FINANCIAL INSTITUTIONS CLIMATE-RELATED DISCLOSURE DOCUMENT

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Contents

Background

In November 2019, the Monetary Authority of Singapore (**MAS**) announced Singapore's green finance vision and strategy. The vision is to be a leading centre for green finance in Asia and globally. This is accomplished through efforts to strengthen resilience to environmental risk, develop green finance solutions and markets, harnessing technology and building knowledge and capabilities in green finance.

As part of this strategy, the MAS convened a Green Finance Industry Taskforce (**GFIT**) with a mandate to help accelerate the development of green finance through four key initiatives:

(1) develop a taxonomy,
(2) enhance environmental risk management practices of financial institutions,
(3) improve disclosures, and
(4) foster green finance solutions.

In December 2020, the MAS published its Guidelines on Environmental Risk Management for banks, asset managers and insurance companies (**MAS Guidelines**). The MAS Guidelines aim to enhance the resilience of financial institutions (**FIs**) to environmental risks and strengthen the sector's role in supporting the transition to an environmentally sustainable economy in Singapore and in the region.

To complement the MAS Guidelines, the GFIT produced a Handbook to share practical implementation guidance and good practices on environmental risk management (**Handbook**). In addition to the implementation of environmental risk management practices, the Handbook set out some illustrations on best practice disclosures. This Financial Institutions Climate-related Disclosure Document (**FCDD**) builds upon these efforts to provide a dedicated reference on climate reporting in furtherance of those objectives.

In a strengthening of commitments, the Singapore Government announced in February 2021 the Singapore Green Plan 2030 to lay a roadmap to achieving the United Nations' 2030 Sustainable Development Agenda, the Paris Agreement and its long-term net-zero emissions goal. A key thrust of this initiative is the Green Finance Action Plan to position Singapore as a leading centre for green finance in Asia and globally.

Purpose of FCDD

The purpose of the FCDD is to highlight leading environmental disclosures practices to serve as a practical reference as FIs step up their efforts in the area of environmental disclosures. For a start, the FCDD has focused on climate-related disclosures, as there is broad consensus on the importance of such disclosures. The FCDD adopts the recommendations of the Task Force on Climate-related Financial Disclosures (**TCFD**) as the guiding framework for disclosure. While many of these recommendations could also apply equally to other environmental, social and governance (**ESG**) disclosures, the focus of the FCDD is on climate.

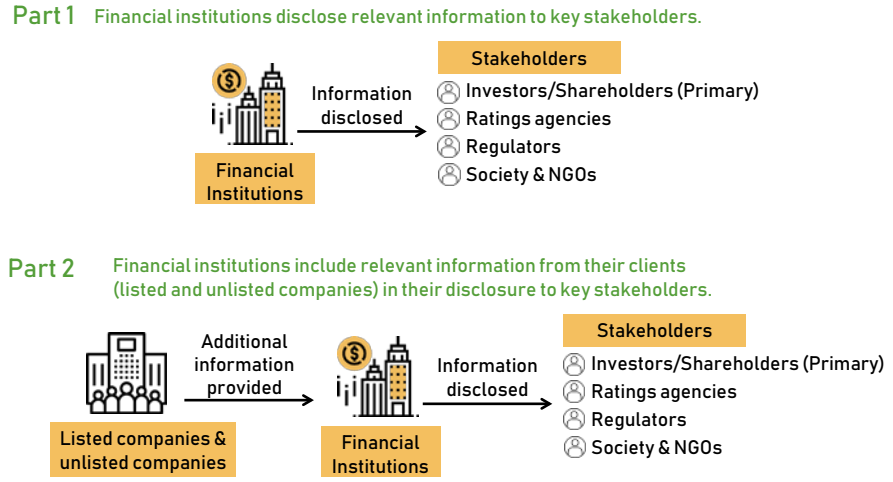
Reporting is instrumental in environmental risk management. To paraphrase an adage, what gets reported gets done. Providing a reference to good disclosures is the primary purpose of the FCDD. FIs should refer to the MAS Guidelines and the Handbook for guidance on how to implement good environmental risk management practices.

As a reference document, the target users of the FCDD are FIs subject to the MAS Guidelines. It is also hoped that other FIs would find the FCDD useful.

Sustainability reporting has become well entrenched as a component of good corporate reporting. In Singapore, Singapore Exchange (**SGX**) introduced mandatory sustainability reporting, with the primary components prescribed in its Listing Rules to be included in the reports on a 'comply or explain' basis for all listed issuers in 2016. Businesses operate in interaction with stakeholders who require more information about the conduct of businesses in the ESG aspects. The profile of typical stakeholders extends beyond investors to include customers, suppliers, employees, financiers, regulators and other community representatives. The availability of such information promotes transparency of corporate practices and impact, as well as drive the achievement of the United Nations' Sustainable Development Goals (**SDG**).

FIs as businesses are also corporates that have these duties to report to their stakeholders. The FCDD will guide FIs in furnishing climate-related disclosures to key stakeholders.

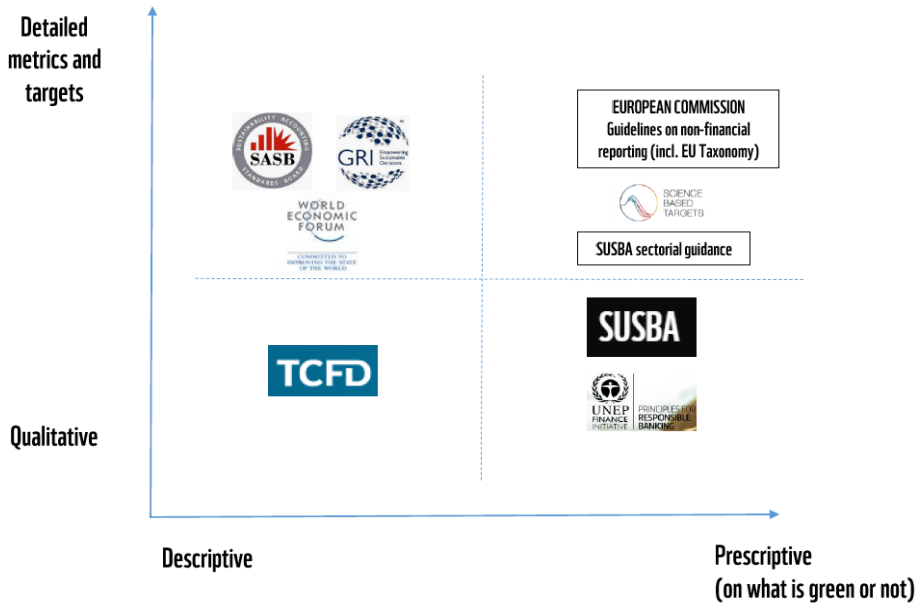
In order to make these disclosures, FIs in turn require information from listed and unlisted companies to whom their businesses relate (**Upstream Companies**). For example, **banks** provide lending and other financing intermediation services for their customers, many of whom are businesses themselves. **Asset managers** and **asset owners** invest on behalf of their clients or beneficiaries and require ESG information on the underlying assets to fulfill their investment mandates and fiduciary duties**. Insurance companies** underwrite risk events and conduct investment activities to manage related risks. Similarly, they require ESG information to properly perform risk and opportunities assessments.



Information flow of ESG disclosures

It is recognised that having good data from Upstream Companies is a prerequisite to FIs' own reporting. While the FCDD does not apply directly to disclosures by the Upstream Companies, it is envisaged that FIs will use the FCDD in evaluating the types of ESG information required from Upstream Companies in order to make their own disclosures. There is value in ensuring consistency of ESG information reported. Consistency of information reported by FIs will only be achieved if Upstream Companies give consistent information to them. In turn, it will be more likely that Upstream Companies will give consistent information if FIs request the same types of ESG information from them, and this is why alignment with internationally accepted frameworks is important and ideal. By providing practical guidance to FIs on their own reporting, we can also generate potential benefits in driving alignment of ESG information.

The FCDD is not intended to be a disclosure standard or reporting framework. It is recognised that there are many standards and frameworks for sustainability reporting that exist in the market, each of which differ in the degree of prescriptiveness and whether it requires qualitative disclosures or detailed metrics and targets. The different standards and frameworks serve different purposes which FIs would use as appropriate.



Adapted from WWF Singapore

Types of ESG disclosure standards and reporting frameworks

Rather, the FCDD is a practical reference document to assist FIs in preparing their disclosures, regardless of the standard or framework they use. The Better Alignment Project, an initiative of the Corporate Reporting Dialogue, brought together the CDP (formally the Carbon Disclosure Project), the Climate Disclosure Standards Board (CDSB), the Global Reporting Initiative (GRI), the International Integrated Reporting Council (IIRC) and the Sustainability Accounting Standards Board (SASB), each a standard or framework setter, to evaluate alignment with the TCFD recommendations on climate-related financial disclosures. It found high levels of alignment between the different standards and frameworks. In December 2020, the five organisations published a prototype climate-related financial disclosure standard to illustrate how their current frameworks and standards can be used together alongside the TCFD recommendations.

The FCDD operates as a reference for FIs to use in making disclosures according to their chosen standard or framework. It is envisaged that the FCDD will be updated from time to time to take into account the best practices of FIs as the market practice for climate and environmental reporting evolves.

Methodology and Limitations

The TCFD recommendations guided these best practice recommendations on disclosures. In addition, a review of ESG and climate-related financial disclosure guidelines for corporations (including FIs) issued in various jurisdictions was conducted. The review included the MAS Guidelines, the EU Non-Financial Reporting Directive, the EU Taxonomy 2.0, the UK Climate Financial Risk Forum Guide 2020, and applicable guidelines issued in China, Taiwan, Hong Kong, India and South Korea.

The corporate reports of FIs based in various jurisdictions were reviewed. In total, the reports of about 40 FIs were reviewed, spanning jurisdictions in US, Europe and Asia. These reports were published mainly in 2020, and were the latest available at the time of review. At the time of the publication of this FCDD, these reports may have been updated. Given the rapid development of best practices in the area of climate reporting, it is expected that FIs would have advanced their reporting. Nonetheless, the FCDD examples still represent a particular stage in the reporting journey, to which other FIs could refer. The FCDD could be updated at an appropriate time in the future to take into account these developments.

A series of focus group discussions with selected banks, asset managers and insurance companies were conducted to obtain views on the framework. Feedback was then sought from various workstreams of the GFIT as well as relevant industry associations.

The FCDD would contain only certain best practices in reporting. It does not represent the state of environmental risk management practices that FIs may be adopting if these were not disclosed.

Structure of FCDD

The FCDD is divided into different sections for each of the following industries in the financial sector: **banks** (for lending activities), **asset managers** (for investment activities), and **insurance companies** (for underwriting activities).

In each industry, recommendations are presented in line with the TCFD framework, which is divided into the four pillars (namely, **governance**, **strategy**, **risk management** and **metrics and targets**) and 11 supporting recommended disclosures.

Recommendations and Supporting Recommended Disclosures

Governance	Strategy	Risk Management	Metrics and Targets
Disclose the organization's governance around climate-related risks and opportunities.	Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning where such information is material.	Disclose how the organization identifies, assesses, and manages climate-related risks.	Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.
Recommended Disclosures	**Recommended Disclosures**	**Recommended Disclosures**	**Recommended Disclosures**
a) Describe the board's oversight of climate-related risks and opportunities.	a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.	a) Describe the organization's processes for identifying and assessing climate-related risks.	a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.
b) Describe management's role in assessing and managing climate-related risks and opportunities.	b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.	b) Describe the organization's processes for managing climate-related risks.	b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.
	c) Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.	c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.

TCFD recommendations

For each key recommendation under the TCFD framework, **three levels of reporting maturity** are identified where possible to propose a pathway for reporting excellence. The pathway is represented by Type A disclosures, Type B disclosures and Type C disclosures, in order of increasing reporting maturity. Type A disclosures generally represent disclosures that most FIs have taken as a first step in reporting. Type B disclosures generally comprise more extensive or involved disclosures. Type C disclosures generally represent 'best in class' reporting to date, which FIs may aim to achieve over time.

It is recognised that making good disclosures is a journey, and FIs may differ in breadth and scope of reporting currently. The different levels of reporting maturity present possible pathways for FIs to progressively expand or improve on their disclosures. The pathways for each recommended disclosure are not mutually exclusive; FIs may also adapt the pathways as they consider fit for their purpose.

In addition to banks, asset managers and insurance companies, the TCFD also recognises the important role that **asset owners** play in influencing the organisations in which they invest to provide better climate-related financial disclosures. A comprehensive guide for asset owners has been published by the Principles for Responsible Investment (**PRI**), the United Nations Environment Programme Finance Initiative (**UNEP FI**) and the United Nations Global Compact. Therefore, asset owners were not included in the scope of the FCDD.

Acknowledgements

Workstream 2 of the GFIT was tasked to recommend improvements to measures and disclosures across Singapore's financial industry. To this end, the workstream recommended the FCDD to provide practical guidance on climate disclosures.

The drafting team comprised staff and interns from Singapore Exchange Regulation. Research assistance was provided by a group of final year students at the National University of Singapore Business School as part of a field study project.

A select group of FIs, including banks, asset managers and insurance companies, participated in focus group discussions and gave feedback. Feedback was also sought from the other workstreams of the GFIT as well as relevant industry associations.

The maturity framework is adapted from a 2019 report by BCS Consulting, "TCFD Recommendations – Global Progress Report for the Banking Sector".

We thank everyone who provided feedback and suggestions to the FCDD.

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INDUSTRY A: BANKS

Topic 1: Governance

Knowledge of the role an organisation's board plays in overseeing climate-related issues, as well as the management's role in assessing and managing those issues, is of importance and interest to investors and stakeholders. Such facts inform whether appropriate board and management attention has been given to material climate-related issues.

TCFD'S KEY RECOMMENDATIONS ON GOVERNANCE	
RECOMMENDED DISCLOSURE (A)	Describe the board's oversight of climate-related risks and opportunities.
	In describing the board's oversight of climate-related issues, organisations should consider including a discussion of the following: – processes and frequency by which the board and/or board committees (e.g., audit, risk, or other committees) are informed about climate-related issues, – whether the board and/or board committees consider climate-related issues when reviewing and guiding strategy, major plans of action, risk management policies, annual budgets, and business plans as well as setting the organisation's performance objectives, monitoring implementation and performance, and overseeing major capital expenditures, acquisitions, and divestitures, and – how the board monitors and oversees progress against goals and targets for addressing climate-related issues.
RECOMMENDED DISCLOSURE (B)	Describe management's role in assessing and managing climate-related risks and opportunities.
	In describing management's role related to the assessment and management of climate-related issues, organisations should consider including the following information: – whether the organisation has assigned climate-related responsibilities to management-level positions or committees; and, if so, whether such management positions or committees report to the board or a committee of the board and whether those responsibilities include assessing and/or managing climate-related issues, – a description of the associated organisational structure(s), – processes by which management is informed about climate-related issues, and – how management (through specific positions and/or management committees) monitors climate-related issues.

Governance - Recommended Disclosure (a)
Describe the board's oversight of climate-related risks and opportunities.

Recommended Disclosures	Pathway		
	Type A	Type B	Type C
Describe the board's oversight of climate-related risks and opportunities	(1) Describe the processes and frequency by which the board and/or board committees (e.g. audit, risk, or other committees) are informed about climate-related issues	(1) State whether the board or board committees consider climate-related issues when reviewing and guiding strategy, major plans of action, risk management policies, annual budgets, and business plans as well as setting the organisation's performance objectives, monitoring implementation and performance, and overseeing major capital expenditures, acquisitions, and divestitures	(1) Describe how the board monitors and oversees progress against goals and targets for addressing climate-related issues
Best Practice Disclosures	(1) Provide explicit reference to support from management team [Citi] (1) Describe the reporting channels to the board [NAB]	(1) Provide details on what the board reviewed and action plan on how reviews and analyses will be used [Barclays]	(1) Provide details on responsibilities and oversight of the board [ING, Citi]

Governance - Recommended Disclosure (b)

Describe management's role in assessing and managing climate-related risks and opportunities.

Recommended Disclosures	Pathway		
	Type A	Type B	Type C
Describe management's role in assessing and managing climate-related risks and opportunities	(1) Describe whether the organisation has assigned climate-related responsibilities to management-level positions or committees If so, whether such management positions or committees report to the board or a committee of the board and whether those responsibilities include assessing and/or managing climate-related issues	(1) In describing management's role related to the assessment and management of climate-related issues, include: – A description of the associated organisational structure(s) – Processes by which management is informed about climate-related issues	(1) Describe how management (through specific positions and/or management committees) monitors climate-related issues
Best Practice Disclosures		Powers of the Committee, description of what the Committee reviews and oversees. composition and details on governance structure [Nordea]	(1) Frequency of meetings [Shinhan] (1) Frequency of progress reports, examples of what the Committee oversees and roles and responsibilities of Committee [Citi]

Topic 2: Strategy

Investors and stakeholders are concerned with the process that an organisation takes in managing its short, medium and long-term business strategy. Having such details informs the outlook and expectations of an organisation's future performance.

