportunities
- Reviews business practices and risk management processes (including for climate-related risks and opportunities) to ensure alignment and integration of our sustainability strategy



Management Risk Committee (MRC)

- Composition includes Senior Executives overseeing business units, chaired by the Chief Executive, with the sustainability agenda driven by the Head of Sustainability
- Assists the Board RSC in developing management policies, strategies and frameworks for monitoring and mitigating our impact and climate-related risks and opportunities
- Identifies new sustainability and carbon reduction initiatives and establishes priorities and targets for the short-, medium-, and long-term
- Reports performance against goals and targets to the Board RSC



Sustainability advocates

- Working-level committee responsible for developing, implementing, and coordinating programmes and initiatives with the support of cross-functional representatives



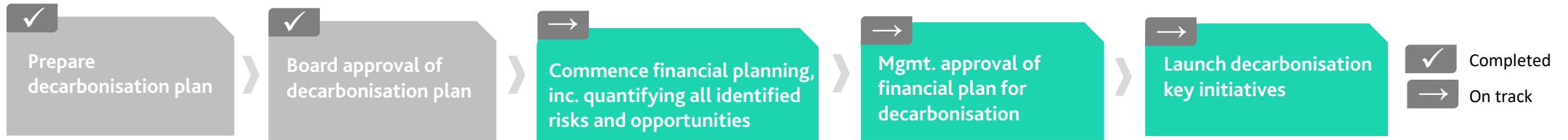
Governance

Board-level oversight of climate-related issues

The Board RSC reviews StarHub’s decarbonisation roadmap and our performance against the GHG emissions reduction targets via at least three scheduled meetings yearly, with additional ad-hoc meetings and periodic email updates, where appropriate.

One of StarHub’s top risks is not meeting our committed net-zero targets. As such, the performance against the 2030 and 2050 net-zero targets and corresponding mitigation measures for our GHG emissions reduction are closely monitored by the MRC, including regular progress updates made further to the Board RSC. With guidance from the Board RSC and the Chief Executive, the Head of Sustainability, supported by the Corporate Sustainability team, is primarily responsible for leading the emissions reduction initiatives. These initiatives span across all business units and are supported by the respective management teams, including updates provided to our Chief Financial Officer (CFO), Chief Technology Officer (CTO) and other Senior Executives taking place quarterly and as required.

StarHub’s governance process to achieve decarbonisation



StarHub’s decarbonisation plan will require continual monitoring, analyses and evaluation to ensure its adequacy and effectiveness to achieving our 2050 net-zero target. We are fully committed to achieve the milestones outlined in this plan. The next steps in our decarbonisation journey is quantifying all climate-related risks and opportunities and aligning our financial planning with the decarbonisation plan.



Governance

Board Diversity

We believe that gender is one of the many important aspects of diversity, in addition to other personal and professional attributes. The Group maintains a Board Diversity Policy that recognises the importance of having an effective and diverse Board and sets out the Group’s policy, framework and targets pertaining to all relevant aspects of diversity.

Our Board Diversity Policy:

- Addresses gender, skill and experience (local and international), age, ethnicity, geography, among other relevant aspects of diversity, recognizing that diversity is multi-dimensional in nature; and
- Includes a measurable target to be achieved within an appropriate timeline

Our process for new Board member appointment and re-election

In proposing candidates for appointment or re-election as Directors, the NGC considers several factors, including (i) Board composition, diversity and the need for progressive renewal, (ii) each candidate’s competencies, commitment, contribution and performance, including attendance, preparedness, participation and candor, and (iii) potential conflicts of interest.

This ensures that the Board composition reflects an appropriate mix of skills, experience, expertise, diversity and independence, which enables the Board to stay engaged and agile in meeting the needs of the Group. External consultants may be engaged to assist with the selection process, if necessary. All new appointments to the Board are also subject to the approval of StarHub’s industry regulator, the Infocomm Media Development Authority (IMDA) of Singapore.

Our Board gender diversity target

The Board believes that gender is an important aspect of diversity and targets to maintain at least 25% female representation on the Board over the next two to four years, recognising that the Board’s needs will change over time. Since FY2018, the Board has at least three female Directors. As of September 2024, there are four female Directors, which equates to **33.3% female representation, exceeding our target of 25%** (FY2023: 27.3%; FY2022: 25%).

