

TCFD Report

This section provides details on our climate journey based on the TCFD recommendations. Please refer to the Consistency with TCFD Requirements section on page 58 for a detailed view on the extent of alignment with the recommendations.

Governance

Climate action is one of the critical topics reviewed and assessed by the SLC. The SLC receives updates on global and regional climate and sustainability trends, policies, initiatives and activities undertaken by Group businesses and the Group twice a year. Progress on climate risk assessments and identified climate risks and opportunities are also provided to the SLC, to inform their discussion of sustainability strategy and priorities. A number of sustainability-related policies, including the Group’s Climate Change Policy, were reviewed by the SLC and published in 2022. All sustainability-related policies are periodically reviewed by executive management and updated as required.

The Climate Action Working Group comprises representatives from each of our businesses, who are responsible for delivering climate-related initiatives within their companies. The Working Group meets on a quarterly basis and the chairpersons provide updates on progress to the SLC.

The Group Sustainability Team, headed by the Group Head of Corporate Affairs and Sustainability, supports the SLC and the Climate Action Working Group in developing the overall sustainability strategy and respective initiatives. A monthly meeting is held by the Group Sustainability Team with the Executive Chairman, to report progress on our sustainability agenda.

For more information on respective roles and responsibilities, and management oversight of the sustainability agenda (including climate risks and opportunities) across the Group, please refer to the Sustainability Governance section on page 51.

Strategy

Over the past few years, we have been engaged in an ongoing exercise to identify and analyse material climate risks and opportunities across the Group. Climate scenarios are adopted, to evaluate the resilience of our businesses to the impacts of climate change on our

strategy and financial planning. At Jardines, we use three sets of time horizons to analyse climate-related risks and opportunities: short-term (within five years), medium-term (five to ten years) and long-term (beyond ten years).

In 2021, we completed a preliminary study of physical risks likely to have a material impact on the Group, through asset damage and business disruption. We analysed the exposure and impact of acute¹ and chronic² hazards on more than 800 significant assets across our Group businesses in 22 countries and regions, under three Representative Concentration Pathways (‘RCPs’) developed by the Intergovernmental Panel on Climate Change (‘IPCC’)³. Our top identified climate hazards, their corresponding impacts and mitigation measures are summarised in the table below.

In 2022, the Group initiated an assessment of transition risks that may impact our businesses, with the assistance of Group Sustainability and GARM. The exercise aimed to develop a consistent set of scenarios and assumptions for risk assessment across the Group, setting the foundation for a robust methodology which would result in comparable outcomes across our businesses. Two scenarios were developed based on internationally recognised data sets⁴ with the following characteristics:

Low-emissions scenario	High-emissions scenario
<ul style="list-style-type: none"> Global warming is limited to well below 2°C Rapid coordinated global response to climate change Implementation of strict climate policies Active decarbonisation of businesses High consumer awareness of climate change 	<ul style="list-style-type: none"> Global warming is on track to reach at least 3.3°C No significant acceleration and climate action from currently announced policies Slow investment in climate transition Lack of consumer awareness of climate change

The scenarios will be periodically refreshed to align with the climate science updates and significant changes in our operating environments as a result of shifts in policy, regulations and other signals.

¹ Acute hazards include landslide, rainfall flood, river flood, storm surge, and typhoon.

² Chronic hazards include extreme heat, snow melt, drought, and sea level rise.

³ RCP 2.6 represents a low-emission scenario, RCP 4.5 represents a medium-emission scenario and RCP 8.5 represents a high-emission scenario.

⁴ Scenarios are based on the IPCC Representative Concentration Pathways, the Network for Greening the Financial System (‘NGFS’) and the International Energy Agency (‘IEA’), supplemented by additional research to reflect the unique regional context.

The assessment produced distinct transition risk heat maps for the High-emissions and Low-emissions scenarios, identifying the critical impact of transition risk drivers across the business activities of our Group business in their most material geographic regions, based on revenue and/or strategic value. A number of mitigation planning workshops have been conducted across the businesses to kickstart thinking in relation to building a structured approach to climate resilience and equipping our businesses with the right knowledge and resources to implement it.