TCFD'S KEY RECOMMENDATIONS ON STRATEGY	
RECOMMENDED DISCLOSURE (A)	Describe the climate-related risks and opportunities the organisation has identified over the short, medium, and long term.
	Organisations should provide the following information: – a description of what they consider to be the relevant short-, medium-, and long term time horizons, taking into consideration the useful life of the organisation's assets or infrastructure and the fact that climate-related issues often manifest themselves over the medium and longer terms, – a description of the specific climate-related issues potentially arising in each time horizon (short, medium, and long term) that could have a material financial impact on the organisation and distinguish whether the climate-related risks are transition or physical risks, and – a description of the process(es) used to determine which risks and opportunities could have a material financial impact on the organisation. Organisations should consider providing a description of their risks and opportunities by sector and/or geography, as appropriate.
	Supplemental Guidance for Banks: Banks should describe significant concentrations of credit exposure to carbon-related assets. Additionally, banks should consider disclosing their climate-related risks (transition and physical) in their lending and other financial intermediary business activities
RECOMMENDED DISCLOSURE (B)	Describe the impact of climate-related risks and opportunities on the organisation's businesses, strategy, and financial planning.
	Building on recommended disclosure (a), organisations should discuss how identified climate-related issues have affected their businesses, strategy, and financial planning. Organisations should consider including the impact on their businesses and strategy in the following areas: – Products and services – Supply chain and/or value chain – Adaptation and mitigation activities – Investment in research and development

	– Operations (including types of operations and location of facilities) Organisations should describe how climate-related issues serve as an input to their financial planning process, the time period(s) used, and how these risks and opportunities are prioritized. Organisations' disclosures should reflect a holistic picture of the interdependencies among the factors that affect their ability to create value over time. Organisations should also consider including in their disclosures the impact on financial planning in the following areas: – Operating costs and revenues – Capital expenditures and capital allocation – Acquisitions or divestments – Access to capital If climate-related scenarios were used to inform the organisation's strategy and financial planning, such scenarios should be described.
RECOMMENDED DISCLOSURE (C)	Describe the resilience of the organisation's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.
	Organisations should describe how resilient their strategies are to climate-related risks and opportunities, taking into consideration a transition to a lower-carbon economy consistent with a 2°C or lower scenario and, where relevant to the organisation, scenarios consistent with increased physical climate-related risks. Organisations should consider discussing: – where they believe their strategies may be affected by climate-related risks and opportunities; – how their strategies might change to address such potential risks and opportunities; and – the climate-related scenarios and associated time horizon(s) considered.

Strategy - Recommended Disclosure (a)
Describe the climate-related risks and opportunities the organisation has identified over the short, medium, and long term.

Recommended Disclosures	Pathway		
	Type A	Type B	Type C
Describe the climate-related risks and opportunities the organisation has identified over the short, medium, and long term	(1) Describe what the organisation considers to be the relevant short, medium, and long term time horizons, taking into consideration the useful life of the organisation's assets or infrastructure and the fact that climate-related issues often manifest themselves over the medium and longer terms (2) Describe the climate-related risks (transition and physical) in the organisation's lending and other financial intermediary business activities	(1) Describe the specific climate-related issues potentially arising in each time horizon (short, medium, and long term) that could have a material financial impact on the organisation and distinguish whether the climate-related risks are transition or physical risks (2) Describe significant concentrations of credit exposure to carbon-related assets	(1) Describe the process(es) used to determine which risks and opportunities could have a material financial impact on the organisation (2) Describe the organisation's risks and opportunities by sector and/or geography, if appropriate
Best Practice Disclosures	(1) Explanation of strategy and key areas of focus for collaboration, and intermediate and long term targets [HSBC]	(1) Provide comparative index to assess the financial materiality of the climate-related risks and opportunities to the Company [BNP]	(1) Evidence of holding companies to environmental threshold standards [SocGen]

Strategy - Recommended Disclosure (b)

Describe the impact of climate-related risks and opportunities on the organisation's businesses, strategy, and financial planning.

Recommended Disclosures	Pathway		
	Type A	Type B	Type C
Describe the impact of climate-related risks and opportunities on the organisation's businesses, strategy, and financial planning	(1) Describe how identified climate-related issues have affected the organisation's businesses, strategy, and financial planning	(1) Describe the impact on the organisation's businesses and strategy in the following areas: – Products and services – Supply chain and/or value chain – Adaptation and mitigation activities – Investment in research and development – Operations (including types of operations and location of facilities)	(1) Describe how climate-related issues serve as an input to the organisation's financial planning process, the time periods used, and how these risks and opportunities are prioritised. Disclosures should reflect a holistic picture of the interdependencies among the factors that affect their ability to create value over time. Organisations should also consider including in their disclosures the impact on financial planning in the following areas: – Operating costs and revenues – Capital expenditures and capital allocation – Acquisitions or divestments – Access to capital If climate-related scenarios were used to inform the organisation's strategy and financial planning, such scenarios should be described

Best Practice Disclosures	(1) Disclose approach to dealing with climate change and risks in sensitive sectors [Barclays] (1) Disclose that climate related risks and opportunities are integrated into business strategy and risk management framework [NAB]	(1) Statistics on reduction of carbon-related assets and increase in climate-related sustainable investments [UBS]	(1) Statistics and evidence on actions taken in the year to meet goals [UBS, SEB] (1) Future funding strategy and commitments [SEB] (1) Breakdown of progress against goals set [UBS, HSBC]

Strategy - Recommended Disclosure (c)

Describe the resilience of the organisation's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.

Recommended Disclosures	Pathway		
	Type A	Type B	Type C
Describe the resilience of the organisation's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	(1) Describe where they believe their strategies may be affected by climate-related risks and opportunities (2) Where scenario analysis is not performed, disclose the commitment to perform scenario analysis	(1) Describe how their strategies might change to address such potential risks and opportunities Describe and discuss climate-related scenarios and associated time horizons considered	(1) Describe how resilient their strategies are to climate-related risks and opportunities, taking into consideration a transition to a lower-carbon economy consistent with a 2°C or lower scenario and, where relevant to the organisation, scenarios consistent with increased physical climate-related risks
Best Practice Disclosures		(1) Describe scenario analysis in relation to physical climate risk for selected portfolio [NAB, RBS]	(1) Describe evaluation of portfolio allocation against 2°C scenarios, including climate scenario and time horizon used [SocGen] (1) Describe impact on bank's balance sheet quality [Deutsche Bank]

Topic 3: Risk Management

It is essential that investors and stakeholders understand how an organisation evaluates its climate-related risks, and are informed of the strategies in place to manage such risks. Knowledge of risk management information helps stakeholders assess an organisation's overall risk profile and risk management activities.

TCFD'S KEY RECOMMENDATIONS ON RISK MANAGEMENT	
RECOMMENDED DISCLOSURE (A)	Describe the organisation's processes for identifying and assessing climate-related risks.
	Organisations should describe their risk management processes for identifying and assessing climate-related risks. An important aspect of this description is how organisations determine the relative significance of climate-related risks in relation to other risks. Organisations should describe whether they consider existing and emerging regulatory requirements related to climate change (e.g., limits on emissions) as well as other relevant factors considered. Organisations should also consider disclosing the following: – processes for assessing the potential size and scope of identified climate-related risks and – definitions of risk terminology used or references to existing risk classification frameworks used.
	Supplemental Guidance: Banks should consider characterizing their climate-related risks in the context of traditional banking industry risk categories such as credit risk, market risk, liquidity risk, and operational risk. Banks should also consider describing any risk classification frameworks used (e.g., the Enhanced Disclosure Task Force's framework for defining "Top and Emerging Risks").
RECOMMENEDED DISCLOSURE (B)	Describe the organisation's processes for managing climate-related risks.
	Organisations should describe their processes for managing climate-related risks, including how they make decisions to mitigate, transfer, accept, or control those risks. In addition, organisations should describe their processes for prioritizing climate related risks, including how materiality determinations are made within their organisations.
RECOMMENDED DISCLOSURE (C)	Describe how processes for identifying, assessing and managing climate-related risks are integrated into the organisation's overall risk management.
	Organisations should describe how their processes for identifying, assessing, and managing climate-related risks are integrated into their overall risk management.

Risk Management - Recommended Disclosure (a)
Describe the organisation's processes for identifying and assessing climate-related risks.

Recommended Disclosures	Pathway		
	Type A	Type B	Type C
Describe the organisation's processes for identifying and assessing climate-related risks	(1) Describe whether the organisation considers existing and emerging regulatory requirements related to climate change (e.g., limits on emissions) as well as other relevant factors considered	(1) Describe risk management processes for identifying and assessing climate-related risks Disclose definitions of risk terminology used or references to existing risk classification frameworks used Describe any risk classification frameworks used	(1) Characterise climate-related risks in the context of traditional banking industry risk categories such as credit risk, market risk, liquidity risk and operational risk Explain how the relative significance of climate-related risks in relation to other risks is determined Disclose processes for assessing the potential size and scope of identified climate-related risks
Best Practice Disclosures	(1) Consideration of risks arising from climate change and Paris Agreement, and regulatory requirements [NAB]	(1) Identification of risks and opportunities in climate change in accordance with TCFD [First Financial] (1) Risk management approach and disclosure of firmwide policy guidelines for business selection and review process [Goldman Sachs]	(1) Description of how climate-related risks impact each of the principal risks (credit risk, market risk, treasury and capital risk and operational risk) faced by the Group, and how such risks are incorporated into existing enterprise risk management framework [Barclays]

Risk Management - Recommended Disclosures (b) & (c)

Describe the organisation's processes for managing climate-related risks.

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

Recommended Disclosures	Pathway		
	Type A	Type B	Type C
Describe the organisation's processes for managing climate related risks Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organisation's overall risk management	(1) Describe how their processes for identifying, assessing, and managing climate-related risks are integrated into their overall risk management (2) Describe processes for prioritising climate related risks, including how materiality determinations are made within their organisations	(1) Describe their processes for managing climate-related risks including how they make decisions to mitigate, transfer, accept, or control those risks (2) Describe risk appetite statement or metrics in relation to climate risk; options include using a long-term qualitative statement (e.g., being aligned with the Paris Agreement) or using quantitative metrics	(1) Describe whether there are sectors that should no longer be supported, when to exit relationships and when to hedge (2) Describe exposures to physical and transition risk within their own property and the business model, including concentrations of risk at portfolio and transaction level, and by geographical footprint Describe credit risk (e.g. client's Probability of Default or Loss Given Default increases due to climate risk) and counterparty risk (e.g. derivatives client defaulting while bank is in the money)

Best Practice Disclosures	(1) Describe establishment of working level council to identify process to systematically manage climate change risks [KB] (2) Describe the consideration of environmental and social issues to assess potential reputational impacts as part of the independent risk management function [JP Morgan]	(1) Describe the approach to managing climate risk; when climate risk is identified as a cross-cutting risk, clearly define how it will impact each of the principal risks (e.g. credit risk, market risk, treasury and capital risk and operational risk) faced by the Group [Barclays] (2) Describe how climate risks are incorporated into risk appetite, risk taxonomy and financial planning as part of sustainability risks and managed as part of its risk governance [ABN AMRO]	(1) Describe how climate risks are managed through ESG policy framework and restriction of financed activities [ING Group] (1) Identification of sectors and risk policy setting, maintenance of high risk ESG sectors and sensitive areas list [NAB] (2) Describe the identified risk, impact on operations and related risk mitigation management measures [First Financial]

Topic 4: Metrics and Targets

Metrics and targets are essential to monitor an organisation's climate-related risk and opportunities. Metrics and targets can help investor and stakeholders evaluate the organisation's possible risk-adjusted returns, ability to meet its goals and progress in managing its issues. They also provide a basis on which investors and other stakeholders can compare organisations within a sector or industry.

<table>
<tr><th colspan="2">TCFD'S KEY RECOMMENDATIONS ON METRICS AND TARGETS</th></tr>
<tr><td rowspan="3">RECOMMENDED DISCLOSURE (A)</td><td>Disclose the metrics used by the organisation to assess climate-related risks and opportunities in line with its strategy and risk management process.</td></tr>
<tr><td>Organisations should provide the key metrics used to measure and manage climate related risks and opportunities. Organisations should consider including metrics on climate-related risks associated with water, energy, land use, and waste management where relevant and applicable.
Where climate-related issues are material, organisations should consider describing whether and how related performance metrics are incorporated into remuneration policies.
Where relevant, organisations should provide their internal carbon prices as well as climate-related opportunity metrics such as revenue from products and services designed for a lower-carbon economy.
Metrics should be provided for historical periods to allow for trend analysis. In addition, where not apparent, organisations should provide a description of the methodologies used to calculate or estimate climate-related metrics.</td></tr>
<tr><td><u>Supplemental Guidance:</u> Banks should provide the metrics used to assess the impact of (transition and physical) climate-related risks on their lending and other financial intermediary business activities in the short, medium, and long term. Metrics provided may relate to credit exposure, equity and debt holdings, or trading positions, broken down by:
– Industry
– Geography
– Credit quality (e.g., investment grade or non-investment grade, internal rating system)
– Average tenor
Banks should also provide the amount and percentage of carbon-related assets relative to total assets as well as the amount of lending and other financing connected with climate-related opportunities.</td></tr>
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RECOMMENDED DISCLOSURE (B)	Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.
	Organisations should provide their Scope 1 and Scope 2 GHG emissions and, if appropriate, Scope 3 GHG emissions and the related risks. GHG emissions should be calculated in line with the GHG Protocol methodology to allow for aggregation and comparability across organisations and jurisdictions. As appropriate, organisations should consider providing related, generally accepted, industry-specific GHG efficiency ratios. GHG emissions and associated metrics should be provided for historical periods to allow for trend analysis. In addition, where not apparent, organisations should provide a description of the methodologies used to calculate or estimate the metrics.
RECOMMENDED DISCLOSURE (C)	Describe the targets used by the organisation to manage climate related risks and opportunities and performance against targets.
	Organisations should describe their key climate-related targets such as those related to GHG emissions, water usage, energy usage, etc., in line with anticipated regulatory requirements or market constraints or other goals. Other goals may include efficiency or financial goals, financial loss tolerances, avoided GHG emissions through the entire product life cycle, or net revenue goals for products and services designed for a lower carbon economy. In describing their targets, organisations should consider including the following: – whether the target is absolute or intensity based, – time frames over which the target applies, – base year from which progress is measured, and – key performance indicators used to assess progress against targets.

Metrics and Targets - Recommended Disclosure (a)

Disclose the metrics used by the organisation to assess climate-related risks and opportunities in line with its strategy and risk management process.

Recommended Disclosures	Pathway		
	Type A	Type B	Type C
Disclose the metrics used by the organisation to assess climate-related risks and opportunities in line with its strategy and risk management process	(1) Provide the key metrics used to measure and manage climate related risks and opportunities Examples of transition risks and opportunities metrics: – Proportion of portfolio (expressed as % of gross or net lending) with exposure to companies with fossil fuel revenues (from extraction, processing, production or distribution) – Proportion of portfolio (expressed as % of gross or net lending) with exposure to companies in high emitting sectors– Proportion of product held in low carbon opportunities (e.g., loans to companies in climate change mitigating sectors, companies with defined % of revenues from renewables, investments in climate mitigation or adaptation) – Proportion of sovereign bond underwriting undertaken for countries with net zero targets	(1) Include metrics on climate-related risks associated with water, energy, land use, and waste management where relevant and applicable Metrics should be provided for historical periods to allow for trend analysis. In addition, where not apparent, organisations should provide a description of the methodologies used to calculate or estimate climate-related metrics. Examples of transition risks and opportunities metrics: – Proportion of clients (lending/securities underwriting) with explicit and credible risk mitigation plans – Proportion of securities underwriting revenue from carbon-related business Examples of physical risks metrics: – Proportion of portfolio highly exposed to key indicators of physical risks (e.g. mortgages secured on property in low lying areas), by geography/sector – Credit risk exposure of portfolio in relation to key indicators of physical risk (according to their risk	(1) Where climate-related issues are material, organisations should consider describing whether and how related performance metrics are incorporated into remuneration policies Provide internal carbon prices as well as climate-related opportunity metrics such as revenue from products and services designed for a lower-carbon economy Provide the metrics used to assess the impact of (transition and physical) climate-related risks on their lending and other financial intermediary business activities in the short, medium, and long term. Metrics provided may relate to credit exposure, equity and debt holdings, or trading positions, broken down by: – Industry or sector – Geography – Credit quality (e.g., investment grade or non-investment grade, internal rating system) – Average tenor Provide the amount and percentage of carbon-related assets relative to total assets as well as the amount of lending and

		prioritisation), by geography/sector	other financing connected with climate-related opportunities Examples of transition risks and opportunities metrics: – Financed (Scope 3) portfolio GHG emissions (comprised of Scope 1 and 2 emissions of clients (including debt investments and project finance), plus Scope 3 emissions of investees where significant) for a particular sector or geography in MtCO2e – Weighted average carbon intensity of the portfolio in MtCO2e/$m financed emissions for particular sectors or geographies, according to their risk prioritisation
Best Practice Disclosures	(1) Provide credit exposure for each industry sector identified with elevated risk from impacts of climate change, and what this represents in terms of the proportion of total portfolio [Barclays]	(1) Disclose the underwriting and distributing of debt and equity securities in carbon-related assets [Barclays]	(1) Disclosed exposure to different sectors in terms of percentage of portfolio and relative change in exposure [NAB]

Metrics and Targets - Recommended Disclosure (b)

Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.