Board of Directors (as of 18 September 2024)

Director	Independent status	Board Committee
Mr Olivier Lim	Independent NED	Chairperson, NGC Chairperson
Mr Nikhil Eapen	Executive Director	Chief Executive, RSC
Mrs Deborah Ong	Independent NED	AC Chairperson, RSC
Ms Nayantara Bali	Independent NED	RSC Chairperson, AC
Ms Michelle Guthrie	Independent NED	ODCC Chairperson
Ms Ng Shin Ein	Independent NED	AC
Mr Lionel Yeo	Independent NED	NGC, ODCC
Mr Han Kwee Juan	Independent NED	RSC
Mr Teo Ek Tor	Non-Independent NED	AC
Mr Paul Ma	Non-Independent NED	AC
Mr Stephen Miller	Non-Independent NED	NGC, ODCC
Mr Ahmad Al- Neama	Non-Independent NED	



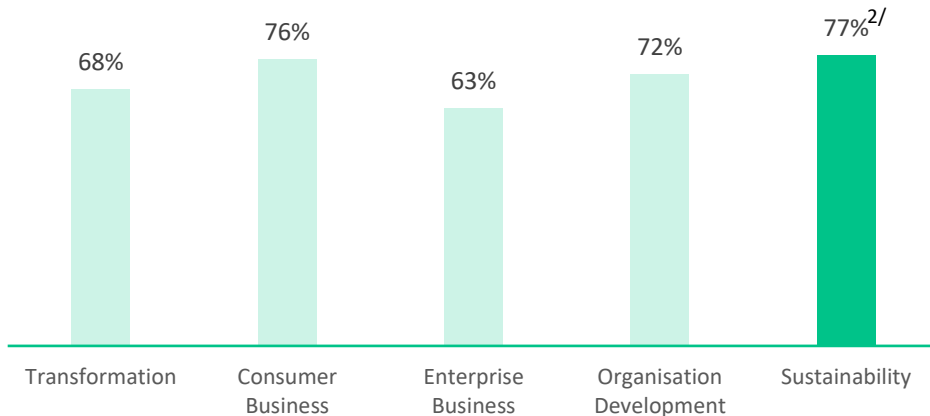
Governance

Diverse and continual professional development programme for the Board

The Board also recognises that **ongoing professional development is important for all Directors to serve effectively and contribute to support the long-term value creation for the Group**. Directors are encouraged to continually develop and refresh their professional knowledge and skills as well as to keep abreast of relevant developments in the business, and the regulatory and industry-specific environments where the Group operates in. To this end, internal briefings as well as external seminars are arranged for all Directors. In addition, the Company Secretariat and members of Management also provide regular updates to all Directors during Board meetings, as well as through emails and the Board Portal, regarding key industry trends, and of other material technology, legal, regulatory, accounting and sustainability developments that may affect the Group. These updates include those from the Management of our subsidiaries such as Ensign, Strateq Group and JOS Group.

In FY2023, Directors were offered a combination of: (i) sessions on topics of particular interest conducted by external parties, and (ii) opportunities for self-directed learning. These courses covered topics such as governance, cybersecurity and sustainability, among others. In addition, Directors may conduct independent and/ or collective discussions with the Management and subject matter experts on any areas of interest or concern, where appropriate.

Skills competency and experience across the Board



^{2/} Mr Naoki Wakai who served as NED since 2017 stepped down from the Board of Directors at the 25 Apr 2024 AGM.

The Board constantly seeks to identify areas of focus and maintain an optimal mix of diversity. In this regard, the NGC has developed a skills matrix as one criterion for Director appointments, which is reviewed by the Board annually. **The skills matrix evaluates the Board’s competency and experience collectively and across multi-disciplinary areas of expertise, such as corporate governance practice, sustainability and risk oversights, consumer and enterprise business, transformation and organisation development.**

For additional details regarding StarHub’s Board of Directors and Corporate Governance, please refer to [StarHub Annual Report 2023](#) (AR2023), pg 26-33, 75-76, 146-185.



Executive management incentives linked to sustainability performance

StarHub understands the importance of incentivising the Chief Executive and key Management staff to prioritise climate-related issues and strategies.

As such, the ODCC has approved two sustainability-linked key performance indicators (KPIs) to be included in the StarHub Performance Share Plan (PSP). The PSP serves as a long-term incentive to motivate key management staff to align their interest with StarHub's sustainability commitments and foster continual achievements. Pursuant to the PSP, contingent awards of StarHub shares will be granted annually, conditional on meeting targets set for a three-year performance period.

The two sustainability-linked KPIs, with equal weightage at 12.5% each, took effect from 1 January 2024 for all C-suite and key Management staff.

Our sustainability-linked KPIs

1. Reduce 50% Scope 1+2 (market-based) emissions from 2021 base year, by 2030
2. Increase energy use from renewable sources to 30%, by 2030

In addition to the above, short-term incentives including monetary rewards (e.g. bonus, promotion, salary increase) and non-monetary rewards (e.g. recognition) are granted to relevant employees for achieving climate-related targets in the area of facility management, process operation, training and sustainability-related disclosures.