We believe that climate risks are emerging in the short term, but are most likely to materialise in the medium and long-term. A summary of the identified physical and transition risks that may have a material impact on our business, and our response (mitigation measures), is included in the table below:

Physical risks	Potential impacts	Our response
<p>Typhoon Severity as measured by wind speed is increasing in Southeast Asia and is expected to move north, with more frequent and destructive typhoons in the Chinese mainland, Hong Kong, Vietnam, and the Philippines.</p>	<ul style="list-style-type: none"> • Disruption of services and business operations • Damage to equipment, facilities and properties • Decrease in business demand due to business disruption and loss of attractions to tourist areas 	<ul style="list-style-type: none"> • Develop business contingency plans • Incorporate special considerations during planning and design of new projects • Implement inspection and preventative maintenance programmes for critical infrastructure • Set up emergency response teams • Engage with government bodies on flood defences
<p>Rainfall flooding Severity as measured by flood depth is expected to increase across Asia. This will have major implications for our low lying and flood vulnerable assets throughout the region.</p>		
<p>Extreme heat Measured by the combined impact of temperature and humidity on the human body and is forecasted to increase in the period to 2030 across Asia. Higher latitudes are expected to be most adversely affected.</p>	<ul style="list-style-type: none"> • Adverse effect on employees' health and safety • Damage to equipment, facilities and properties 	<ul style="list-style-type: none"> • Develop safety work procedures for employees working in extreme heat conditions • Develop business contingency plans • Incorporate special considerations during planning and design of new projects • Implement inspection and preventative maintenance programmes for critical infrastructure
Transition risks	Potential impacts	Our response
<p>Carbon price Direct (e.g. carbon tax) or indirect costs associated with emissions reduction regulatory or fiscal policies.</p>	<ul style="list-style-type: none"> • Increased cost of raw materials such as steel and cement, products, and services • Increased capital expenditures and cost of operations • Supply chain disruptions • High energy efficiency requirements • Changing customer preferences and behaviour • Increased risk of litigation, requiring additional efforts for compliance 	<ul style="list-style-type: none"> • Source alternative low-carbon materials • Introduce new low-carbon products and services • Invest in energy efficiency • Invest in R&D/innovation • Regular study of customer preferences and behaviour • Monitor upcoming carbon and climate-related regulatory requirements • Build climate resilience capability across the Group
<p>Energy price The rising prices of primary and secondary energy, i.e., fossil fuels and electricity.</p>		
<p>Policies and regulations Examples include green building policies which are applicable to most of our businesses, and electric vehicle policies which are applicable to our motor businesses.</p>		

We are progressively building on our learning every year, to further enhance our methodology and future-proof our business. We have been proactive in responding to climate risks, but there is still much to learn and do. The climate risk assessment will help inform discussions on business strategy, financial planning and capital allocation, to move forward in a way that leverages the opportunities uncovered by the transition, while mitigating climate change impacts and adapting to the effects that are already taking place.

Our success as a business is based on our ability to identify emerging risks and opportunities and make the right capital investment decisions. The risk management process described below enables the integration of these risks and opportunities, including climate-related ones, into our long-term strategy. This is the first step in putting climate risk on the agenda in all aspects of how we operate our businesses, including strategic and financial planning, investment and divestment decisions, managing our supply chains, developing products and services, and daily business operations across all Group businesses.

With guidance from Group Finance and Group Sustainability, each of our Group businesses allots a budget to fund sustainability and climate action-related activities. The budgets are approved by the Chief Finance Officers of our businesses and the Group Finance Director. One of the Group's focus areas for 2022 is the development of a framework for a systematic incorporation of sustainability considerations, including climate risks, into capital allocation decisions.

We are pursuing climate resilient development on the journey to a low carbon economy. As an Asian-based conglomerate, we want to be a key partner for the region in contributing to an orderly and equitable transition, which helps to reduce energy poverty, create economic opportunities, and strengthen climate resilience. In this context, Jardine Matheson and our Group businesses published a Just Energy Transition statement in June 2022.