Recommended Disclosures	Pathway		
	Type A	Type B	Type C
Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks	(1) Provide their Scope 1 and Scope 2 GHG emissions and, if appropriate, Scope 3 GHG emissions arising from the organisation's operations and the related risks GHG emissions should be calculated in line with the GHG Protocol methodology As appropriate, organisations should consider providing related, generally accepted, industry-specific GHG efficiency ratios		(1) GHG emissions and associated metrics should be provided for historical periods to allow for trend analysis In addition, where not apparent, organisations should provide a description of the methodologies used to calculate or estimate the metrics
Best Practice Disclosures	(1) Disclose GHG emissions and emissions of lending portfolio under Scope 3 GHG emissions [ABN AMRO]		(1) Provide GHG emissions for historical periods of at least 3 years [Barclays, NAB, Goldman Sachs]

Metrics and Targets - Recommended Disclosure (c)

Describe the targets used by the organisation to manage climate-related risks and opportunities and performance against targets.

Recommended Disclosures	Pathway		
	Type A	Type B	Type C
Describe the targets used by the organisation to manage climate related risks and opportunities and performance against targets	(1) Describe their key climate-related targets such as those related to GHG emissions, water usage, energy usage, etc., and timeframes for which these targets apply, where relevant and appropriate	(1) In describing their targets, organisations should consider including the following: – Whether the target is absolute or intensity based – Time frames over which the target applies – Base year from which progress is measured – Key performance indicators used to assess progress against targets	(1) Describe key climate-related targets and timeframes in line with other goals, which may include efficiency or financial goals, financial loss tolerances, avoided GHG emissions through the entire product life cycle, or net revenue goals for products and services designed for a lower carbon economy
Best Practice Disclosures	(1) Disclose implementation of initiative to contribute to nation's transition to low carbon economy by 2030 [Shinhan]	(1) Disclose approach to measure and steer ING's lending portfolio towards the Paris Agreement's climate goals [ING Group] (1) Describe the strategies in place to achieve the climate-related targets and progress updates on implementation of the strategies against the climate targets [Barclays]	(1) Disclose achievements and targets [NAB, Goldman Sachs]

INDUSTRY B:
ASSET MANAGERS

Governance - Recommended Disclosure (a)
Describe the board's oversight of climate-related risks and opportunities.

Recommended Disclosures	Pathway		
	Type A	Type B	Type C
Describe the board's oversight of climate-related risks and opportunities	(1) Describe processes and frequency by which the board and/or board committees (e.g., audit, risk, or other committees) are informed about climate-related issues	(1) Describe how the board monitors and oversees progress against goals and targets for addressing climate-related issues	(1) Describe whether the board and/or board committees consider climate-related issues when reviewing and guiding strategy, major plans of action, risk management policies, annual budgets, and business plans as well as setting the organization's performance objectives, monitoring implementation and performance, and overseeing major capital expenditures, acquisitions, and divestitures
Best Practice Disclosures	(1) Disclose the process of reporting and provide specific examples about the reporting process, e.g. persons responsible of oversight of climate-related issues [BNY] (1) Disclose the frequency of reports made to the board committee on relevant climate-related issues [Orix]	(1) Disclose key personnel responsible for oversight and management of climate-related issues [HFML]	(1) Disclose the Board committees' commitment to consider climate-related issues in their review of strategy of the firm [BMO]

Governance - Recommended Disclosure (b)

Describe management's role in assessing and managing climate-related risks and opportunities.

Recommended Disclosures	Pathway		
	Type A	Type B	Type C
Describe management's role in assessing and managing climate-related risks and opportunities	(1) Describe whether the organisation has assigned climate-related responsibilities to management-level positions or committees; and, if so, whether such management positions or committees report to the board or a committee of the board and whether those responsibilities include assessing and/or managing climate-related issues	(1) Describe the associated organisational structure(s) and processes by which the management is informed about climate-related issues	(1) Describe how management (through specific positions and/or management committees) monitors climate-related issues
Best Practice Disclosures	(1) Describe climate-related responsibilities assigned to management-level positions or committees [BMO] (1) Describe climate-related responsibilities assigned to management-level positions or committees, specifically at the investment portfolio level [Nomura]	(1) Disclose the area of oversight by the key management personnel (KMPs) and the reporting line for the KMPs to the management committees regarding climate-related issues [BMO]	(1) Describe the process by which management monitors and identifies climate-related issues [BNP]

Topic 2: Strategy

Investors and stakeholders are concerned with the process that an organisation takes in managing its short, medium and long-term business strategy. Having such details informs the outlook and expectations of an organisation's future performance.

TCFD'S KEY RECOMMENDATIONS ON STRATEGY	
RECOMMENDED DISCLOSURE (A)	Describe the climate-related risks and opportunities the organisation has identified over the short, medium, and long term.
	Organisations should provide the following information: – a description of what they consider to be the relevant short-, medium-, and long term time horizons, taking into consideration the useful life of the organisation's assets or infrastructure and the fact that climate-related issues often manifest themselves over the medium and longer terms, – specific climate-related issues for each time horizon (short, medium, and long term) that could have a material financial impact on the organisation and distinguish whether the climate-related risks are transition or physical risks, and – a description of the process(es) used to determine which risks and opportunities could have a material financial impact on the organisation. Organisations should consider providing a description of their risks and opportunities by sector and/or geography, as appropriate.
RECOMMENDED DISCLOSURE (B)	Describe the impact of climate-related risks and opportunities on the organisation's businesses, strategy, and financial planning.
	Building on recommended disclosure (a), organisations should discuss how identified climate-related issues have affected their businesses, strategy, and financial planning. Organisations should consider including the impact on their businesses and strategy in the following areas: – Products and services – Supply chain and/or value chain – Adaptation and mitigation activities – Investment in research and development – Operations (including types of operations and location of facilities) Organisations should describe how climate-related issues serve as an input to their financial planning process, the time period(s) used, and how these risks and opportunities are prioritized. Organisations' disclosures should reflect a holistic picture of the interdependencies among the factors that affect their ability to create value over time.

	Organisations should also consider including in their disclosures the impact on financial planning in the following areas: – Operating costs and revenues – Capital expenditures and capital allocation – Acquisitions or divestments – Access to capital If climate-related scenarios were used to inform the organisation's strategy and financial planning, such scenarios should be described.
	Supplemental Guidance for Asset Managers: Asset managers should describe how climate-related risks and opportunities are factored into relevant products or investment strategies. Asset managers should also describe how each product or investment strategy might be affected by the transition to a lower-carbon economy.
RECOMMENDED DISCLOSURE (C)	Describe the resilience of the organisation's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.
	Organisations should describe how resilient their strategies are to climate-related risks and opportunities, taking into consideration a transition to a lower-carbon economy consistent with a 2°C or lower scenario and, where relevant to the organisation, scenarios consistent with increased physical climate-related risks. Organisations should consider discussing: – where they believe their strategies may be affected by climate-related risks and opportunities; – how their strategies might change to address such potential risks and opportunities; and – the climate-related scenarios and associated time horizon(s) considered.

Strategy - Recommended Disclosure (a)
Describe the climate-related risks and opportunities the organisation has identified over the short, medium, and long term.

Recommended Disclosures	Pathway		
	Type A	Type B	Type C
Describe the climate-related risks and opportunities the organisation has identified over the short, medium, and long term	(1) Describe what they consider to be the relevant short-, medium-, and long-term time horizons, taking into consideration the useful life of the organisation's assets or infrastructure, and the fact that climate-related issues often manifest themselves over the medium and longer terms (2) Describe specific climate-related issues for each time horizon (short, medium, and long term) that could have a material financial impact on the organisation and distinguish whether the climate-related risks are transition or physical risks	(1) Provide a description of the process(es) used to determine which risks and opportunities could have a material financial impact on the organisation	(1) Describe the organisation's risks and opportunities by sector and/or geography, as appropriate
Best Practice Disclosures	(1) Provide qualitative justifications for the short, medium and long-term time horizon chosen [BNY] (2) Describe the climate-related risks and opportunities for each time horizon [HFML]	(1) Describe the process of determining climate-related risks and opportunities for the company [HFML] (1) Describe the process for determining specific risks and opportunities that could have a material financial impact on the organisation [Orix]	(1) Describe the financial impact tied to the specific risks & opportunities based on each time horizon to the Company and on portfolio companies [Nomura] (1) Describe comparative significance of impact of the climate-related risks and opportunities to the Company, its operations and its clients [BNP]

Strategy - Recommended Disclosure (b)

Describe the impact of climate-related risks and opportunities on the organisation's businesses, strategy, and financial planning.

Recommended Disclosures	Pathway		
	Type A	Type B	Type C
Describe the impact of climate-related risks and opportunities on the organisation's businesses, strategy, and financial planning	(1) Discuss how identified climate-related issues have affected their businesses, strategy, and financial planning	(1) AMs should consider including the impact of climate-related risks and opportunities, on their businesses and strategy in the following areas: – Products and services – Supply chain and/or value chain – Adaptation and mitigation activities – Investment in research and development – Operations (including types of operations and location of facilities) (2) AMs should describe how climate-related risks and opportunities are factored into relevant products or investment strategies	(1) Describe how climate-related issues (including client's preferences and awareness regarding climate-related risks and opportunities) serve as an input to their financial planning process, the time period(s) used, and how these risks and opportunities are prioritized Disclosures should reflect a holistic picture of the interdependencies among the factors that affect their ability to create value over time AMs should also consider including in their disclosures the impact on financial planning in the following areas: – Operating costs and revenues – Capital expenditures and capital allocation – Acquisitions or divestments – Access to capital If climate-related scenarios were used to inform the AM's strategy and financial planning, such scenarios should be described

			(2) Describe how each product or investment strategy might be affected by the transition to a lower-carbon economy Describe how climate-related risks and opportunities are factored into relevant products or investment strategies
Best Practice Disclosures	(1) Describe how the identified climate-related issues are affecting their business and strategies [BNY] (1) Describe how the identified risks and opportunities are integrated into the long-term strategy of the AM [HFML]	(1) Describe the exclusion of investments that are carbon intensive, based on a certain threshold, in their businesses and strategy [Orix] (1) Describe with specific examples how the organisation has included the impact of climate risks and opportunities into their businesses and strategy across multiple areas [BNP] (2) Discuss how climate related risks and opportunities have affected investment strategy on business line level, beyond the groups [BNP]	(1) Explain how climate-related issues serve as an input in the allocation of assets [Orix] (2) Discuss considerations of risks and opportunities from a lower carbon economy in evaluation of strategic changes [HFML]

Strategy - Recommended Disclosure (c)

Describe the resilience of the organisation's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.

Recommended Disclosures	Pathway		
	Type A	Type B	Type C
Describe the resilience of the organisation's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario	(1) Discuss where they believe their strategies may be affected by climate-related risks and opportunities. In its discussion, companies should also consider describing how their strategies may be affected (2) Where scenario analysis is not performed, disclose the commitment to perform scenario analysis	(1) Discuss how their strategies might change to address such potential risks and opportunities Discuss climate-related scenarios and associated time horizon(s) considered	(1) Describe how resilient their strategies are to climate-related risks and opportunities, taking into consideration a transition to a lower-carbon economy consistent with a 2°C or lower scenario and, where relevant to the organisation, scenarios consistent with increased physical climate-related risks
Best Practice Disclosures	(1) Describe how their strategies would be affected by climate-related risks and opportunities [Nomura] (1) Describe their risk profile and risk mitigation strategies, in relation to climate-related risks and opportunities, in the short-, medium- and long-term time horizons [BNY]	(1) State the risks and opportunities identified for each climate-related scenario considered [HFML] (1) Describe the strategy changes to mitigate the climate-related risks and opportunities identified for the firm [BNP, BNY]	(1) Describe the scenarios tied to increased physical climate-related risks and how they are selected, including data sources, relevant aiding parties and scoring methodologies [BNP] (1) Discussion on multiple scenarios beyond 2°C based on climate-related risks (transition and physical) and quantifying/providing comparative analysis of said risks, across the AM and their portfolios [Nomura]

Topic 3: Risk Management

It is essential that investors and stakeholders understand how an organisation evaluates its climate-related risks, and are informed of the strategies in place to manage such risks. Knowledge of risk management information helps stakeholders assess an organisation's overall risk profile and risk management activities.

TCFD'S KEY RECOMMENDATION ON RISK MANAGEMENT	
RECOMMENDED DISCLOSURE (A)	Describe the organisation's processes for identifying and assessing climate-related risks.
	Organisations should describe their risk management processes for identifying and assessing climate-related risks. An important aspect of this description is how organisations determine the relative significance of climate-related risks in relation to other risks. Organisations should describe whether they consider existing and emerging regulatory requirements related to climate change (e.g., limits on emissions) as well as other relevant factors considered. Organisations should also consider disclosing the following: – processes for assessing the potential size and scope of identified climate-related risks and – definitions of risk terminology used or references to existing risk classification frameworks used.
	Supplemental Guidance: Asset managers should describe, where appropriate, engagement activity with investee companies to encourage better disclosure and practices related to climate-related risks in order to improve data availability and asset managers' ability to assess climate-related risks. Asset managers should also describe how they identify and assess material climate-related risks for each product or investment strategy. This might include a description of the resources and tools used in the process.
RECOMMENDED DISCLOSURE (B)	Describe the organisation's processes for managing climate-related risks.
	Organisations should describe their processes for managing climate-related risks, including how they make decisions to mitigate, transfer, accept, or control those risks. In addition, organisations should describe their processes for prioritizing climate related risks, including how materiality determinations are made within their organisations.
	Supplemental Guidance: Asset managers should describe how they manage material climate-related risks for each product or investment strategy.

RECOMMENDED DISCLOSURE (C)	Describe how processes for identifying, assessing and managing climate-related risks are integrated into the organisation's overall risk management.
	Organisations should describe how their processes for identifying, assessing, and managing climate-related risks are integrated into their overall risk management.

Risk Management - Recommended Disclosure (a)

Describe the organisation's processes for identifying and assessing climate-related risks.

Recommended Disclosures	Pathway		
	Type A	Type B	Type C
Describe the organisation's processes for identifying and assessing climate-related risks	(1) Describe whether the organisation considers existing and emerging regulatory requirements related to climate change (e.g., limits on emissions) as well as other relevant factors considered (2) Describe the risk management processes for identifying and assessing climate-related risks The description should include how the organisation determine the relative significance of climate-related risks in relation to other risks (3) Disclose processes for assessing the potential size and scope of identified climate-related risks Disclose definitions of risk terminology used or references to existing risk classification frameworks used	(1) Describe, where appropriate, engagement activity with investee companies to encourage better disclosure and practices related to climate-related risks in order to improve data availability and asset managers' ability to assess climate-related risks	(1) Asset managers should also describe how they identify, assess, and manage material climate-related risks for each product or investment strategy. This might include a description of the resources and tools used in the process In disclosing the resources used in the process, describe whether internal data (e.g. due diligence questionnaires, review of public disclosures) or external data (e.g. index providers or ESG raters) are used

Best Practice Disclosures	(1) Describe what existing regulatory requirements related to climate change are considered in identifying and assessing climate-related risks [HFML, Orix, BMO] (2) Describe the management process for identifying and assessing climate-related risk [BNY, Nomura] (3) Define the types of climate-related risks (transition & physical) [BNP]	(1) Describe initiatives taken to engage investee companies to encourage better disclosure and practices related to climate-related risks, with specific case study [Nomura, HFML, BNY]	(1) Describe the tool used to assess climate-related risks across products and strategies [HFML] (1) Describe the tool and methodologies for individual product types used to assess climate-related risks for said product [BMO]

Risk Management - Recommended Disclosures (b) & (c)

Describe the organisation's processes for managing climate-related risks.

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

Recommended Disclosures	Pathway		
	Type A	Type B	Type C
Describe the organisation's processes for managing climate related risks Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organisation's overall risk management		(1) Describe how their processes for identifying, assessing, and managing climate-related risks are integrated into their overall risk management Describe their processes for managing climate-related risks including how they make decisions to mitigate, transfer, accept, or control those risks	(1) Describe processes for prioritising climate related risks, including how materiality determinations are made within their organisations
Best Practice Disclosures		(1) Disclose the policies in place on how they mitigate, transfer, accept or control risks (e.g. operational risk, credit risk and market risk) [BNY] (1) Disclose specific strategies adopted to incorporate risks, specifically climate-related risks, in the risk management systems [BNP] (1) Describe the processes for managing climate related risks in different asset classes [HFML]	(1) Diagrammatic breakdown of material issues faced by the organization, on top of disclosing methodology of assessing materiality [BNP]

Topic 4: Metrics and Targets

Metrics and targets are essential to monitor an organisation's climate-related risk and opportunities. Metrics and targets can help investor and stakeholders evaluate the organisation's possible risk-adjusted returns, ability to meet its goals and progress in managing its issues. They also provide a basis on which investors and other stakeholders can compare organisations within a sector or industry.