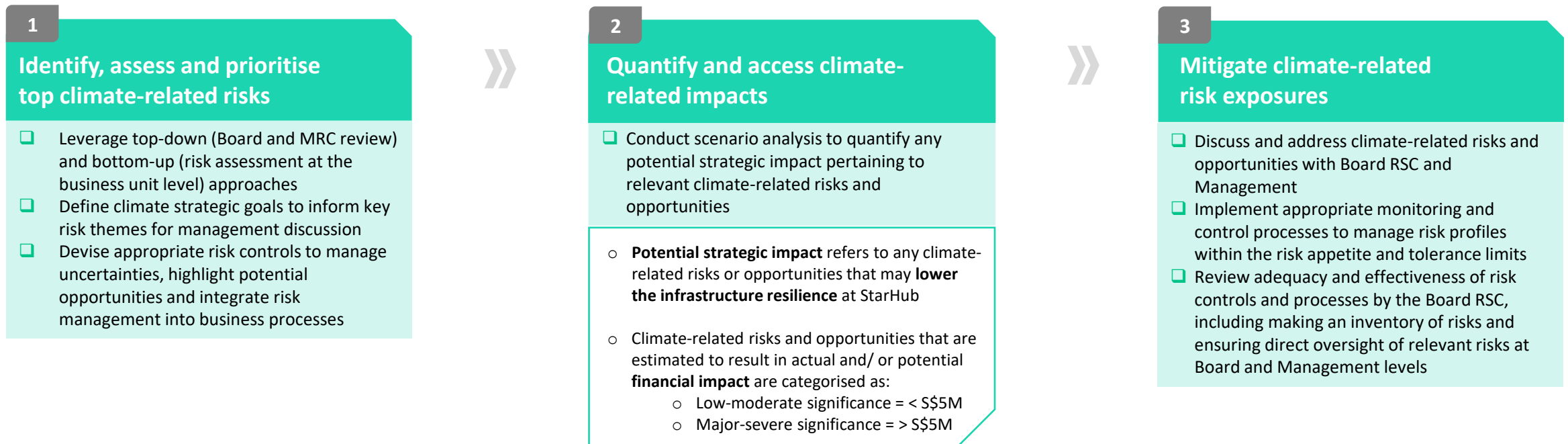
For more information on StarHub's remuneration, including the PSP, please refer to [StarHub AR2023](#), pg 161-162.



Climate-related risk management

The management of environmental and climate-related risks is integrated within StarHub’s Enterprise Risk Management (ERM) framework, alongside other top risks in the areas of operations, technology and security, market and competition, compliance, and people, The ERM framework is an integrative, multi-disciplinary programme focusing on risks and opportunities that are pertinent to our business activities aligned to StarHub’s strategic objectives.

When reviewing risks and opportunities, the Board RSC adopts a holistic and prudent approach aligned with the precautionary and risk management principles in our ERM framework. **Climate-related risks and opportunities that could have a substantive financial or strategic impact on our direct operations or across our upstream and downstream value chains are assessed through both top-down and bottom-up approaches, optimising the synergies while mitigating any tradeoffs.** Other factors such as operational feasibility, commercial viability, significance of impact, peer benchmarking, marketplace maturity, supporting ecosystem as well as forward-looking insights are also considered during the assessment.



For more information on our ERM framework, please refer to [StarHub AR2023](#), pg 177-185.



Scenario analysis

Since FY2021, StarHub has been reporting with reference to the **Taskforce for the Financial Related Climate Disclosures (TCFD) recommendations**. The monitoring of climate-related disclosures has been transferred to the International Financial Reporting Standards (IFRS) Foundation from July 2023.

In FY2022, we conducted our inaugural climate change scenario analysis to identify the following:

- ❑ Cost of climate inaction for StarHub arising from climate-related physical and transition risks,
- ❑ Dominant climate-related risks for StarHub prioritised for action.

Foundational upon the work completed in FY2021 and FY2022, we updated the quantitative scenario analysis in FY2023 to expand coverage across **more entities and geographies**. We also analysed worst-case scenarios where climate change effects continue unabated or unmitigated and the financial impact(s) on StarHub, as well as best-case scenarios where decarbonization targets are achieved and what the potential cost savings could be.

Parameters	Scope	Remarks
Climate Scenario	❑ 1.5°C warming ^{1/}	<ul style="list-style-type: none"> ❑ The 1.5°C warming scenario is aligned with the Paris Agreement, a goal of limiting global warming to well below 2°C, preferably to 1.5°C, compared to pre-industrial levels. This corresponds to a more stringent low-carbon transition scenario. ❑ A higher temperature scenario assesses the effects of higher physical risks to StarHub.
	❑ 2.1 – 3°C (<3°C) warming ^{2/}	
Timeframe	❑ Short-term: 2025	<ul style="list-style-type: none"> ❑ A short-term analysis focuses on transition risks that will have a substantial change by FY2025 (e.g., Singapore carbon price), while physical risks are not expected to change materially and will only be considered qualitatively. ❑ For medium and long-term analyses, the respective 2030 and 2050 timeframes are aligned with Singapore’s national decarbonisation goals, which is consistent with TCFD (2020) recommendations^{3/}. Singapore has committed to reduce its year 2030 emissions to 60MtCO₂e (after peaking emissions earlier) and to achieve net-zero emissions by 2050.
	❑ Medium-term: 2030	
	❑ Long-term: 2050	
Baseline Year	FY2022	The baseline year data is used as an anchor to quantify changes with respect to StarHub’s revenue and costs due to climate change. In view of the material change in StarHub’s revenue mix over the last 5 years arising from our DARE+ transformation strategy, our baseline year has been updated to FY2022.
Coverage	StarHub Group	Company-wide activities under StarHub’s operational control in Singapore, Malaysia, Hong Kong ^{4/}

1/ Proposed 1.5°C temperature increase (by 2050) to be informed by IEA NZE 2050 / SSP1-2.6 scenarios. The IEA NZE 2050 refers to Net Zero Emissions by 2050 scenario.