We are actively expanding our involvement in the renewable energy sector, with key investments in this area by Refrigeration Electrical Engineering Corporation ('REE'), a Vietnam-based associate of JC&C, and our Indonesian subsidiary, Astra. Vietnam is one of the region's fast-

growing markets for renewables, where installed capacity of wind, solar and hydro is forecast to double to 150GW by 2030; and REE has been a leading developer of sustainable infrastructure since 2010. Astra is investing in hydro, wind and solar projects, as well as exploring new technologies and innovations in biomass waste-to-energy.

Risk Management

To evaluate and prioritise the climate risks faced by the Group, risk heat maps have been developed, which classify all relevant risks into different impact severity groups ranging from low to high. Understanding the implications of these risks to the businesses and the Group will guide our planning of risk mitigation and enable us to prioritise action.

An important objective of the climate risk assessments we have conducted in the past two years was building a culture of climate action across our businesses. Most of our businesses are actively attuning their business capabilities to better evaluate and respond to climate risk. The Group will continue to guide the discussion, to further improve our businesses' approach to assessing the significance and impact of climate risks in relation to other risks.

We have incorporated the best practices of enterprise risk management into the process of climate risk identification and assessment. The teams responsible for risk management in each of our Group businesses provide a business-specific risk perspective to the sustainability team in the business. GARM also collaborates with the Group Sustainability Team to develop the Group's climate risk assessment framework and approach. In addition, different business functions, including Procurement, Operations and Marketing & Sales are involved in the process to provide feedback on the identified climate risks.

Physical and transition risk reports have been provided to the Group businesses to further explore the implications for, and develop mitigation measures to minimise the impact to, our businesses, including both property damage and business disruption. The Group businesses are also encouraged to assign risk owners to manage risks in a holistic manner. Guidance and support on climate risk management and mitigation measures planning are provided by GARM and Group Sustainability, when needed.

Climate risks and mitigation measures are reported to GARM twice a year. GARM and Group Sustainability will review the information and provide feedback, if any, to the Group businesses to improve the process and outcome.

In addition, climate risk is a topical area frequently included in internal risk management training and conferences, and it is also included in risk newsletters published by GARM to raise the awareness of climate change and climate action across the Group, particularly targeting finance and risk management colleagues.

The Group's approach to overall risk management combines a top-down strategic view with a complementary bottom-up process. As with other principal risks and uncertainties, those risks identified as material to our businesses are consolidated at the Group level into the Group's risk register and risk heat map, which are reported to the Audit Committee twice a year. Climate risks have been already been reported by some businesses who are advanced in their sustainability journey and featured in the Group's Principal Risk and Uncertainties.

Building on the Group-wide climate risk assessments performed in 2021 and 2022, climate change modelling and financial impact assessments will be conducted for our businesses based on a common set of scenarios and assumptions which have been developed. The financial impact of existing climate risks reported by some businesses will be revisited. For the businesses which have not yet reported climate risks in their risk registers, financial impact will be assessed, so that the climate risks identified can be fully integrated into risk registers and managed together with other business risks within the existing enterprise risk management framework.

Please refer to the Risk Management and Internal Control section of this Report for details of the Group's risk management framework, including risk identification, assessment, treatment, and reporting and monitoring. The Monitoring of Risk Management and Internal Control Systems section provides details on how GARM monitors the approach taken by the businesses to managing risk.

Metrics and Targets

Building on the climate risk assessment work carried out in the past couple of years, we are now in the process of establishing metrics and indicators to help the Group manage relevant climate risks and opportunities. As we drive forward the climate action agenda in 2023 and beyond, we will consider forward-looking metrics to help us build resilience to climate change.