TCFD'S KEY RECOMMENDATION ON METRICS AND TARGETS	
RECOMMENDED DISCLOSURE (A)	Disclose the metrics used by the organisation to assess climate-related risks and opportunities in line with its strategy and risk management process.
	Organisations should provide the key metrics used to measure and manage climate related risks and opportunities. Organisations should consider including metrics on climate-related risks associated with water, energy, land use, and waste management where relevant and applicable. Where climate-related issues are material, organisations should consider describing whether and how related performance metrics are incorporated into remuneration policies. Where relevant, organisations should provide their internal carbon prices as well as climate-related opportunity metrics such as revenue from products and services designed for a lower-carbon economy. Metrics should be provided for historical periods to allow for trend analysis. In addition, where not apparent, organisations should provide a description of the methodologies used to calculate or estimate climate-related metrics.
	Supplemental Guidance: Asset managers should describe metrics used to assess climate-related risks and opportunities in each product or investment strategy. Where relevant, asset managers should also describe how these metrics have changed over time. Where appropriate, asset managers should provide metrics considered in investment decisions and monitoring.
RECOMMENDED DISCLOSURE (B)	Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.
	Organisations should provide their Scope 1 and Scope 2 GHG emissions and, if appropriate, Scope 3 GHG emissions and the related risks. GHG emissions should be calculated in line with the GHG Protocol methodology to allow for aggregation and comparability across organisations and jurisdictions. As appropriate, organisations should consider providing related, generally accepted, industry-specific GHG efficiency ratios.

	GHG emissions and associated metrics should be provided for historical periods to allow for trend analysis. In addition, where not apparent, organisations should provide a description of the methodologies used to calculate or estimate the metrics.
	Supplemental Guidance: Asset managers should provide the weighted average carbon intensity, where data are available or can be reasonably estimated, for each product or investment strategy. In addition, asset managers should provide other metrics they believe are useful for decision making along with a description of the methodology used.
RECOMMENDED DISCLOSURE (C)	Describe the targets used by the organisation to manage climate related risks and opportunities and performance against targets.
	Organisations should describe their key climate-related targets such as those related to GHG emissions, water usage, energy usage, etc., in line with anticipated regulatory requirements or market constraints or other goals. Other goals may include efficiency or financial goals, financial loss tolerances, avoided GHG emissions through the entire product life cycle, or net revenue goals for products and services designed for a lower carbon economy. In describing their targets, organisations should consider including the following: – whether the target is absolute or intensity based, – time frames over which the target applies, – base year from which progress is measured, and – key performance indicators used to assess progress against targets. Where not apparent, organisations should provide a description of the methodologies used to calculate targets and measures.

Metrics and Targets - Recommended Disclosure (a)

Disclose the metrics used by the organisation to assess climate-related risks and opportunities in line with its strategy and risk management process.

Recommended Disclosures	Pathway		
	Type A	Type B	Type C
Disclose the metrics used by the organisation to assess climate-related risks and opportunities in line with its strategy and risk management process	(1) Provide the key metrics used to measure and manage climate-related risks and opportunities Include metrics on climate-related risks associated with water, energy, land use, and waste management where relevant and applicable Examples of transition risks and opportunities metrics: – Proportion of portfolio with exposure to companies with fossil fuel revenues (from extraction, processing, production or distribution) – Proportion of product held in low carbon opportunities (e.g., companies in climate change mitigating sectors, companies with defined % of revenues from renewables, investments in climate mitigation or adaptation) – Proportion of portfolio reporting against climate reporting frameworks (e.g. CDP, TCFD, SASB, CDSB)	(1) Metrics should be provided for historical periods to allow for trend analysis. In addition, where not apparent, organisations should provide a description of the methodologies used to calculate or estimate climate-related metrics	(1) Where climate-related issues are material, organisations should consider describing whether and how related performance metrics are incorporated into remuneration policies

Best Practice Disclosures	(1) Describe the climate-related transition risks of the organisation and the portfolio companies. [BMO, BNP] (1) Describe climate-related physical risks of the organisation and the portfolio companies. Physical risks include: acute and chronic risks [Nomura]	(1) Dashboard, measuring greenhouse gas emissions and renewable energy financing, electricity with historical data [BNP]	(1) Describe how climate related performance metrics are incorporated into remuneration policies [BNP]

Metrics and Targets - Recommended Disclosures (b) & (c)

Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.

Describe the targets used by the organisation to manage climate-related risks and opportunities and performance against targets.

Recommended Disclosures	Pathway		
	Type A	Type B	Type C
Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks Describe the targets used by the organisation to manage climate related risks and opportunities and performance against targets	(1) AMs should provide their entity-level Scope 1 and Scope 2 GHG emissions and, if appropriate, Scope 3 GHG emissions and the related risks GHG emissions should be calculated in line with the GHG Protocol methodology to allow for aggregation and comparability across AMs and jurisdictions As appropriate, AMs should consider providing related, generally accepted, industry-specific GHG efficiency ratios	(1) GHG emissions and associated metrics should be provided for historical periods to allow for trend analysis In addition, where not apparent, AMs should provide a description of the methodologies used to calculate or estimate the metrics AMs should disclose their Scope 3 GHG emissions in relation to their portfolios, if appropriate	(1) AMs should describe their key climate-related targets such as those related to GHG emissions, water usage, energy usage, etc., in line with anticipated regulatory requirements or market constraints or other goals The other goals may include efficiency or financial goals, financial loss tolerances, avoided GHG emissions through the entire product life cycle, or net revenue goals for products and services designed for a lower carbon economy In describing their targets, organisations should consider including the following: – Whether the target is absolute or intensity based, – Time frames over which the target applies, – Base year from which progress is measured, and – Key performance indicators used to assess progress against targets

Best Practice Disclosure	(1) Disclose Scope 1, Scope 2 and Scope 3 GHG emissions [BNP]	(1) Provide GHG emissions for historical periods of at least 3 years [BNY] (1) Provide weighted average carbon intensity and ratio of different portfolios by industry [Nomura] (1) Describe in more details Scope 1, Scope 2 and Scope 3 GHG emissions and the corresponding methodologies for computation [BNY]	(1) Describe climate-related targets including GHG emissions and amount allocated to renewable energy finance [BNP]

Industry C: Insurance Companies

Topic 1: Governance

Knowledge of the role an organisation's board plays in overseeing climate-related issues, as well as the management's role in assessing and managing those issues, is of importance and interest to investors and stakeholders. Such facts inform whether appropriate board and management attention has been given to material climate-related issues.

TCFD'S KEY RECOMMENDATIONS ON GOVERNANCE	
RECOMMENDED DISCLOSURE (A)	Describe the board's oversight of climate-related risks and opportunities.
	In describing the board's oversight of climate-related issues, organisations should consider including a discussion of the following: – processes and frequency by which the board and/or board committees (e.g., audit, risk, or other committees) are informed about climate-related issues, – whether the board and/or board committees consider climate-related issues when reviewing and guiding strategy, major plans of action, risk management policies, annual budgets, and business plans as well as setting the organisation's performance objectives, monitoring implementation and performance, and overseeing major capital expenditures, acquisitions, and divestitures, and – how the board monitors and oversees progress against goals and targets for addressing climate-related issues.
RECOMMENDED DISCLOSURE (B)	Describe management's role in assessing and managing climate-related risks and opportunities.
	In describing management's role related to the assessment and management of climate-related issues, organisations should consider including the following information: – whether the organisation has assigned climate-related responsibilities to management-level positions or committees; and, if so, whether such management positions or committees report to the board or a committee of the board and whether those responsibilities include assessing and/or managing climate-related issues, – a description of the associated organisational structure(s), – processes by which management is informed about climate-related issues, and – how management (through specific positions and/or management committees) monitors climate-related issues.

Governance - Recommended Disclosure (a)
Describe the board's oversight of climate-related risks and opportunities.

Recommended Disclosures	Maturity		
	Type A	Type B	Type C
Describe the board's oversight of climate-related risks and opportunities	(1) Describe processes by which the board and/or board committees (e.g., audit, risk, or other committees) are informed about climate-related issues (2) Describe frequency by which the board and/or board committees (e.g., audit, risk, or other committees) are informed about climate-related issues	(1) Describe whether the board and/or board committees consider climate-related issues when reviewing and guiding strategy, major plans of action, risk management policies, annual budgets, and business plans as well as setting the organization's performance objectives, monitoring implementation and performance, and overseeing major capital expenditures, acquisitions, and divestitures	(1) Describe how the board monitors and oversees progress against goals and targets for addressing climate-related issues
Best Practice Disclosures	(1) Disclose details of climate-related committee meetings to the Board [MS&AD] (2) Disclose the number of times the board is informed about climate-related issues [MS&AD]	(1) Disclose consideration of climate-related issues by a dedicated committee on the Board level [Storebrand ASA] (1) Disclose specific committees involved and how these committees integrate climate-related issues into their actions [Swiss Re]	(1) Describe how climate-related issues are monitored by the committees and individuals who have been placed responsible [Storebrand ASA]

Governance - Recommended Disclosure (b)

Describe management's role in assessing and managing climate-related risks and opportunities.

Recommended Disclosures	Maturity		
	Type A	Type B	Type C
Describe management's role in assessing and managing climate-related risks and opportunities	(1) Describe whether the organization has assigned climate-related responsibilities to management-level positions or committees. and if so, whether such management positions or committees report to the board or a committee of the board and whether those responsibilities include assessing and/or managing climate-related issues and the processes by which management is informed about climate-related issues	(1) Describe how management (through specific positions and/or management committees) monitors climate-related issues	
Best Practice Disclosures	(1) Describe the specific responsibilities of the committees or Individuals assigned to manage and assess climate-related issues [Generali]	(1) Describe the key management personnel involved in monitoring climate-related issues within the firm [Allianz, Cathay, Great Eastern, UOI, AIA]	

Topic 2: Strategy

Investors and stakeholders are concerned with the process that an organisation takes in managing its short, medium and long-term business strategy. Having such details informs the outlook and expectations of an organisation's future performance.

TCFD'S KEY RECOMMENDATIONS ON STRATEGY	
RECOMMENDED DISCLOSURE (A)	Describe the climate-related risks and opportunities the organisation has identified over the short, medium, and long term.
	Organisations should provide the following information: – a description of what they consider to be the relevant short-, medium-, and long term time horizons, taking into consideration the useful life of the organisation's assets or infrastructure and the fact that climate-related issues often manifest themselves over the medium and longer terms, – specific climate-related issues for each time horizon (short, medium, and long term) that could have a material financial impact on the organisation and distinguish whether the climate-related risks are transition or physical risks, and – a description of the process(es) used to determine which risks and opportunities could have a material financial impact on the organisation. Organisations should consider providing a description of their risks and opportunities by sector and/or geography, as appropriate.
RECOMMENDED DISCLOSURE (B)	Describe the impact of climate-related risks and opportunities on the organisation's businesses, strategy, and financial planning.
	Building on recommended disclosure (a), organisations should discuss how identified climate-related issues have affected their businesses, strategy, and financial planning. Organisations should consider including the impact on their businesses and strategy in the following areas: – Products and services – Supply chain and/or value chain – Adaptation and mitigation activities – Investment in research and development – Operations (including types of operations and location of facilities) Organisations should describe how climate-related issues serve as an input to their financial planning process, the time period(s) used, and how these risks and opportunities are prioritized. Organisations' disclosures should reflect a holistic picture of the interdependencies among the factors that affect their ability to create value over time.

	Organisations should also consider including in their disclosures the impact on financial planning in the following areas: – Operating costs and revenues – Capital expenditures and capital allocation – Acquisitions or divestments – Access to capital If climate-related scenarios were used to inform the organisation's strategy and financial planning, such scenarios should be described.
	Supplemental Guidance: Insurance companies should describe the potential impacts of climate-related risks and opportunities, as well as provide supporting quantitative information where available, on their core businesses, products, and services, including: – information at the business division, sector, or geography levels; – how the potential impacts influence client, cedent, or broker selection; and – whether specific climate-related products or competencies are under development, such as insurance of green infrastructure, specialty climate-related risk advisory services, and climate-related client engagement.
RECOMMENDED DISCLOSURE (C)	Describe the resilience of the organisation's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.
	Organisations should describe how resilient their strategies are to climate-related risks and opportunities, taking into consideration a transition to a lower-carbon economy consistent with a 2°C or lower scenario and, where relevant to the organisation, scenarios consistent with increased physical climate-related risks. Organisations should consider discussing: – where they believe their strategies may be affected by climate-related risks and opportunities; – how their strategies might change to address such potential risks and opportunities; and – the climate-related scenarios and associated time horizon(s) considered.
	Supplemental Guidance: Insurance companies that perform climate-related scenario analysis on their underwriting activities should provide the following information: – description of the climate-related scenarios used, including the critical input parameters, assumptions and considerations, and analytical choices. In addition to a 2°C scenario, insurance companies with substantial exposure to weather-related perils should consider using a greater than 2°C scenario to account for physical effects of climate change and

	– time frames used for the climate-related scenarios, including short-, medium-, and long-term milestones.

Strategy - Recommended Disclosure (a)

Describe the climate-related risks and opportunities the organisation has identified over the short, medium, and long term.

Recommended Disclosures	Maturity		
	Type A	Type B	Type C
Describe the climate-related risks and opportunities the organisation has identified over the short, medium, and long term	(1) Describe what they consider to be the relevant short-, medium-, and long-term time horizons, taking into consideration the useful life of the insurer's products or infrastructure and the fact that climate-related issues often manifest themselves over the medium and longer terms	(1) Describe specific climate-related issues for each time horizon (short, medium, and long term) that could have a material financial impact on the insurer's organisation	(1) Describe the process(es) used to determine which risks and opportunities could have a material financial impact on the organisation (2) Organisations should consider providing a description of their risks and opportunities by sector and/or geography, as appropriate
Best Practice Disclosures	(1) Disclose what they consider to be the time horizon, taking into consideration the organisation's products and services [NN Group] (1) Describe what the organisation considers to be the time horizon and how it was determined [Metlife]	(1) Describe specific climate related issues for different time horizon [Cathay] (1) Described specific risks identified and elaborate on, interalia, company-specific description, time horizon, magnitude, explanation of financial impact figure, management method, etc [Metlife]	(1) Disclose process for identifying and assessing materiality of climate related risk in different markets [Generali] (2) Describe risks and opportunities with reference to classification in the TCFD recommendations [Swiss Re] (2) Describe specific scenarios of climate related issues by sector, with reference to classification in the TCFD recommendations [NN Group] (2) Describe climate related issues with examples of their impact in different sectors and geography, with reference to classification in the TCFD recommendations [Generali]

Strategy - Recommended Disclosure (b)

Describe the impact of climate-related risks and opportunities on the organisation's businesses, strategy, and financial planning.

Recommended Disclosures	Maturity		
	Type A	Type B	Type C
Describe the impact of climate-related risks and opportunities on the organisation's businesses, strategy, and financial planning	(1) Discuss how identified climate-related issues have affected their businesses, strategy, and financial planning	(1) Insurance companies should consider including the impact on their businesses and strategy in the following areas: – Products and services – Supply chain and/or value chain – Adaptation and mitigation activities – Investment in research and development – Operations (including types of operations and location of facilities)	(1) Describe the potential impacts of climate-related risks and opportunities, as well as provide supporting quantitative information where available, on their core businesses, products, and services, including: – information at the business division, sector, or geography levels; – how the potential impacts influence client, cedent, or broker selection; and – whether specific climate-related products or competencies are under development, such as insurance of green infrastructure, specialty climate-related risk advisory services, and climate-related client engagement
Best Practice Disclosures	(1) Disclose impact of climate-related opportunities on the organisation [NN Group] (1) Disclose impact of climate-related risks on strategy and business, with specific examples [Manulife]	(1) Discuss impact of climate related issues on their strategy and business [Cathay] (1) Disclose the stakeholders impacted in the areas discussed, the impact and actions taken as a result of that impact [MetLife]	(1) Describe potential impact of climate related issues on products and services [MS&AD] (1) Describe key risk with provision of quantitative information to justify the risk, and explain how it is mitigating climate risks e.g. client engagement [Swiss Re]

		(1) Describe how climate related issues affect their financial planning process, with consideration of TCFD recommended areas [MetLife]	

Strategy - Recommended Disclosure (c)

Describe the resilience of the organisation's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.

Recommended Disclosures	Maturity		
	Type A	Type B	Type C
Describe the resilience of the organisation's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario	(1) Organisations should consider discussing: – where they believe their strategies may be affected by climate-related risks and opportunities – how their strategies might change to address such potential risks and opportunities – the climate-related scenarios and associated time horizon(s) considered	(1) Insurance companies that perform climate-related scenario analysis on their underwriting activities should provide the following information: – description of the climate-related scenarios used, including the critical input parameters, assumptions and considerations, and analytical choices. In addition to a 2°C scenario, insurance companies with substantial exposure to weather- related perils should consider using a greater than 2°C scenario to account for physical effects of climate change; and – time frames used for the climate-related scenarios, including short-, medium-, and long-term milestones	(1) In applying scenario analysis, organisations should consider general implications for their strategies, capital allocation, and costs and revenues, both at an enterprise-wide level and at the level of specific regions and markets where specific implications of climate change for the organisation are likely to arise Insurance companies should consider using scenario analysis to evaluate the potential impact of climate-related scenarios on underwriting activities
Best Practice Disclosures	(1) Describe changes in strategy to address climate-related issues [Allianz] (1) Describe the areas of business that will be most exposed to climate-related risks with reference to the climate scenarios considered [Aviva]	(1) Describe the climate-related scenario used which include the temperature rise (beyond 2 degree Celsius) for each scenario, and the time horizon considered for each scenario [Aviva]	(1) Describe potential climate-related impacts identified from scenario analysis on its underwriting activities [Aviva]

Topic 3: Risk Management

It is essential that investors and stakeholders understand how an organisation evaluates its climate-related risks, and are informed of the strategies in place to manage such risks. Knowledge of risk management information helps stakeholders assess an organisation's overall risk profile and risk management activities.