2/ Proposed <3°C temperature increase (by 2050) to be informed by IEA STEPS / SSP5- 8.5 scenarios. The IEA STEPS refers to Stated Policies Scenario, corresponding to current policy settings that are in place and those that have been announced by government internationally.

3/ TCFD (2020) recommends consideration of “time horizons that are compatible with the company’s (1) capital planning and investment horizons and (2) the useful life of major company assets and time horizons that are harmonized or anchored with those of national and international climate policy communities (e.g., 2030 and 2050).”

4/ While some subsidiaries have operations in other countries (e.g. Indonesia, Thailand, China, USA, etc.), these are not included in the analysis as electricity consumption data was not available. Emissions from these countries are relatively low, estimated to be contributing to less than 0.1% of total Scope 1+2 emissions.



Scenario analysis

Summary of key assessment of transition and physical climate risk modelling

Risk type	Risk	Related impacts	Significance of financial impact
Physical 	Rising mean temperatures Increased heatwave risk	<ul style="list-style-type: none"> Increased cooling costs in data centres and potential for premature equipment failure High electricity demand nationwide leading to higher power cut risks 	Low-Moderate significance ^{1/} (<\$5M potential financial impact)
	Increased storm and flash flood risks	<ul style="list-style-type: none"> Potential damage to assets (e.g., mobile base stations located outdoors/ in the basement) Increased maintenance and repair costs Increased insurance premiums 	
	Increased extreme precipitation risk	<ul style="list-style-type: none"> Increased rain shading of wireless signals leading to higher transmission cost and potential reduced service availability 	
	Rising mean temperatures Increased heatwave risk	<ul style="list-style-type: none"> Increased cooling costs in data centres and potential for premature equipment failure High electricity demand nationwide leading to higher power cut risks 	
Transition 	Carbon tax increase	<ul style="list-style-type: none"> Higher business costs (including higher cost passthrough when suppliers set higher prices for their products and services due to rising energy costs) 	Major-Severe significance (≥\$5M potential financial impact)
	Higher demand for 4G & 5G data and ICT services	<ul style="list-style-type: none"> Higher energy operating costs 	Low-Moderate (all other scenarios) ^{2/} Major-Severe (1.5°C, 2050 scenario) ^{2/}
	Enhanced reporting requirement and stakeholder expectations	<ul style="list-style-type: none"> Additional cost for capacity building Potential cost of non-compliance including loss of revenue and investment opportunities due to reputational damage 	Not quantified due to data limitations

^{1/} The analysis did not account for potential financial impact from service disruptions and the knock-on effects on reputation, fines, contracts, and insurance premium, etc.

^{2/} Resulting from energy use increase due to data traffic growth, and incorporating carbon price increase



Scenario analysis

Summary of identified key opportunities arising from climate scenario modelling

Opportunities	Related impacts	Significance of identified opportunities
Energy efficiency & optimisation	Reduced energy costs	Moderate opportunity ; StarHub’s energy reduction initiatives in FY2023 resulted in annual cost savings of S\$1.57M ^{1/}
Demand for green products and services	Higher revenue from ICT solutions and changing revenue profile	Significant opportunity ; especially in a <1.5°C scenario given higher demand for green ICT solutions
Adoption of renewable energy	Reduced exposure to carbon tax increase	Minor opportunity ; cost of buying RECs may be higher than carbon costs
New green financing opportunities	Increased capital availability to decarbonise operations	Significant opportunity ; more funds can be raised through issuance of sustainability-linked bonds/ loans For example, StarHub, through our subsidiary Malaren International Sdn. Bhd., secured our first sustainability-linked loan of RM270million (~S\$82M) in FY2020

^{1/} Financial impacts arising from potential climate-related opportunities are not yet fully quantified and their quantification will be considered as part of future scenario analysis work. The above carbon price-related cost savings have not been accounted for when StarHub was preparing the decarbonisation costing budget or plan.