In 2021, we developed GHG emissions guidance which is in line with the GHG Protocol methodology on measuring Scope 1 and 2 emissions, and aggregated data to provide a Group-wide picture of our collective GHG emissions. At the time of publication of this Report, the Group's 2022 performance is still undergoing external assurance, and further details will therefore be provided in the forthcoming Sustainability Report 2022. The Group's 2021 performance is extracted in the table below:

Metric	Unit of measure	Group total in 2021
Scope 1 emissions	tCO ₂ e	4,112,571
Scope 2 emissions (location-based)	tCO ₂ e	1,305,804
Scope 2 emissions (market-based)	tCO ₂ e	1,299,662
Total GHG emissions (Scope 1 and location-based Scope 2)	tCO ₂ e	5,418,375*

*The data was subject to independent limited assurance by PricewaterhouseCoopers as part of our 2021 Sustainability Report which is available on our website.

2021 was the first year for which we collected GHG emissions data across the Group, starting with direct emissions (Scope 1 and 2). The Group is aware of the importance of collecting our indirect emissions (Scope 3) data, and we are already planning to collect and disclose it in the near future.

Decarbonisation has been a key focus area of the Group’s sustainability strategy. The Group’s ultimate strategic ambition is to transition towards net-zero, in line with climate science. The Group has set its sights on developing a credible medium-term target aligned with a 1.5°C trajectory. The success of the Group in reducing carbon emissions is dependent on the decarbonisation progress by each individual business. Every business is responsible and held accountable for developing science-based decarbonisation plans and delivering on the agreed targets. In 2022, the Group continued to build momentum on our net-zero strategy, and the following businesses made significant progress aligning to the Group’s net-zero approach:

- Hongkong Land had its 1.5°C near-term⁵ target validated by the Science-Based Target initiative (‘SBTi’); and
- Hactl and Gammon submitted commitment letters for 1.5°C near-term⁵ targets to SBTi.

A number of our other businesses are also progressing the development of a science-based approach which will align with the Group’s ambitions in this area.

Consistency with TCFD requirements

Our climate-related disclosures meet the reporting requirements for UK standard listed companies, and are consistent with the TCFD recommendations on:

- governance – all recommended disclosures;
- strategy – disclosures (a) and (b);
- risk management – all recommended disclosures;
- metrics and targets – disclosures (b).

As we are still in the early stages of our TCFD journey, we acknowledge that we are not fully consistent with TCFD requirements, including the additional guidance for all sectors published in October 2021. It will take some time for us to fully consider and plan the actions necessary to achieve alignment. We will continue to move forward and improve our disclosure in the coming years.

For strategy disclosure (c), we are still analysing our climate risk assessment results and are in the process of identifying potential climate opportunities, and we have not yet fully adjusted our business strategy for climate resilient development under the low emissions scenario. This is an ongoing area of collaboration between Group Sustainability, GARM and Group Strategy in the short term.

For metrics and targets disclosure (a), as we are finalising the results of climate risk assessment, we have not yet reached the stage of developing metrics. For disclosure (c), as a conglomerate operating across a variety of sectors, setting a single Group-wide target is complex. We will start developing the metrics and explore the feasibility of setting a Group-wide target in line with climate science in the short term.

Responsible Consumption

Promoting resource efficiency and seeking opportunities for circularity are at the heart of our operations. In early 2022, we established the Responsible Consumption Working Group (‘RCWG’) as a platform for our businesses to collaborate and drive the Group strategy across three focus areas: Plastic, Food and Nature. The RCWG met quarterly in 2022 to establish a framework and a coordinated approach for more efficient use of resources across our operations. Through closer collaboration, we create more value as a Group by leveraging our synergies and cross-sectoral expertise. Our businesses are actively sharing insights and exploring collaboration opportunities.



In 2022, one of the key priorities of the RCWG was to identify major waste streams and expand ongoing waste reduction initiatives. We prioritised our efforts on the major types of wastes produced in our operations, namely food waste, plastic waste and construction waste. Going forward, the members of the RCWG will continue to collaborate and seek ways to enhance data collection and improve data quality, to support target setting in the future.

Group Sustainability keeps up-to-date on the latest market trends and engages with our businesses to discuss specific issues that may have a significant impact on our

⁵ SBTi defined near-term target as five to ten years, which is the medium-term target as defined by Jardines.