<table>
<tr><th colspan="2">TCFD'S KEY RECOMMENDATIONS ON RISK MANAGEMENT</th></tr>
<tr><td rowspan="3">RECOMMENDED DISCLOSURE (A)</td><td>Describe the organisation's processes for identifying and assessing climate-related risks.</td></tr>
<tr><td>Organisations should describe their risk management processes for identifying and assessing climate-related risks. An important aspect of this description is how organisations determine the relative significance of climate-related risks in relation to other risks.
Organisations should describe whether they consider existing and emerging regulatory requirements related to climate change (e.g., limits on emissions) as well as other relevant factors considered.
Organisations should also consider disclosing the following:
– processes for assessing the potential size and scope of identified climate-related risks and
– definitions of risk terminology used or references to existing risk classification frameworks used.</td></tr>
<tr><td><u>Supplemental Guidance:</u> Insurance companies should describe the processes for identifying and assessing climate-related risks on re-/insurance portfolios by geography, business division, or product segments, including the following risks:
– physical risks from changing frequencies and intensities of weather-related perils,
– transition risks resulting from a reduction in insurable interest due to a decline in value, changing energy costs, or implementation of carbon regulation, and
– liability risks that could intensify due to a possible increase in litigation.</td></tr>
<tr><td rowspan="2">RECOMMENDED DISCLOSURE (B)</td><td>Describe the organisation's processes for managing climate-related risks.</td></tr>
<tr><td>Organisations should describe their processes for managing climate-related risks, including how they make decisions to mitigate, transfer, accept, or control those risks. In addition, organisations should describe their processes for prioritizing climate related risks, including how materiality determinations are made within their organisations.</td></tr>
</table>

	Supplemental Guidance: Insurance companies should describe key tools or instruments, such as risk models, used to manage climate-related risks in relation to product development and pricing. Insurance companies should also describe the range of climate-related events considered and how the risks generated by the rising propensity and severity of such events are managed.
RECOMMENDED DISCLOSURE (C)	Describe how processes for identifying, assessing and managing climate-related risks are integrated into the organisation's overall risk management.
	Organisations should describe how their processes for identifying, assessing, and managing climate-related risks are integrated into their overall risk management.

Risk Management - Recommended Disclosure (a)

Describe the organisation's processes for identifying and assessing climate-related risks.

Recommended Disclosures	Maturity		
	Type A	Type B	Type C
Describe the organisation's processes for identifying and assessing climate-related risks	(1) Describe if existing and emerging regulatory requirements related to climate change (e.g., limits on emissions), as well as other relevant factors, are considered	(1) Describe the risk management processes for identifying and assessing climate-related risks. The description should include how the insurance company determine the relative significance of climate-related risks in relation to other risks (2) Disclose the following: – processes for assessing the potential size and scope of identified climate-related risks – definitions of risk terminology used or references to existing risk classification frameworks used (3) Describe the processes for identifying and assessing climate-related risks on re-/insurance portfolios by geography, business division, or product segments, including the following risks: – physical risks from changing frequencies and intensities of weather-related perils; – transition risks resulting from a reduction in insurable interest due to a decline in value, changing energy costs, or implementation of carbon regulation; and	(1) Describe how climate risk is considered alongside economic benefits of a transaction

		– liability risks that could intensify due to a possible increase in litigation	
Best Practice Disclosures	(1) Describe the general actions taken with regards to emerging and current regulations separately, accompanied with a corresponding illustrative example [Storebrand]	(1) Describe assessed climate-related risks significance in relation to other kinds of risks [Swiss Re] (2) Provide brief disclosure of allocating size and scope of identified climate-related risks [NN Group] (3) Provide assessment on how risks are identified and assessed, and the relevant list of risks identified [NN Group]	(1) Disclose the proportion of transactions reviewed for climate risk, the percentage escalated internally and the proportion declined [Allianz]

Risk Management - Recommended Disclosures (b)
Describe the organisation's processes for managing climate related risks.

Recommended Disclosures	Maturity		
	Type A	Type B	Type C
Describe the organisation's processes for managing climate-related risks.	(1) Describe how decisions to mitigate, transfer, accept, or control those risks are made	(1) Describe their processes for prioritising climate related risks, including how materiality determinations are made within their organisations (2) Describe the range of climate-related events considered and how the risks generated by the rising propensity and severity of such events are managed	(1) Describe key tools or instruments, such as risk models, used to manage climate-related risks in relation to product development and pricing (2) Describe consistency of processes between different activities, such as underwriting risk and investing
Best Practice Disclosures	(1) Describe the processes to make decisions on mitigating, transferring, controlling and accepting risks [Metlife]	(1) Describe the process and actions taken in determining materiality of risks in the organisation via Climate VaR [Aviva] (2) Describe how risks from climate events like windstorms and climate change are managed [NN Group] (2) Describe the range of climate-related events considered and potential risks that such events pose to the business [Legal & General]	(1) Describe tools utilized in aiding product development [NN Group] (2) Describe role of the committee in handling risks relating to Company's core business activities [UOI]

Risk Management - Recommended Disclosure (c)

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

Recommended Disclosures	Maturity		
	Type A	Type B	Type C
Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organisation's overall risk management	(1) Describe exposures to physical and transition risk within their own property and the business model, including concentrations of risk at portfolio and transaction level, and by geographical footprint	(1) Describe who the organisation works with to get ESG related data	(1) Describe whether there are sectors that should no longer be supported, when to exit relationships and when to hedge
Best Practice Disclosures	(1) Describe Physical or Transition Risk and how it relates to portfolio in temperature alignment [Legal & General] (1) Describe Physical, Transition and other sustainability risks in the context of the portfolios of the insurance companies and lines of insurance business [Swiss Re]	(1) Disclose the relevant sources of data [Cathay] (1) Provide elaboration on the sources of data to set the context and what they measure [Legal & General]	(1) Describe sectors to exit and the conditions for which exit occurs [Legal & General] (1) Describe exit scenarios in the context of insurance business and what to stop insuring [Swiss Re] (1) Describe sectors that Allianz will stop insuring, while elaborating on the expected exit plan/strategy from aforementioned sectors [Allianz]

Topic 4: Metrics and Targets

Metrics and targets are essential to monitor an organisation's climate-related risk and opportunities. Metrics and targets can help investor and stakeholders evaluate the organisation's possible risk-adjusted returns, ability to meet its goals and progress in managing its issues. They also provide a basis on which investors and other stakeholders can compare organisations within a sector or industry.

TCFD'S KEY RECOMMENDATIONS ON METRICS AND TARGETS	
RECOMMENDED DISCLOSURE (A)	Disclose the metrics used by the organisation to assess climate-related risks and opportunities in line with its strategy and risk management process.
	Organisations should provide the key metrics used to measure and manage climate-related risks and opportunities. Organisations should consider including metrics on climate-related risks associated with water, energy, land use, and waste management where relevant and applicable. Where climate-related issues are material, organisations should consider describing whether and how related performance metrics are incorporated into remuneration policies. Where relevant, organisations should provide their internal carbon prices as well as climate-related opportunity metrics such as revenue from products and services designed for a lower-carbon economy. Metrics should be provided for historical periods to allow for trend analysis. In addition, where not apparent, organisations should provide a description of the methodologies used to calculate or estimate climate-related metrics.
	Supplemental Guidance: Insurance companies should provide aggregated risk exposure to weather-related catastrophes of their property business (i.e., annual aggregated expected losses from weather-related catastrophes) by relevant jurisdiction
RECOMMENDED DISCLOSURE (B)	Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.
	Organisations should provide their Scope 1 and Scope 2 GHG emissions and, if appropriate, Scope 3 GHG emissions and the related risks. GHG emissions should be calculated in line with the GHG Protocol methodology to allow for aggregation and comparability across organisations and jurisdictions. As appropriate, organisations should consider providing related, generally accepted, industry-specific GHG efficiency ratios.

	GHG emissions and associated metrics should be provided for historical periods to allow for trend analysis. In addition, where not apparent, organisations should provide a description of the methodologies used to calculate or estimate the metrics.
RECOMMENDED DISCLOSURE (C)	Describe the targets used by the organisation to manage climate related risks and opportunities and performance against targets.
	Organisations should describe their key climate-related targets such as those related to GHG emissions, water usage, energy usage, etc., in line with anticipated regulatory requirements or market constraints or other goals. Other goals may include efficiency or financial goals, financial loss tolerances, avoided GHG emissions through the entire product life cycle, or net revenue goals for products and services designed for a lower carbon economy. In describing their targets, organisations should consider including the following: – whether the target is absolute or intensity based, – time frames over which the target applies, – base year from which progress is measured, and – key performance indicators used to assess progress against targets. Where not apparent, organisations should provide a description of the methodologies used to calculate targets and measures.

Metrics and Targets - Recommended Disclosure (a)

Disclose the metrics used by the organisation to assess climate-related risks and opportunities in line with its strategy and risk management process.

Recommended Disclosures	Maturity		
	Type A	Type B	Type C
Disclose the metrics used by the organisation to assess climate-related risks and opportunities in line with its strategy and risk management process	(1) Provide the key metrics used to measure and manage climate-related risks and opportunities Provide aggregated risk exposure to weather-related catastrophes of the Insurance Companies' property business (i.e., annual aggregated expected losses from weather-related catastrophes) by relevant jurisdiction		(1) Describe how risk takers are incentivized to consider climate risk as part of their day to day activities
Best Practice Disclosures	(1) Disclose annual expected loss from weather-related perils to the Group, categorised based on weather-related catastrophe in different regions [Swiss Re] (1) Describe the process of assessing weather-related losses with reference to disaster scenarios [Aviva]		(1) Describe how goals are set and performance assessed in relation to climate risk [Allianz]

Metrics and Targets - Recommended Disclosures (b) & (c)

Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.

Describe the targets used by the organisation to manage climate-related risks and opportunities and performance against targets.

Recommended Disclosures	Maturity		
	Type A	Type B	Type C
Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks Describe the targets used by the organisation to manage climate related risks and opportunities and performance against targets	(1) Provide their Scope 1 and Scope 2 GHG emissions and, if appropriate, Scope 3 GHG emissions and the related risks, as well as generally accepted industry-specific GHG efficiency ratios GHG emissions should be calculated in line with the GHG Protocol methodology to allow for aggregation and comparability across organisations and jurisdictions (2) GHG emissions and associated metrics should be provided for historical periods to allow for trend analysis. In addition, where not apparent, Insurance Companies should provide a description of the methodologies used to calculate or estimate the metrics	(1) Describe their key climate-related targets such as those related to GHG emissions, water usage, energy usage, etc., in line with anticipated regulatory requirements or market constraints or other goals	(1) Describe their key climate-related targets including efficiency or financial goals, financial loss tolerances, avoided GHG emissions through the entire product life cycle, or net revenue goals for products and services designed for a lower-carbon economy In describing their targets, Insurance Companies should consider including the following: – whether the target is absolute or intensity based; – time frames over which the target applies; – base year from which progress is measured; and – key performance indicators used to assess progress against targets Where not apparent, Insurance Companies should provide a description of the methodologies used to calculate targets and measures

Best Practice Disclosures	(1) Disclose Scope 1,2, 3 GHG emissions at Group Level [Generali] (1) Provide GHG efficiency ratio as tCO2e/full-time equivalent employee [Swiss Re] (2) Provide GHG emissions and associated metrics for at least the 3 years. [Storebrand, MS&AD, Cathay] (2) Describe the methodology used to compute GHG emission in-line with GHG Protocol [Generali] (2) Provide detailed breakdown on Scope 3 emissions and obtain third-party assurance for its emission data [Manulife]	(1) Describe the key climate-related targets relating to carbon emissions, paper usage, waste generation and energy source [Cathay] (1) Describe the Group's target for Net Zero Carbon emissions for Occupied Offices and Business Travel [Legal & General]	(1) Disclose the base year, time frame for which the target applies and key performance indicators used to assess progress against targets [MetLife]

APPENDIX (BANKS)

Governance - Recommended Disclosure (a)
Describe the board's oversight of climate-related risks and opportunities.

Citigroup

Environmental and Social Advisory Council (ESAC) and other goals and programmes

Board Oversight

Citi actively manages how climate change factors into our decisions and who in our corporate structure is responsible for climate-related decisions. Given the importance of this topic, the Citi Board of Directors provides oversight of climate change through our Nomination, Governance and Public Affairs Committee (NGPAC), with ample support from management and other business units.

The Committee oversees our global citizenship and sustainability activities and performance, including as related to climate change. Examples of the initiatives the Committee oversees include our $100 Billion Environmental Finance Goal and the decision to prepare this report. For more information on the roles and responsibilities of the committee, please see our NGPAC Charter.

Senior Management Responsibilities

At the senior executive level, corporate citizenship at Citi is led by the Director of Corporate Citizenship. The Director provides progress reports to the NGPAC at least annually on issues, trends and results pertaining to some of the company's most important citizenship and sustainability issues. The progress reports include updates on the implementation of Citi's Sustainable Progress Strategy, which focuses on climate change and other sustainability issues, and our global and regional sustainability initiatives.

The Global Head of Sustainability oversees Citi's Sustainable Progress Strategy and also collaborates with a range of senior leaders to enable the development and implementation of climate-related metrics and targets, as well as other goals and programs that generate a positive impact on society.

The Environmental and Social Advisory Council (ESAC), a senior executive level advisory council, provides guidance on environmental and social issues related to global business activities, including advising on the Sustainable Progress Strategy. The Council is chaired by a senior executive in our Institutional Clients Group and includes executives from our Banking, Risk, Public Affairs, Operations, Corporate Sustainability and Environmental and Social Risk Management (ESRM) groups. Our ESAC holds meetings approximately three times per year. Citi also has a cross-functional Climate and Sustainability Council, based in London, focused specifically on our sustainability performance in Europe, the Middle East and Africa.

https://www.citigroup.com/citi/sustainability/data/finance-for-a-climate-resilient-future.pdf (page 24)

National Australia Bank

ESG risks, including climate change, are identified, measured, monitored, reported and overseen in accordance with the Group's Risk Management Framework (as described in the Group's Risk Management Strategy). The Group Non-Financial Risk Committee has oversight of these risks, including climate-related risks, and the Group's environmental performance and Environmental Agenda. The Group Credit and Market Risk Committee oversees financial risk and ESG risks, including climate-related risks, in the context of the credit risk portfolio. This includes credit policy settings for climate intensive, low-carbon and climate-sensitive sectors. Matters are escalated to the Executive Risk Committee, Board Risk Committee and Board as required. The Group's Climate Change Working Group (CCWG), which consists of management representatives from across the Group, reviews the key risks and opportunities facing the Group and its customers arising from climate change and the Paris Agreement, and monitors and supports the implementation of the Group's climate change strategy. Updates on implementation of the Group's climate change strategy are reported by the CCWG through to management, executive and the Board.

https://www.nab.com.au/content/dam/nabrwd/documents/reports/corporate/2019-annual-financial-report-pdf.pdf (page 38)

Barclays Bank PLC

Barclays' consideration for board oversight

Board Risk Committee focus on climate

In 2019, the Board Risk Committee reviewed the significant enhancements the Group has made in its approach to the management of the risks of climate change. Both physical and transition risks, across all portfolios, were considered in the context of a severe but plausible climate stress. This analysis will support the Group's response to the forthcoming Bank of England industry-wide stress test. This progress was welcomed whilst acknowledging the need for risk management practices generally to evolve further across the whole industry in respect of climate change risk.

Environmental and Social Impact Committee

Demonstrating the growing strategic importance of these issues, the Group Executive Committee created the Environmental and Social Impact (ESI) Committee in June 2019 to provide senior oversight and set the overall direction of Barclays' strategy to manage its broader social and environmental impacts. Chaired by the Group Chief Executive, with representation from business and function leadership, the Committee provides strategic management oversight, sets a firm-wide approach on key-topics and monitors execution against priorities.

https://home.barclays/content/dam/home-barclays/documents/citizenship/ESG/Barclays-PLC-ESG-Report-2019.pdf (page 44)

ING Group

Climate Change Committee

ING's Climate Change Committee (CCC) is mandated to oversee and set priorities for the implementation of the TCFD recommendations and other strategic climate-related topics that impact the group. For details please refer to our approach to climate governance.

https://www.ing.com/Sustainability/The-world-around-us-1/Reporting.htm

Climate Governance

ING has instituted a Climate Change Committee (CCC) chaired by ING's chief risk officer and Management Board Banking member, and co-chaired by the board member responsible for Wholesale Banking. It is further comprised of a number board members and senior managers from the Wholesale and Retail businesses. The CCC is advised by an internal Climate Expert Group (CEG) comprising experts from Wholesale Banking front office, global Sustainability, and Risk. The CCC is responsible for:

- Mandating processes for identifying and managing climate-related risks and opportunities.
- Guiding climate-related policies, strategy, objective-setting and performance monitoring.
- Monitoring and overseeing progress on relevant goals and targets.
- Guiding external disclosures.