Decarbonisation strategies

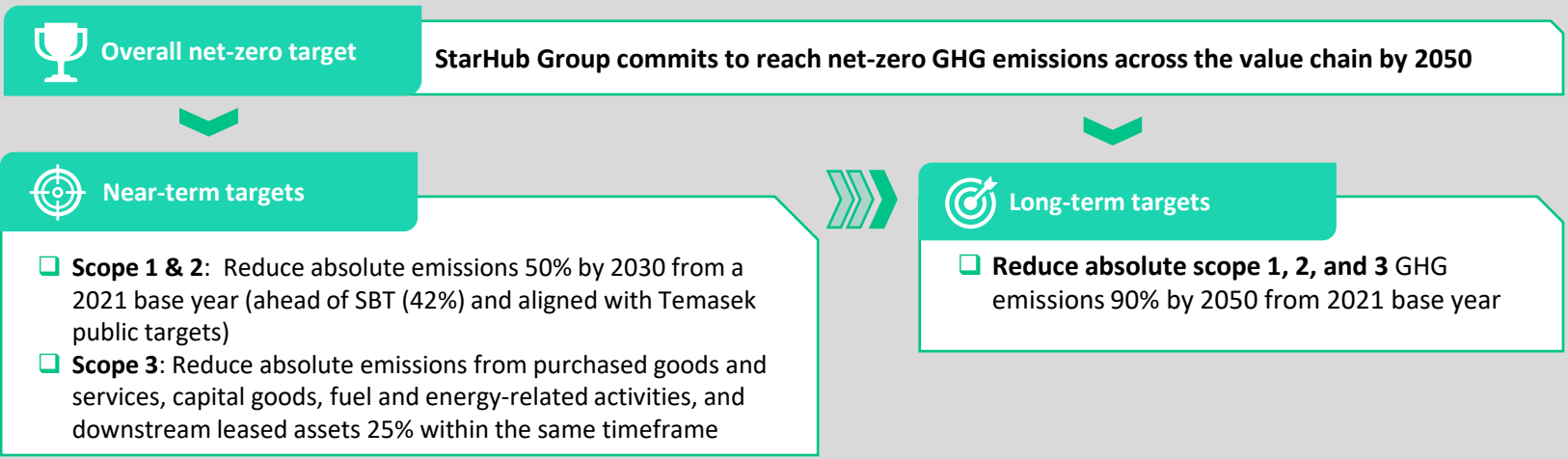
Our decarbonisation target setting journey

Amidst the other material topics identified, addressing climate change is one of StarHub’s utmost priorities given that urgent action is required to deal with the heightened risks. At StarHub, sustainability remains at the heart of our strategy and operations, influencing the decisions we make. As a forward-thinking organisation, we recognise we have a pivotal role to play to minimise the carbon footprint of our own operations. The electricity consumption from the core of our business operations and network infrastructure contributes over 90% of our Scope 1 and 2 emissions. Similar to most ICT companies around the world, our Scope 3 emissions represent approximately 80% of our total emissions combined.

As such, decarbonising the Group’s own operations and value chain has become a critical part of our strategy and evolving business model, which we document annually in our Climate Transition Plan. In FY2023, key energy and emissions reduction initiatives that were implemented resulted in an approximate \$1.57M cost savings.

Taking into considerations the identified risks and potential opportunities arising from the scenario analyses conducted, we will continually refine our decarbonisation roadmap to include clear and tangible milestones to achieve our near-term, long-term, and overall net-zero targets.

StarHub Group’s targets are validated against the SBTi net-zero criteria and criteria (version 5)





StarHub Environmental Policy

StarHub is dedicated to conducting our business in a responsible and sustainable manner. Recognising the impact our people, operations, products, services, investments and value chain may have on our key stakeholder groups and the environment at large, we are committed to manage and minimise our environmental and carbon footprint through sustainable practices and promote environmental stewardship.

Our commitment

We revised our **Environmental Policy** in June 2024, which commits us to:

- ✓ Set goals and targets to continually improve our performance on air, GHG emissions, energy, water, waste management
- ✓ Development and implement mitigation and adaptation solutions in our operations and infrastructure to address climate change impact
- ✓ Reduce energy consumption through energy-efficient practices and technologies, green building design and use of renewable energy
- ✓ Adopt sustainable sourcing of goods and services that help minimize environmental degradation
- ✓ Embrace circularity and manage the use of resources in an environmentally sound and efficient manner to reduce pollution, waste and adverse impacts on human health
- ✓ Support the conservation of biodiversity and the protection of terrestrial and marine ecosystems
- ✓ Fulfil our compliance obligations with applicable environmental laws and regulations and voluntary commitments
- ✓ Actively promote environmental engagement and partnerships amongst our internal and external stakeholders

Consistent with our Environmental Policy, we will also not knowingly:

- × Invest in activities relating to fossil-fuel expansion
- × Fund activities relating to climate-denial or lobbying against climate regulations

Read more about our StarHub Environment Policy on our website here: <https://corporate.starhub.com/about-us/corporate-sustainability/climate.html>



Decarbonisation approach

To work towards achieving our 2030 near-term targets, we have set aside \$30M for investments in renewable energy, transition to EVs, progressive optimisation of our network infrastructure, among others. Guided by our decarbonisation strategies, our capital expenditure planning and projection also takes into account other factors, such as governmental intervention, technology advancements, as well as climate-related risks and opportunities identified in our climate scenario analyses.

Transition to EVs and refrigerants and fuel of lower carbon footprint

- Transition internal combustion engine (ICE) fleet to electric vehicles (EVs) with near-zero tailpipe emissions
- Replace air conditioning units with lower GWP units

Reduce energy consumption and improve energy efficiency

- Decommission legacy network systems, consolidate sites and equipment and migrate IT applications to the cloud to optimise energy use
- Redesign office spaces for low-zero energy retrofits to improve energy efficiency

Build climate-resilient network infrastructure

- Conduct scenario analysis to better understand impact of climate-related risks and opportunities, including the required mitigation and adaptation measures
- Redesign and operate green and climate-resilient network infrastructure

Increase share of renewable energy usage

- Trials to generate on-site solar energy on own premises and mobile base stations to replace more carbon-intensive energy sources
- Explore options to secure longer-term renewable energy through PPAs and RECs
- Achieve our 2030 target of 30% renewable energy utilisation

Green products and services

- Enhance ecosystem partnerships with suppliers, business partners and other key stakeholder groups to curate and co-develop green products and services for our customers
- Deepen client engagements by leveraging our climate strategies and decarbonisation plans

Sustainable financing

- Leverage sustainable financing opportunities to further strengthen our climate action and decarbonization efforts
- Align our financing approach with sustainability-linked targets guided by our Sustainability-Linked Funding Framework (SLFF)



Policy and value chain engagement

Our public engagement and membership associations

StarHub is a leading homegrown Singapore company that delivers world-class communications, entertainment and digital services. Headquartered and listed in Singapore, StarHub works closely with regulators including Cybersecurity Agency of Singapore (CSA), Government Technology Agency (GovTech), Infocomm Media Development Authority (IMDA), Ministry of Manpower (MOM), Ministry of Sustainability and the Environment (MSE), National Environment Agency (NEA), National Parks Board (NParks), and Singapore Exchange Regulation (SGX RegCo).

StarHub is an active member of the Global Compact Network Singapore (GCNS), the local chapter of the United Nations Global Compact (UNGC) since 2012. We also collaborate actively with our partners and peers through various trade associations and alliances such as GSM Association (GSMA), Singapore Business Federation (SBF), Singapore International Chamber of Commerce (SICC), Institute of Singapore Chartered Accountants (ISCA), Singapore Corporate Counsel Association (SCCA) and SGListCos to advocate for stronger associated policies and/ or programmes that uphold climate change, circular economy and sustainability reporting.

In conjunction with the 2022 United Nations Climate Change Conference (COP27), StarHub became a signatory to the Action Declaration on Climate Policy Engagement*, an initiative by Corporate Knights and the Global 100 Council.

To fulfil our responsibilities as a signatory, we are committed to

- supporting climate action aligned with the Paris Agreement when engaging with policy makers,
- working with our major industry and trade associations to advance alignment with the Paris Agreement, and
- monitoring and disclosing our climate policy alignment for us and our industry partners

Action Declaration[®]
on climate policy engagement

CORPORATE KNIGHTS GLOBAL 100 COUNCIL

For more information about Action Declaration on Climate Policy Engagement, refer to <https://www.corporateknights.com/action-declaration/>

Our stakeholder engagement mechanism

StarHub regularly engages with our key stakeholder groups through both formal and informal channels. These stakeholders have been identified based on their potential impact on our business as well as the potential impact we have on them relating to our business activities, products and services. Ongoing communication and regular touchpoints are essential to guide us in terms of identifying and addressing their concerns, while seeking feedback on our sustainability performance.

We conduct a two-year materiality assessment cycle, where we engage extensively with our employees, core customers and suppliers, regulators, investors, as well as NGOs and business partners. We regularly reach out through surveys, dialogues, townhalls and other external events such as seminars and conferences to seek any input on our material topics and targets, including our GHG emission targets and decarbonisation strategies and approaches.

The outcomes of our stakeholder engagement better inform our understanding of the material sustainability issues that are material to our business, which helps to refine our strategic priorities and guide the implementation of our initiatives.





We welcome feedback on our Climate Transition Plan and any aspect of our sustainability performance. Please address all comments to StarHub Group Sustainability at sustainability@starhub.com.

For additional context on StarHub's stakeholder engagement, please refer to [StarHub SR2023](#), pg 77-80.