The CCC meets six times per year and follows an agenda prepared by the CEG, which meets monthly.

https://www.ing.com/Sustainability/Sustainability-direction/Sustainability-governance.htm

Citigroup Inc.

ESAC and other goals and programmes

Board Oversight

Citi actively manages how climate change factors into our decisions and who in our corporate structure is responsible for climate-related decisions. Given the importance of this topic, the Citi Board of Directors provides oversight of climate change through our Nomination, Governance and Public Affairs Committee (NGPAC), with ample support from management and other business units.

The Committee oversees our global citizenship and sustainability activities and performance, including as related to climate change. Examples of the initiatives the Committee oversees include our $100 Billion Environmental Finance Goal and the decision to prepare this report. For more information on the roles and responsibilities of the committee, please see our NGPAC

Charter.

https://www.citigroup.com/citi/sustainability/data/finance-for-a-climate-resilient-future.pdf (page 24)

Governance - Recommended Disclosure (b)
Describe management's role in assessing and managing climate-related risks and opportunities.

Nordea Bank Danmark A/S

Group Sustainable Finance

Sustainability Governance facilitating Decision-Making

At Board level, the Board Operations and Sustainability Committee assist the Board in fulfilling its oversight responsibilities concerning sustainability, operations/systems and resilience, as well as related frameworks and processes. Our governance structure encompasses a monitoring function chaired by the CEO – the Business Ethics and Value Committee – that reviews relevant Group internal Rules as well as participation in and exit form commitments to sustainability and/or approves external position statements and sector guidelines. This governance structure allows Board, relevant management committees and senior management to integrate climate-related risk and opportunities and other sustainability issues into decision-making and business process. Each business area and group function is represented in the Sustainability Committee. The committee prepares sustainability issues related to policies, guideline and strategy, which the business areas and group functions are then responsible for implementing in the business.

https://www.nordea.com/Images/33-353222/nordea-sustainability-report-2019.pdf (page 10)

Shinhan Financial Group

Corporate Social Responsibility Committee

Governance

Shinhan Financial Group has a CSR Committee in place that takes care of issues pertaining to climate change in line with the Group's sustainability management in an integrated way. Established in May 2015, the Committee has the power to make a final decision on behalf of the Group and leads the way in taking action against ever aggravating climate change and in creating enterprise-wide environmental values with systematic environmental management undertakings. As an umbrella body of the Board of Directors (BOD), the CSR Committee reviews climate change related countermeasures, policies, plans for company-wide activities, projects and others by holding three regular meetings per year. Also, it is responsible for checking and monitoring short and long-term targets and performance via the Risk Management Committee.

http://www.shinhangroup.com/kr/common/download/commonDownload.jsp?actionValue=PDF&pathKey=CSRREPORT&fileName=2018_report_eng_download.pdf (page 24)

Citigroup Inc.

Citigroup's ESAC and other goals and programmes

Board Oversight

Citi actively manages how climate change factors into our decisions and who in our corporate structure is responsible for climate-related decisions. Given the importance of this topic, the Citi Board of Directors provides oversight of climate change through our Nomination, Governance and Public Affairs Committee (NGPAC), with ample support from management and other business units.

The Committee oversees our global citizenship and sustainability activities and performance, including as related to climate change. Examples of the initiatives the Committee oversees include our $100 Billion Environmental Finance Goal and the decision to prepare this report. For more information on the roles and responsibilities of the committee, please see our NGPAC Charter.

Senior Management Responsibilities

At the senior executive level, corporate citizenship at Citi is led by the Director of Corporate Citizenship. The Director provides progress reports to the NGPAC at least annually on issues, trends and results pertaining to some of the company's most important citizenship and sustainability issues. The progress reports include updates on the implementation of Citi's Sustainable Progress Strategy, which focuses on climate change and other sustainability issues, and our global and regional sustainability initiatives.

The Global Head of Sustainability oversees Citi's Sustainable Progress Strategy and also collaborates with a range of senior leaders to enable the development and implementation of climate-related metrics and targets, as well as other goals and programs that generate a positive impact on society.

The Environmental and Social Advisory Council (ESAC), a senior executive level advisory council, provides guidance on environmental and social issues related to global business activities, including advising on the Sustainable Progress Strategy. The Council is chaired by a senior executive in our Institutional Clients Group and includes executives from our Banking, Risk, Public Affairs, Operations, Corporate Sustainability and Environmental and Social Risk Management (ESRM) groups. Our ESAC holds meetings approximately three times per year. Citi also has a cross-functional Climate and Sustainability Council, based in London, focused specifically on our sustainability performance in Europe, the Middle East and Africa.

https://www.citigroup.com/citi/sustainability/data/finance-for-a-climate-resilient-future.pdf (page 24)

ESG Governance

The Nomination, Governance and Public Affairs Committee of the Board of Directors oversees our ESG activities. This committee's responsibilities include reviewing our policies and programs

for sustainability, climate change, human rights, diversity and other material ESG issues, as well as advising on engagement with external stakeholders.

Citi's Sustainability & ESG team, led by our Chief Sustainability Officer (CSO), works in partnership with our businesses to lead and implement our ambitious sustainability efforts globally, as well as our work to ensure that the human rights of our employees, suppliers and those affected by the projects we finance are respected. Our Global Sustainability Steering Committee provides guidance on environmental and social issues related to global business activities. The committee is chaired by the CSO and a senior executive in our Institutional Clients Group and includes executives from Banking, Risk, Public Affairs, Operations and Technology, and ESRM. Committee meetings are held approximately three times annually.

https://www.citigroup.com/citi/about/esg/download/2019/Global-ESG-Report-2019.pdf?ieNocache=585 (page 17)

Strategy - Recommended Disclosure (a)
Describe the climate-related risks and opportunities the organisation has identified over the short, medium, and long term.

HSBC Holdings PLC

HSBC Sustainable Risk Policies

Our sustainability risk policies are focused on sectors that may have high adverse impacts on people or the environment and in which we have a significant number of customers.

These policies cover agricultural commodities, chemicals, defence, energy, forestry, mining and metals, UNESCO World Heritage Sites, and Ramsar-designated wetlands. These policies define our appetite for business in these sectors, and seek to encourage customers to meet good international standards of practice. Where we identify activities that could cause material negative impacts, we will only provide finance if we can confirm customers are managing these risks responsibly. Such customers are subject to greater due diligence and generally require additional approval by sustainability risk specialists. We will not provide finance if the business activities are not aligned to our aims and values.

Our sustainability policies are being aligned with our approach to climate risk, which is being enhanced during 2020.

https://www.hsbc.com/-/files/hsbc/investors/hsbc-results/2019/annual/pdfs/hsbc-holdings-plc/200218-esg-update-2019.pdf (page 42)

Supporting the transition to a low-carbon economy is a key part of HSBC's strategy, and new products have been offered to facilitate this, along with a pledge to provide $100bn of sustainable finance by 2025. To date, we have reached $28.5bn of that goal. For further information, see pages 26 and 28. We recognise many clients across sectors are making significant shifts towards the low-carbon economy. During 2019, we intend to develop new metrics to help measure these activities, with an aim to publish in next year's disclosure.

https://www.hsbc.com/our-approach/esg-information

BNP Paribas Asset Management (BNP)

Short-term (ST, i.e. within the year), medium term (MT, i.e. between two and five years) or long term (LT, i.e. after five years).

Risk category	Scope	Risk factor	Time frame	Potential significance of impact (for the Group)
Transition risks	Within BNP Paribas' scope of operations	Rise in carbon price (tax or quotas) applied to BNP Paribas' GHG emissions on its operational scope	MT	+
		Tighter regulations on climate reporting, which would require more time-consuming reporting tools/processes and more resources	ST	+
		Tougher environmental standards (e.g. on the energy efficiency of Group buildings, on our company car fleet, etc.) liable to call for additional investments	MT	+
	Risks for clients	Credit risk: Rise in carbon price (tax or quotas) applied to client GHG emissions, especially for clients with high GHG emissions (e.g. coal-fired power plants, heavy industry, etc.)	MT	+++
	Risks FOR BNP Paribas	Risks of loss of market share for the Group, and in particular for its subsidiaries Arval and Leasing Solutions if these do not adapt sufficiently to the demand of their customers for more environmental products and services (electric vehicles, leasing of low-carbon equipment, etc.)	MT	++
		Reputational risk: Risk of an adverse impact on BNP Paribas' brand image if external counterparties feel the Group is not contributing actively enough to the fight against climate change (e.g. being criticised by advocacy NGOs regarding energy sector finance policies)	ST	++/+++
Physical risks	Risks for clients	Weather changes, including in the water cycle, disrupting the production processes of some clients, and thus jeopardising their income (e.g. decreased river flows adversely affecting the production of hydropower plants, increase water temperatures adversely affecting the production of nuclear power plants)	MT	+/++

Scope	Opportunity factor	Time frame	Potential significance of impact (for the Group)
Within scope of operations	Energy renovation of Group buildings (offices, branches, etc.) leading to reduced energy consumption and thus lower power bills	ST	+
Via clients	Revenues generated by supporting corporations that contribute directly to SDGs (sustainable development goals)	ST	++++
	New businesses: green bonds, sustainable bonds, blended finance, green loans, Sustainability Linked Loans, etc.	ST	+++
	Development of low-carbon offers: low-carbon real estate promotion at BNP Paribas Real Estate, climate indices and green funds from BNP Paribas Asset Management, green investments within the general funds of BNP Paribas Cardif, etc.	ST	+ / ++
	Development of low-carbon offers: low-carbon real estate promotion at BNP Paribas Real Estate, climate indices and green funds from BNP Paribas Asset Management, green investments within the general funds of BNP Paribas Cardif, etc.	ST	+ / ++
	Arval's expanded range of electric cars to meet growing demand	MT	+
	Loans (home and consumer) to help households pay for energy renovations on their homes (e.g. green mortgage loans offered by Fortis, special consumer loans offered by Domofinance, BNP Paribas Personal Finance/EDF joint venture specialising in home energy renovations)	ST	++
	Development of the BNP Paribas Leasing Solutions range of more energy efficient and/or less GHG-emitting leasing products	MT	++
	Revenues generated from renewable energy financing	ST	+++
	Revenues generated from carbon credits (Carbon Desks at Global Markets, ClimateSeed)	ST	+
	Loans to start-ups specialising in the energy transition	ST	+

https://group.bnpparibas/uploads/file/bnpparibas_tcfd_report_en.pdf (page 27)

Société Générale

Société Générale Ceased Offering Certain Financial Services and Products

Societe Generale has not participated in any dedicated financing for coal-fired power plants or related infrastructures anywhere in the world since 1st January 2017. Moreover, it has not been involved in any dedicated financing for the development of coal mines and related infrastructures since 2015.

In addition, specific criteria for establishing new relationships with companies that operate in the coal sector have been defined in dedicated sector policies. Moreover, since May 2019, Societe General will not provide new services or products to companies (customers and prospects):

- whose activity in coal-power generation is greater than 50% (in terms of turnover);
- whose activity in the coal-power generation is between 30% and 50% (in terms of turnover), and that have no strategy to reduce it to 30% by 2025, or that have planned expansion of their capacities in thermal coal (extraction or production of electricity).

In 2018, the Oil and Gas policy was updated. The Group committed to finance only those activities in the oil and gas sector that have a mitigated impact on the climate. In particular, Societe Generale will no longer finance activities relating to the production of oil from oil sands anywhere in the world or to the production of oil in the Arctic. These commitments also target the implementation or commitment to implement measures to limit continuous flaring and methane emissions. For companies using fracking techniques, they also include the implementation of best E&S practices in line with the Golden Rules of the International Energy Agency (IEA).

https://www.societegenerale.com/sites/default/files/documents/Rapport-integre/2019/ri_sg_2019_eng.pdf (page 55)

Strategy - Recommended Disclosure (b)
Describe the impact of climate-related risks and opportunities on the organisation's businesses, strategy, and financial planning.

Barclays Bank PLC

Climate Change Statement and Standard

In January 2019, we developed the bank's first Energy and Climate Change Statement and Standard, which set out our approach to climate change and energy sectors. This is now replaced with an updated, broader Climate Change Statement which sets out our strategic ambition to support economies and clients through the transition that is needed, as well as approach on all sectors relevant to climate change. We have developed an internal standard to reflect these positions in more detail and together with other climate related Standards (such as the Forestry & Palm Oil Standard), these now determine our approach to climate change and relevant sensitive sectors. These standards sit under the management of reputation risk within the ERMF and are enforced through an existing transaction origination, review and approval process that has been described in more detail on pages 34 to 35.

https://home.barclays/content/dam/home-barclays/documents/citizenship/ESG/Barclays-PLC-ESG-Report-2019.pdf (page 52-57)

National Australia Bank

Climate Change Risk

There is growing awareness of climate change as a significant risk to our environment, and a major challenge for the global economy and community. We support a just transition to a low-carbon economy, in line with the Paris Agreement to limit global warming to less than 2 degrees Celsius, striving for 1.5 degrees Celsius above pre-industrial levels. Managing climate change will open up more opportunities for us to help our customers. As a global provider of financial products and services, we can play a key role in financing the low-carbon transition and green growth while meeting our regulatory requirements. Climate-related risks and opportunities are integrated into our business strategy and Risk Management Framework, so we can become a more sustainable and resilient business.

This year, we continued our credit risk policy reviews into carbon intensive, climate sensitive and low-carbon sectors.

https://www.nab.com.au/content/dam/nabrwd/documents/reports/corporate/2019-sustainability-report-pdf.pdf (page 28)

SEB

SEB's Green Mortgage

Underwriting Green Bonds

As one of the innovators behind green bonds, SEB has an ambition to drive the green financing market. The green bond market continued to perform well in 2019 and reached USD 263bn (182) globally. The financial and corporate sectors continued to be the dominant issuers in the market, which has become more diversified in terms of countries and sectors, and in 2019 included record high issuances from government agencies. In 2019, SEB's global share of underwriting was 3.8 per cent (3.7), corresponding to a volume of USD 7bn. This makes SEB the 7th largest underwriter globally in 2019 and the 4th largest underwriter globally since inception. In the Nordic market SEB maintained its leading position during the year, with a share of 32.3 per cent.

SEB's own Green Bond is Financing Green Credits

As part of its funding strategy, SEB issued its first green bond in 2017 of EUR 500m. Backed by SEB's sustainability strategy, Environmental Policy and accompanying sector policies, the Green Bond Framework ensures that SEB's green bond, by financing green loans, is used for low-carbon and climate change-resilient projects and investments. In addition, green bonds should promote environmental and ecosystem improvements and thereby support the UN Sustainable Development Goals. In 2019, SEB launched a green construction loan, which is a form of financing that is suitable for companies and tenant-owner associations that want to take environmental considerations into account in the new production of real estate. Since 2018 SEB offers green mortgages to private customers. In 2019, SEB's green loan portfolio grew from SEK 16bn to SEK 19bn.

https://sebgroup.com/siteassets/about_seb1/sustainability/reporting_package/2019/seb_sustainability_report_2019.pdf (page 34-35)

UBS

UBS Green Fund

Climate Strategy

Protecting our clients' assets: We support our clients in assessing and managing climate-related risks and opportunities through our innovative products and services in investment, financing and research. We actively engage on climate topics with companies that we invest in. Asset Management (AM) has implemented an engagement program with 49 companies from oil and gas, and utilities sectors and we voted on 50 climate-related shareholder resolutions during 2020.

See 2020 UBS Climate Risk Strategy

UBS's climate-related sustainable investment (Disclosure of green financials)

Climate Strategy

Protecting our own assets: We seek to protect our assets by limiting our risk appetite for carbon-related assets and by estimating our firm's vulnerability to climate-related risks using scenario-based stress-testing approaches and other forward-looking portfolio analyses. We have reduced carbon-related assets on our banking balance sheet to 1.9%, or USD 5.4 billion, as of 31 December 2020, down from 2.3% at the end of 2019 and 2.8% at the end of 2018.

Mobilizing private and institutional capital: We mobilize private and institutional capital toward investments that facilitate climate change mitigation and adaptation, and we also support the transition to a low-carbon economy as corporate advisor, and/or with our lending capacity. In 2020, our climate-related sustainable investments rose to USD 160.8 billion, from USD 108 billion at the end of 2019, and the deal value in equity and debt capital market services, and in financial advisory services, related to climate change mitigation and adaptation, rose to USD 98.9 billion, from USD 87.2 billion in 2019.

HSBC

HSBC's Sustainable Finance Goal

We report on the emission of our own operations via CDP (formerly the Carbon Disclosure Project). This is available, as well as other information related to the sustainability of our own operations, at: www.hsbc.com/our-approach/measuring-our-impact.