Policy and value chain engagement

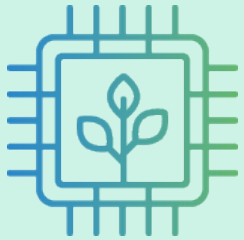
Our engagement activities with key stakeholder groups

 <p>Policy makers and government agencies</p>	<p>As a member of SGListCos, an association representing companies listed on the Mainboard and Catalist of SGX, we reviewed the guidance paper on Renewable Energy Certificates (RECs), which was released in early 2024. This is a pivotal initiative that aims to provide essential guidance for companies in Singapore to navigate the RECs landscape.</p> <p>Participated in a closed-door engagement session on GreenGov.SG which was organised by the Ministry of Sustainability and the Environment (MSE) and facilitated by the Government Chief Sustainability Officer. The collaborative effort culminated in the establishment of sustainability targets at the government level.</p> <p>Building on the StarHub-H2i initiative to use StarHub’s ubiquitous network of mobile base stations as “opportunistic” rainfall sensors, an idea among four PUB Global Innovative Challenge winners, we continue to make enhancements and expand the use of signal attenuation data of the mobile base stations to improve rainfall intensity measurement.</p>
 <p>Industry</p>	<p>Continually roll out our 5G standalone network through our joint venture, Antina, on the 3.5GHz spectrum in a more sustainable manner by collaborating with another mobile network operator. Network-sharing with our partner allows us to eliminate the duplication of infrastructure, thereby reducing the carbon footprint of our 5G service offerings.</p> <p>Participated in the Nokia ESG Customer Advisory Asia Council to foster partnership and collaboration to increase impact and solve common industry challenges.</p>
 <p>Academia</p>	<p>Rolled out Singapore’s first 100% solar-powered outdoor WiFi over StarHub 5G on campus in partnership with the National University of Singapore (NUS) in 2022. To date, more than 90 wireless access points have been installed, offering wireless connectivity at outdoor spaces across three NUS campuses.</p>
 <p>Suppliers</p>	<p>In FY2023, we secured confirmation from 98% of all our suppliers that they adhere to our Supplier Code of Conduct, via the Supplier Self-Assessment Questionnaire (SAQ). We also commenced our inaugural ESG assessment of our first-tier direct suppliers with an annual spending of at least S\$1M, utilising their responses to the SAQ. We noted about half of them have established GHG emission reduction targets, demonstrating their commitment towards minimising their carbon footprint. Furthermore, the majority of these suppliers have implemented full or partial policies and procedures to identify and address adverse impact associated with ESG matters that are pertinent to their operations.</p>



Low-carbon initiatives

Providing Green Tech Solutions



As a key provider of 5G network and enterprise digital solutions, we recognise that our products and services can enable a more sustainable and green economy, creating potential benefits for the wider economy, environment and society. By leveraging 5G, IoT, GenAI, data analytics and multi-cloud strategies, StarHub continually collaborates and innovates with our business partners, while responding to our customers' evolving needs to embrace smarter and greener technologies throughout our value chain.

FY2023 performance

Case study 1: NUS partnership on solar-powered outdoor 5G WiFi proof-of-concept in FY2022 has been a success and NUS has since deployed more than 90 units across its three campuses

Case study 2: NUS partnership on Smart Hygiene proof-of-concept to improve restroom usability and cleanliness and monitor water consumption efficiently through IoT

Going Forward

Goal: To accelerate our *Green Tech* solutions to help create a more sustainable and green digital economy

Reducing waste materials and promoting circularity



As part of our commitment to environmental stewardship, we seek to improve the circularity of our products and materials by championing the practices of reduce, reuse, repair and recycle, given that our business model is directly linked to the impact of waste generated from our sold products. We support NEA's Extended Producer Responsibility (EPR) and comply with Mandatory Packaging Reporting (MPR) requirements and implemented various initiatives to facilitate the recycling of customers' e-waste and reduce packaging materials.

FY2023 performance

Case study 3: Enterprise-wide recycling campaign to divert 100% of ICT e-waste from our corporate office and warehouse for subsequent repurposing

Case study 4: Offering new leasing business models that allow customers to rent-use-return of set-top boxes, business routers and optical network terminals

Going Forward

Goal: To divert all 100% of ICT e-waste from our operations and all subsidiaries under our operational control in Singapore for recycling (by 2030)

For additional details on StarHub's Green Tech Solutions and waste reduction initiatives, please refer to [StarHub SR2023](#), pg 96–100.



StarHub Group GHG emissions scoreboard

Scope 1+2 near-term targets

Reduce 50% absolute emissions by 2030 from a 2021 base year (ahead of SBT (42%) and aligned with Temasek public targets)

Parameters	2021 (base year)	2022	2023	2030 target
Scope 1 + 2 (market-based) emissions (tCO _{2e})	64,895	59,037	54,336	
<i>Actual, % (relative to 2021 baseline)</i>		-9.0%	-16.3%	
<i>Reference target, % (relative to 2021 baseline)</i>		-5.6%	-11.1%	-50%
Status		On track	On track	

2023 summary

Our energy reduction and efficiency measures have resulted in a substantial decrease of 17,906MWh (-11.8%) in total electricity consumption from the year before. Energy use from renewable sources amounted to 18,692MWh or 14.0% of total electricity consumption.

The 44.6% increase in absolute Scope 1 emissions (due to some subsidiaries reported usage of refrigerant top-ups and other fuel use for the first time in FY2023) was tapered by a reduction of 17.6% in Scope 2 emissions (resulting from our successful energy reduction and efficiency measures and increase of renewable energy use), thereby resulting in an overall reduction of 16.3% in the total absolute Scope 1+2 (market-based) emissions, as compared to our 2021 baseline. **This has put us well on track to achieve our 2030 science-based near-term Group target for Scope 1 and 2.**

Scope 3 near-term targets

Reduce 25% absolute emissions from purchased goods and services, capital goods, fuel and energy-related activities, and downstream leased assets within the same timeframe (i.e., by 2030 from a 2021 base year)

Parameters	2021 (base year)	2022	2023	2030 target
Scope 3 emissions*, including categories 1, 2, 3 and 13 (tCO _{2e})	173,277	193,891	222,476	
<i>Actual, % (relative to 2021 baseline)</i>		+11.9%	+28.4%	
<i>Reference target, % (relative to 2021 baseline)</i>		-2.8%	-5.6%	-25%
Status		Not on track	Not on track	

* The total coverage of our combined Scope 3 targets meets the minimum boundary as required by the SBTi target setting guidelines and is in conformance with the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard.

2023 summary

The absolute Scope 3 GHG emissions from our purchased goods and services, capital goods, fuel and energy related activities, and downstream leased assets have increased by 28.4% from our 2021 baseline. **This has put us not on track to meet our 2030 science-based near-term Group target for Scope 3 emissions.**

In addition to business activities expansion, we recognise the increase in Scope 3 emissions is also due to improvements in the breadth and granularity of Scope 3 reporting contributed by more supply chain operators enhancing their GHG emissions disclosures. We will continue to engage our suppliers and customers to reduce our carbon footprint upstream and downstream, through the purchase and offering of low-carbon products and services, as well as co-development of a more accurate emissions accounting methodology that is activity- or product-based.



StarHub Group GHG emissions scoreboard

Scope 1 (tCO _{2e})	FY2023	FY2022	FY2021 (Base Year)
Stationary combustion	65	50	47
Mobile combustion	726	255	269
Fugitive emissions – refrigerant gases	1,171	882	1,040
Total Scope 1 (tCO_{2e})	1,962	1,187	1,356
Scope 2 (tCO _{2e})	FY2023	FY2022	FY2021 (Base Year)
Purchased electricity (Location-based)	61,534	67,083	67,148
Purchased electricity (Market-based)	52,374	57,851	63,539
Total Scope 1 + 2 (Market-Based) (tCO_{2e})	54,336	59,037	64,895
GHG Emissions Intensity (tCO_{2e} per \$mil revenue)	22.9	25.4	31.8
Scope 3 (tCO _{2e})	FY2023	FY2022	FY2021 (Base Year)
Category 1: Purchased goods and services	182,528	158,458	135,736
Category 2: Capital goods	10,082	7,553	7,882
Category 3: Fuel and energy-related emissions	10,465	11,446	11,410
Category 4: Upstream transportation & distribution	3,505	7,076	1,705
Category 5: Waste generated in operations	10	14	4
Category 6: Employee business travel	473	347	117
Category 7: Employee commuting	387	462	243
Category 8: Upstream leased assets	4,919	4,435	5,291
Category 11: Use of sold products	39,836	35,716	35,821
Category 12: End-of-life of sold products	36	41	65
Category 13: Downstream leased assets	39,886	33,727	35,076
Category 14: Franchises	84	85	131
Category 15: Investments	4,991	6,538	7,757
Total Scope 3 (tCO_{2e})	297,204	265,899	241,236

Review and external assurance



In 2023, our sustainability reporting practices were evaluated by an internal audit conducted by PwC Singapore. This internal audit complements our ongoing practice of engaging an external assurance provider. As with previous years, StarHub engaged KPMG LLP to provide independent assurance of selected ESG metrics for our SR2023*. We believe the practice of obtaining independent assurance will ensure the accuracy and reliability of our key selected sustainability information. Finally, the Board plays a critical role in overseeing the assurance process and reviewing our ESG assurance report and disclosures.

**All (100%) of Scope 1, Scope 2 and Scope 3 (Cat 3 and Cat 8 data) has been externally assured. Scope 3 Cat 5, Cat 6, Cat 7, Cat 13 and Cat 14 data were not fully assured as complete information at StarHub Group level was not available at the time of assurance. We are working towards obtaining external assurance for all data in the future when data measurements and quality improves.*

Note:

- Our GHG reporting approach is aligned with our consolidated financial accounting policies, and the data disclosed aligns with the financial reporting period from 1 January to 31 December.
- We restated FY2023 Scope 3 Category 8 (Upstream leased assets) in this document based on more complete and externally assured data as provided by our upstream lessors, which were only made available after our SR2023 publication in April 2024.
- Scope 3 Category 9 (downstream transportation and distribution) and Category 10 (processing of sold products) are not relevant to StarHub.
- For additional information on StarHub's GHG emissions data and accounting methodology, and independent limited assurance report, please refer to [StarHub SR2023](#), pg 129–131.

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