As part of our priority to support the transition to a low-carbon economy, we pledged to provide $100bn of sustainable finance, facilitation and investment by 2025. At the end of 2019, we reached $52.4bn of that goal, of which $43.6bn relates to green or sustainable products. In 2019, HSBC was named the World's Best Bank for Sustainable Finance by Euromoney

In 2019, HSBC participated in the CDP (formerly the Carbon Disclosure Project) working group to develop financial sector disclosure

https://www.hsbc.com/our-approach/esg-information

HSBC's Climate Ambitions

Becoming a Net Zero Bank

In October 2020, we announced our new climate ambition to become net zero, including in our own operations by 2030 as well as our financed emissions by 2050. We aim to achieve this by providing sustainable finance solutions, offering advice on how to structure financing and investments that align to the Paris Agreement, and engaging with our customers on transition and physical risk. The transition to a net zero economy – and economic resilience and prosperity – will require transformation on a global scale. We are committed to taking a lead role in this shift to a building a more sustainable future. To ensure we stay on track, we will use a wide

variety of performance metrics to measure our progress, and we intend to develop clear and measurable pathways to lowering financed emissions using the Paris Agreement Capital Transition Assessment ('PACTA') tool.

Supporting our Customers through Transition

We recognise our wider role in society and believe we can make a positive impact in the way we do business. In 2017, we committed to providing and facilitating $100bn of sustainable finance and investment by 2025. At the end of 2020, we had fulfilled $93.0bn of this commitment, comprising $66.9bn through facilitating the flow of capital and providing customers access to capital markets, and $20.0bn in financing and $6.1bn in investments to support environmental and social goals.

Given our progress, as part of our climate ambition we announced a new commitment to mobilise between $750bn and $1tn of sustainable finance and investment over the next decade. This will prioritise working with customers who are seeking to reduce their carbon emissions across all industries, while ensuring a just and stable transition to maintain economic stability.

Our new commitment builds on our 2017 target and incorporates sustainable finance and investment of $40.6bn in 2020, which also contributed to our initial 2017 target, as well as additional products of $3.5bn. Our progress will be published each year and will seek to continue to be independently assured.

We plan to increase our portfolio of transition finance solutions, including in clean tech innovation, sustainable infrastructure and nature-based investments, to help even the heaviest-emitting sectors to progressively decarbonise. Applying a climate lens to our financing decisions will involve understanding the different challenges and conditions our customers face across developed and developing economies. To achieve this, we require transparent and consistent climate-related information from our customers, and will advocate for increased disclosure where ever possible.

Unlocking Next-Generation Climate Solutions

A key part of our strategy is to unlock climate solutions, helping to transform sustainable infrastructure into a global asset class. Natural capital is a core part of the net zero journey. In August 2020, we established HSBC Pollination Climate Asset Management, which aims to be the world's largest dedicated manager of natural capital investments. It gives investors the opportunity to invest in a diverse range of assets, including farmland, forests and water, and to support projects designed to preserve, protect and enhance nature over the long term. The intention is to launch a series of natural capital and carbon credit funds for institutional investors, with the aim to launch the first fund in mid-2021.

https://www.hsbc.com/news-and-media/hsbc-news/hsbc-sets-out-net-zero-ambition

HSBC Sustainable Risk Policies Sustainable Risk Policies

Our sustainability risk policies are focused on sectors that may have high adverse impacts on people or the environment and in which we have a significant number of customers.

These policies cover agricultural commodities, chemicals, defence, energy, forestry, mining and metals, UNESCO World Heritage Sites, and Ramsar-designated wetlands. These policies define our appetite for business in these sectors, and seek to encourage customers to meet good international standards of practice. Where we identify activities that could cause material negative impacts, we will only provide finance if we can confirm customers are managing these risks responsibly. Such customers are subject to greater due diligence and generally require additional approval by sustainability risk specialists. We will not provide finance if the business activities are not aligned to our aims and values.

Our sustainability policies are being aligned with our approach to climate risk, which is being enhanced during 2020

https://www.hsbc.com/-/files/hsbc/investors/hsbc-results/2019/annual/pdfs/hsbc-holdings-plc/200218-esg-update-2019.pdf (page 42)

Supporting the transition to a low-carbon economy is a key part of HSBC's strategy, and new products have been offered to facilitate this, along with a pledge to provide $100bn of sustainable finance by 2025. To date, we have reached $28.5bn of that goal. For further information, see pages 26 and 28. We recognise many clients across sectors are making significant shifts towards the low-carbon economy. During 2019, we intend to develop new metrics to help measure these activities, with an aim to publish in next year's disclosure.

https://www.hsbc.com/our-approach/esg-information

Strategy - Recommended Disclosure (c)
Describe the resilience of the organisation's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.

National Australia Bank

Assessing Physical Risks

The Energy Transitions Hub at the University of Melbourne helped us to geocode data from our mortgage lending portfolio so it could be overlaid with physical climate risk information. Geocoding is a process that converts addresses (like a street address) into coordinates that can pinpoint a property location on a map. This process was developed and piloted this year. The next step is to test this process with other segments of our lending portfolio next year.

After geocoding our Australian retail mortgage portfolio, we overlaid it with cyclone data to assess the potential impact of cyclones on our mortgage portfolio under different climate scenarios.

The scenario analysis was done in partnership with the Climate and Energy College in collaboration with the Potsdam Institute for Climate Impact Research. Initial analysis suggests that if climate change is not mitigated and average global temperatures exceed 1.5 degrees Celsius, an increased portion of our Australian retail mortgage portfolio will experience cyclones. The work to refine this methodology is ongoing. Future work will help to understand the implications of how greater cyclone risk could affect probability of default. Following further testing, we will add other overlays of physical hazard data such as flooding, drought, and extreme heat, and apply the approach to other lending portfolio segments.

https://www.nab.com.au/content/dam/nabrwd/documents/reports/corporate/2019-sustainability-report-pdf.pdf (page 28)

Royal Bank of Scotland (RBS)

Flood Risk Assessment Tool

We are currently piloting innovative climate risk tools to assess the physical risk to our retail and commercial portfolios. We have worked with a consortium of partners led by D-Risk Group Ltd and Airbus Defence and Space supported by CLS Data. We have piloted Airbus' Geospatial Financial Hub (GFH).

The GFH maps flood risk against residential properties in the UK using JBA Risk Management Flood Map and Climate Change Flood Risk Indicator. The pilot calculated the physical risks to properties now and as global temperatures change in the future using climate data from the UK Climate Change Risk Assessment 2017 and UK Climate Projections 2009.

Images included provide examples of the data available for flood risk assessment for properties in an area. We have linked this information to our portfolio to assess our exposure to these

physical risks and determine how we integrate this and other climate considerations into our lending and risk frameworks. This will also drive the complete data requirements for physical risk analysis and will enable the selection of a vendor solution for a strategic data partnership.

We are committed to the on-going use of the best performing and most reliable data and innovative climate risk tools as skills and knowledge in the climate space evolve.

Flood Risk

This image shows the varying degrees of river water flood risk with the darker blue colours showing greater depth of flooding for an event with a 1.3% annual probability of occurring (1 in 75 years). The combined flood risk is scored from 0 to 53 (where 53 is the highest risk possible).

2040 Postcode Flood Risk Indicator

This image shows the 2040 climate change flood risk indicator which indicates for each postcode area whether the flood risk is likely to improve (shown in green) or worsen (shown in orange) or see no change (no colour).

https://investors.natwestgroup.com/~/media/Files/R/RBS-IR-V2/results-center/rbsg-ara-2019-140220-0245-v3.pdf? (page 40)

Société Générale

Measure of Strategic Resilience against a 2°C Scenario

Societe Generale's strategy is reflected in its portfolio allocation, and therefore a measure of the strategic resilience of the Group against a 2°C scenario is a measure of the portfolio allocation against a 2°C scenario. Over the last few years, the portfolio allocation has been evaluated against 2°C scenarios in three ways:

- As part of Societe Generale's work on climate-related risks, a 2040 scenario analysis was conducted on the lending portfolio under an assumption of the identical extension of the loans and the non-adaptation of borrowers. The impact of a 2°C transition scenario compared with a scenario of no transition measures shows a low impact overall, but a concentrated impact on segments producing particularly high carbon emissions. These results are in line with those shared with other European and American banks. The Group also participated in works by the UNEP-FI to identify "physical" climate change risks. Contrary to transition risks, the methodology is not sufficiently developed to enable a valuation.

- Societe Generale has developed an in-house methodology for tracking the Mining and Coal-Fuelled Power Plants. This methodology is forward-looking and uses the IEA's 2°C scenario. This has allowed the Group to set target and transition away from coal power generation and extraction. Output from this analysis shows that the credit portfolio in these two sectors is aligned and below a 2°C scenario.

- Societe Generale has also tested a credit portfolio alignment methodology developed by the 2°C Investing Initiative (2DII). This tool has been applied on the Oil & Gas, Power, Coal mining, Auto, Shipping, Airlines, Cement and Steel sectors. Development is still ongoing at this stage.

Climate Scenario and Time Horizons Used

In order to measure the alignment with a 2°C scenario for its coal portfolios, Societe Generale relied on the International Energy Agency's (IEA) 2°C Scenario (2DS).

Within its Energy Technology Perspectives annual publication, IEA defines the 2DS as follows: "The 2DS lays out an energy system deployment pathway and an emissions trajectory consistent with at least a 50% chance of limiting the average global temperature increase to 2°C. The 2DS limits the total remaining cumulative energy-related CO CO2emissions between 2015 and 2100 to 1000 GtCO2. The 2DS reduces CO2 emissions (including emissions from fuel combustion and process and feedstock emissions in industry) by almost 60% by 2050 (compared with 2013), with carbon emissions being projected to decline after 2050 until carbon neutrality is reached." This scenario is also consistent with the 450 Scenario declined in the IEA World Energy Outlook and defined as "an energy pathway consistent with the goal of limiting the global increase in temperature to 2°C by limiting concentration of greenhouse gases in the atmosphere to around 450 parts per million of CO2." As a consequence, Societe Generale's alignment on IEA 2 degrees scenario refers to both the 2DS and the 450 Scenario.

For its coal portfolio, Societe Generale decided to exclude the Chinese contribution from the considered scenarios to take into account the fact that China is currently representing 51% of the world's coal demand for primary energy and 42% of the world's coal power capacity, whereas Societe Generale is not significantly active in financing Chinese coal extraction and power generation assets.

Additionally, IEA scenarios provide a 2050 timeframe but considering the average transaction profile timeline, a shorter timeframe had to be considered when defining operational targets for the Bank. This timeframe should be short enough to allow the monitoring of the Bank portfolio and long enough to absorb short term evolutions. This timeframe should also allow readapting the Bank's targets to updated or new IEA scenarios to come.

For its assessment of transition risks, Societe Generale has used in depth output data of the REMIND and MESSAGE models, respectively developed by the Potsdam Institut für Klimafolgenforschung (PIK) and Applied Systems Analysis (IIASA). These are integrated assessment model (IAMs) for medium-to long-term energy system planning, energy policy analysis, and scenario development. Societe Generale also uses the IEA detailed output data for analyses. Societe Generale also relies on ad-hoc studies (with both qualitative and quantitative projections) for specific pieces of analysis.

https://www.societegenerale.com/sites/default/files/documents/Document%20RSE/climate-disclosure-societe-generale-tcfd-report-june.pdf? (page 19)

Deutsche Bank

Scenario Analysis

Scenario analysis is a key tool to assess the potential impacts of policy and behavioral changes required to support the transition to a low-carbon economy. Companies undertaking scenario analysis today face challenges in translating the long-term macroeconomic, demographic, and demand projections underpinning climate scenarios to industry and client-specific financial impacts. The UNEP FI initiative mentioned above has work streams dedicated to translating these impacts, which going forward will be a core component of our scenario analysis development.

In 2019, Deutsche Bank piloted transition scenario analysis for the bank's loan portfolios to the most carbon-intensive industries: oil and gas, utilities (electric power and natural gas), as well as steel, metals, and mining, with the following approach taken:

- Scenario selection: We used the International Energy Agency "Sustainable development" scenario as a basis for the analysis. The scenario is consistent with the Paris Agreement's objective of holding the increase in global average temperatures to well below 2°C above pre-industrial levels and contains energy demand projections across key sources in line with that objective;
- Portfolio impact assessment: We applied downward probability of default (PD) rating migrations to portfolios with the number of downgrades dependent on (i) clients' sensitivity to transition risk based on their current business models, such as energy mix; (ii) estimates of clients' financial capacity to absorb the required investment to transition to a low-carbon economy (based on internal PD rating and market capitalization); and (iii) assessment of environmental performance, exposure to transition risks and transparency by external experts' surveys (where available);
- An increase in loss given default (LGD) ratios was also assumed across all clients; and
- The results were translated into estimates of how expected loss (EL) would develop over the medium-to-long term for the selected portfolios.

While we do see meaningful downward rating migrations for our carbon-intensive portfolios under the "Sustainable development" scenario (before any mitigating actions), the overall impact on the bank's balance sheet quality would remain contained, supported by our focus on well-rated and diversified clients.

https://www.db.com/ir/en/download/Deutsche_Bank_Non-Financial_Report_2019.pdf (page 69)

Risk Management - Recommended Disclosure (a)
Describe the organisation’s processes for identifying and assessing climate-related risks.

National Australia Bank

The scenario analysis was done in partnership with the Climate and Energy College in collaboration with the Potsdam Institute for Climate Impact Research. Initial analysis suggests that if climate change is not mitigated and average global temperatures exceed 1.5 degrees Celsius, an increased portion of our Australian retail mortgage portfolio will experience cyclones. The work
to refine this methodology is ongoing. Future work will help to understand the implications of how greater cyclone risk could affect probability of default. Following further testing, we will add other overlays of physical hazard data such as flooding, drought, and extreme heat, and apply the
approach to other lending portfolio segments.

https://www.nab.com.au/content/dam/nabrwd/documents/reports/corporate/2019-sustainability-report-pdf.pdf (page 28)

First Financial Holding Co

Identify risks and opportunities in climate change in accordance with the "Climate-Related Financial Disclosures Recommendations" framework published by the Task Force on Climate-Related Financial Disclosures (TCFD) and established response mechanisms.

The Environmental Sustainability Group of the CSR Committee is tasked to identify potential climate change risks and opportunities. It uses the "Climate-Related Financial Disclosures Recommendations published by the Task Force on Climate-Related Financial Disclosures (TCFD) to check and identify the operation risks and opportunities of the Company due to physical, transformation and other aspects. It shall establish a risk and opportunity matrix and use the outcomes of the matrix analysis to establish risk management strategy regarding the major risks as the core response action to the climate change, and estimate management cost and financial impact accordingly. To avoid the investments and financing risks derived from climate change, our Green Finance Committee-Green Examination Group identified and assessed the environmental risk factors and revised the related policies or principles of credit and investment review to prevent financing risks arising from climate change The goal is to strengthen the Company's climate change governance, systematically connect assessments and finances, reduce risks, and gain business opportunities

https://csr.firstholding.com.tw/en/doc/reports/20200630335356777790689_en.pdf (page 94)

Goldman Sachs

Business Activities

We believe that effective risk management is critical to our success. Accordingly, we have a well-established enterprise risk management (ERM) framework, which is ultimately overseen by our Board. The ERM framework employs a comprehensive, integrated approach to risk management, and it is designed to enable robust risk management processes through which we identify, assess, monitor and manage the risks we assume in conducting our business activities.

As part of our risk management approach, we have firm wide policy guidelines and dedicated teams that support business selection and review processes:

Firm wide policy guidelines for carbon-intensive sectors and activities, such as coal-fired power generation, palm oil, and oil & gas are included in our Environmental Policy Framework (EPF). The EPF was updated in December 2019 to restrict certain carbon-related business activities and to strengthen our work with clients to help them with their climate transition.

Upfront business selection and due diligence processes that include 14 key sector and cross-sector guidelines, and worst-case-loss calculations for physical commodities in certain carbon-intensive sectors, complement the EPF. These guidelines and tools are leveraged across the various activities of the firm at the business selection stage and through designated committee review processes. There are escalation mechanisms and protocols undertaken at each stage. Where relevant, we also incorporate extreme weather and flooding event probability into worst-case-loss calculations for certain transactions. See Environmental and Social Risk Management for more information.

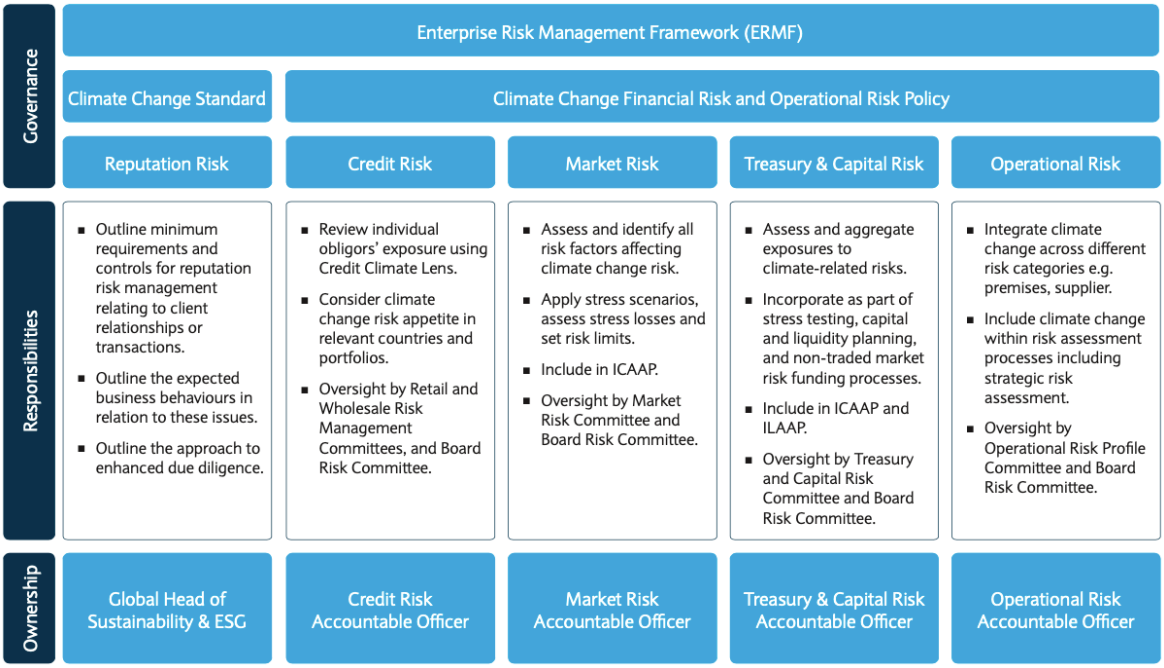
Risk Identification and Scenario Design, which is a periodic process that we undertake to review the materiality of evolving risks in our business activities over a two-year forward-looking horizon, includes the assessment of impact from climate change.

In addition, our ongoing risk monitoring from credit, liquidity, and market risk management teams, mark-to-market portfolio valuations, dynamic hedging, and insurance requirements where relevant, enables overall position management and exposure reduction where potential material risks are identified.

https://www.goldmansachs.com/investor-relations/corporate-governance/sustainability-reporting/tcfd.pdf (page 12)

Barclays PLC (Barclays)

During 2019, we further embedded climate change risk into the Group's Enterprise Risk Management Framework (ERMF) and recognised that climate change, and the associated risks described above, can impact a number of principal risks the Group faces.



Enterprise Risk Management Framework (ERMF)

The ERMF sets the strategic approach for risk management by defining standards, objectives and responsibilities for all areas of the Group. The ERMF is complemented by frameworks, policies and standards which are mainly aligned to individual principal risks. Within the ERMF, the Group has a Climate Change Standard that corresponds to our latest Climate Change Statement to manage reputation risk. For credit, market, treasury and capital and operational risk, the Group published a 'Climate Change Financial Risk and Operational Risk Policy'.

Climate Change Statement and Standard

In January 2019, we developed the bank's first Energy and Climate Change Statement and Standard, which set out our approach to climate change and energy sectors. This is now replaced with an updated, broader Climate Change Statement which sets out our strategic ambition to support economies and clients through the transition that is needed, as well as approach on all sectors relevant to climate change. We have developed an internal standard to reflect these positions in more detail and together with other climate related Standards (such as the Forestry & Palm Oil Standard), these now determine our approach to climate change and relevant sensitive sectors. These standards sit under the management of reputation risk within the ERMF and are enforced through an existing transaction origination, review and approval process that has been described in more detail on pages 34 to 35.

Environmental Risk Standard

In 2019, the Equator Principles Association published version four of the Equator Principles which introduces, amongst other things, new requirements on sponsors to prepare a Climate Change Risk Assessment aligned with the physical risk and transition risk categories of TCFD. Barclays adherence to the Equator Principles is governed by the Environmental Risk Standard which considers financial risks arising from wider environmental and social issues and is overseen through the transaction review process also described on pages 34 to 35.

Climate Change Financial Risk and Operational Risk Policy

This policy introduced climate change as an overarching risk impacting certain principal risks: credit risk, market risk, treasury and capital risk and operational risk. The policy outlines the requirements for identifying, measuring, managing and reporting the impact on Financial and Operational Risks arising from the physical, transition and connected risks associated with climate change. The risks associated with climate change are subject to rapidly increasing societal, regulatory and political focus, both in the UK and internationally. Embedding climate risk into the Group's risk framework in line with regulatory expectations, and adapting the Group's operations and business strategy to address both the financial risks resulting from the physical risk of climate change and the risk from the transition to a low-carbon economy, could have a significant impact on the Group's business.

https://home.barclays/content/dam/home-barclays/documents/citizenship/ESG/Barclays-PLC-ESG-Report-2019.pdf (page 52-57)

Royal Bank of Scotland (RBS)

Flood risk assessment tool

We are currently piloting innovative climate risk tools to assess the physical risk to our retail and commercial portfolios. We have worked with a consortium of partners led by D-Risk Group Ltd and Airbus Defence and Space supported by CLS Data. We have piloted Airbus' Geospatial Financial Hub (GFH).

The GFH maps flood risk against residential properties in the UK using JBA Risk Management Flood Map and Climate Change Flood Risk Indicator. The pilot calculated the physical risks to properties now and as global temperatures change in the future using climate data from the UK Climate Change Risk Assessment 2017 and UK Climate Projections 2009.

Images included provide examples of the data available for flood risk assessment for properties in an area. We have linked this information to our portfolio to assess our exposure to these physical risks and determine how we integrate this and other climate considerations into our lending and risk frameworks. This will also drive the complete data requirements for physical risk analysis and will enable the selection of a vendor solution for a strategic data partnership.

We are committed to the on-going use of the best performing and most reliable data and innovative climate risk tools as skills and knowledge in the climate space evolve.

Flood Risk
This image shows the varying degrees of river water flood risk with the darker blue colours showing greater depth of flooding for an event with a 1.3% annual probability of occurring (1 in 75 years). The combined flood risk is scored from 0 to 53 (where 53 is the highest risk possible).

2040 postcode flood risk indicator
This image shows the 2040 climate change flood risk indicator which indicates for each postcode area whether the flood risk is likely to improve (shown in green) or worsen (shown in orange) or see no change (no colour).

https://investors.natwestgroup.com/~/media/Files/R/RBS-IR-V2/results-center/rbsg-ara-2019-140220-0245-v3.pdf? (page 40)

National Australia Bank

The scenario analysis was done in partnership with the Climate and Energy College in collaboration with the Potsdam Institute for Climate Impact Research. Initial analysis suggests that if climate change is not mitigated and average global temperatures exceed 1.5 degrees Celsius, an increased portion of our Australian retail mortgage portfolio will experience cyclones. The work to refine this methodology is ongoing. Future work will help to understand the implications of how greater cyclone risk could affect probability of default. Following further testing, we will add other overlays of physical hazard data such as flooding, drought, and extreme heat, and apply the approach to other lending portfolio segments.

https://www.nab.com.au/content/dam/nabrwd/documents/reports/corporate/2019-sustainability-report-pdf.pdf (page 28)

Risk Management - Recommended Disclosures (b) & (c)
Describe the organisation's processes for managing climate-related risks.
Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organisation's overall risk management.

KB Financial Group Inc

Risk Management
KB Financial Group is building a process to systematically manage climate change risks. In line with global initiatives such as UNEP FI Principles for Responsible Banking (PRB) and Collective Commitment to Climate Action (CCCA), we organized a council consisting of working-level staff of KB Financial Holdings and KB Kookmin Bank, through which we are working to identify climate change risks and opportunities and analyze the climate change scenarios. Going forward, we will establish strategies and targets based on different climate change scenarios and monitor implementation status. KB Financial Group actively takes environmental and social risks into account when conducting business. We assess ESG factors including climate change risks in making investment decisions, and are developing Environment and Social Risk Framework (ESRM) to identify environmental and social risks in conducting business.

https://www.kbfg.com/common/jsp/fileDownUtil.jsp?filepath=/Eng/about/sustainability/__attachFile/2019_KB_FInancial_Group_SR_Eng.pdf (page 33)

JP Morgan

JPMorgan Chase's Independent Risk Management (IRM) function is organized generally to manage and categorize risks according to type, including strategic risk (which includes impacts to the Firm's reputation), credit and investment risk, market risk and operational risk. It is the responsibility of each of the Firm's lines of business to operate within the parameters set by IRM and identify risks related to their respective business activities. The appropriate consideration of environmental and social (E&S) issues is an important part of our process to assess potential reputational impacts. The Global Environmental and Social Risk Management (GESRM) team, which is part of IRM, establishes governance standards and restrictions for E&S industries and sectors that we deem to be higher risk. GESRM also performs E&S due diligence on certain clients and transactions; this includes reviewing clients' operating approaches to assess factors that could change a client's forward credit profile or impact the Firm's reputation.

https://www.jpmorganchase.com/content/dam/jpmc/jpmorgan-chase-and-co/documents/jpmc-cr-climate-report-2019.pdf (page 12)

Barclays PLC (Barclays)

Refer to extract from Barclays ESG Report 2019 above.

ABN AMRO Bank N.V. (ABN AMRO)

ABN AMRO applies a sustainability risk policy framework that is governed in accordance with the bank's 'three lines of defence' model. This policy framework covers activities primarily focused on corporate lending and payment and investment services, but also extending to procurement, human resources and product development.

The identified material risks are incorporated in our risk taxonomy, risk appetite and financial planning. ABN AMRO considers climate risk to be a material risk and treats it as part of sustainability risk. Since sustainability risk is interconnected with other risk types, such as credit risk, business risk and legal risk, it is managed as part of the existing risk governance.

https://www.abnamro.com/en/images/Documents/050_Investor_Relations/Financial_Disclosures/2019/ABN_AMRO_Bank_Annual_Report_2019.pdf (page 66 and 68)

ING Group

Updating our ESR Policy Framework

The ESR policy framework is reviewed regularly to ensure we adequately identify and manage not only existing but also new environmental and social risks. We conducted a full review of the ESR policy framework in 2018. This was done with the active participation of internal stakeholders and guidance from external stakeholders such as clients, peers and NGOs.

Changes to the updated ESR policy framework (valid as of 1 July 2019) include standalone human rights and climate change policies. The updates reflect external developments, societal expectations and our ambitions for these topics and sustainability in general.

We actively manage potential climate and human rights risks through our framework and regularly engage with stakeholders to inspire clients, peers and others to do the same. In May 2019 for example, we hosted a meeting with the UN High Commissioner for Human Rights and the Dutch private sector to discuss the role and leverage of the private sector in this important area.

As part of our framework, we restrict a number of activities from financing because we consider them too harmful to people or the environment, or because we foresee legislative developments that might influence our clients. New restrictions in the updated framework include asbestos and small arms and light weapons. We have a zero-tolerance policy for some of the restrictions, such as with companies involved in the production of cluster munitions. For others, we try to refrain as much as possible from any form of involvement, whether directly or indirectly.

The new framework also affects companies with both controversial and non-controversial activities. We've lowered the limit that we generally use to determine whether to exclude existing clients to 30% (from 50%), meaning we now exclude them if over 30% of their revenue

comes from controversial activities. For new clients this threshold is generally even lower.

https://www.ing.com/Sustainability/Sustainable-business/Environmental-and-social-risk-policies.htm

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The identified material risks are incorporated in our risk taxonomy, risk appetite and financial planning. ABN AMRO considers climate risk to be a material risk and treats it as part of sustainability risk. Since sustainability risk is interconnected with other risk types, such as credit risk, business risk and legal risk, it is managed as part of the existing risk governance.

https://www.abnamro.com/en/images/Documents/050_Investor_Relations/Financial_Disclosures/2019/ABN_AMRO_Bank_Annual_Report_2019.pdf (page 66 and 68)

National Australia Bank

At NAB, ESG risks are managed in an integrated manner as part of our processes for managing risks in our material risk categories. ESG risk assessment is part of our credit risk assessment and due diligence processes, and factor into decisions about our operations and suppliers. For more information about the risks facing the NAB Group, read our Annual Financial Report.

We maintain a High Risk ESG Sectors and Sensitive Areas list to help our bankers and procurement professionals know which sectors and activities may have a higher inherent exposure to ESG-related risks. It also sets out sectors and activities where we have restricted or no appetite. This list is reviewed and updated to incorporate emerging and changing ESG risks.

Our Credit Risk Policy and Supplier Sustainability Program requires all customers and suppliers to be screened against the list for involvement in these sensitive sectors and areas – and if they engage in those activities, it triggers an ESG risk assessment. This could be part of the loan origination or on-boarding process for new customers, or the tendering and contracting process for new suppliers. It may also be part of the review process for our existing customers and suppliers.

We give our people tools to help assess and manage ESG risks. This year, we developed two new sets of Principles to guide our bankers in understanding ESG risks related to animal welfare and non-bank financial institutions. See the case study for more details.

We voluntarily sign up to initiatives that help banks set standards and improve ESG risk management practices. These include the UN Global Compact, the Equator Principles and, more

recently, the Principles for Responsible Banking. You can see the full list online here. And you can read more about our ESG risk management approach online here.

https://www.nab.com.au/content/dam/nabrwd/documents/reports/corporate/2019-sustainability-report-pdf.pdf (page 43)

We are continuously improving how we incorporate environmental, social and governance (ESG) risk into our risk management framework, policies and processes, at both a Group and business level.

This is supported by ongoing work to embed ESG risk considerations into our day-to-day decision making and to refine our processes and tools for managing ESG risk, guided by our Group-wide principles.

To help our employees better understand ESG risk, we include ESG risk content in our annual risk awareness training.

For information on how we manage ESG risk in spending (our purchasing decisions), read about our Supply Chain Management.

ESG Risk Policy Settings
We maintain a High Risk ESG Sectors and Sensitive Areas list to help our bankers and procurement professionals know which sectors and activities may have a higher inherent exposure to ESG-related risks. It also sets out sectors and activities where we have restricted or no appetite; this includes the nuclear industry, arms-dealing and predatory financing. This list is reviewed and updated to incorporate emerging and changing ESG risks.

Additionally, NAB has disclosed the following risk policy settings:

Fossil Fuels

Although NAB continues to support existing customers across the mining and energy sectors to facilitate an orderly transition to a low-carbon economy, we will not finance:

- New thermal coal mining projects or new-to bank thermal coal mining customers.
- Oil/tar sands extraction projects.
- Oil and gas projects within or impacting the Arctic National Wildlife Refuge area and any similar Antarctic Refuge.
- New or material expansions of coal fired power generation facilities, unless there is technology in place to materially reduce emissions.

Improper Land Acquisition

NAB's approach to Improper Land Acquisition is incorporated within our Human Rights approach and within our Human Rights Policy. For more information refer to:

- Human Rights approach
- Improper Land Acquisition Progress reports

Animal Welfare

In 2019, NAB developed a set of Animal Welfare Principles to guide bankers in assessing customers' animal welfare practices, and to clarify the Group's role in supporting customers engaged in any form of business involving animals. The Principles define good animal welfare practices and outline our expectations that customers will meet required animal welfare regulations, standards and conventions. As outlined in the Principles, NAB will not finance the following animal-related activities:

- animal testing for cosmetic purposes;
- animal trade involving endangered or threatened species unless designated for conservation;
- use of endangered or threatened species or non-human primates for any testing/ research and experimental purposes (apart from studies for conservation purposes);
- animal fights for entertainment or gambling;
- activities that involve inhumane killing or capture methods;
- shark finning or commercial whaling;
- destructive fishing practices including the use of poison and explosives; and
- operating fur farms and the trade and manufacturing of fur products made from endangered species.

ESG Risk in Lending

Our credit policies and processes support our approach to risk management. They incorporate legal and regulatory requirements, and reflect our commitment to meeting voluntary standards, such as the Equator Principles.

Each of our businesses has policies and processes to identify, assess and manage ESG risks associated with our customers. Among other things, these policies require that each of our businesses is able to:

- identify relevant legislation and regulatory requirements and assess a customer's compliance with these requirements
- assess how our customers manage environmental, social and governance risks
- consider the impact of changes in legislation and regulations on a customer's business
- consider the impact of changes in societal expectations on a customer's business and the reputation risk that may be associated with a customer, and
- assess the risk of liability for environmental issues being transferred to the Group entity.

Our approach is to encourage customers to establish good environmental and social management practices, and to seek reliable advice in relation to these matters. Bankers discuss environmental and social risks with their customers as part of their business relationship. This enables them to better identify and assess any risks that may arise on a case-by-case basis.

https://www.nab.com.au/about-us/social-impact/shareholders/esg-risk-management

First Financial Holding Co

The Environmental Sustainability Group of the CSR Committee is tasked to identify potential climate change risks and opportunities. It uses the "Climate-Related Financial Disclosures Recommendations published by the Task Force on Climate-Related Financial Disclosures (TCFD) to check and identify the operation risks and opportunities of the Company due to physical, transformation and other aspects. **It shall establish a risk and opportunity matrix and use the outcomes of the matrix analysis to establish risk management strategy regarding the major risks as the core response action to the climate change, and estimate management cost and financial impact accordingly.** To avoid the investments and financing risks derived from climate change, our Green Finance Committee-Green Examination Group identified and assessed the environmental risk factors and revised the related policies or principles of credit and investment review to prevent financing risks arising from climate change The goal is to strengthen the Company's climate change governance, systematically connect assessments and finances, reduce risks, and gain business opportunities

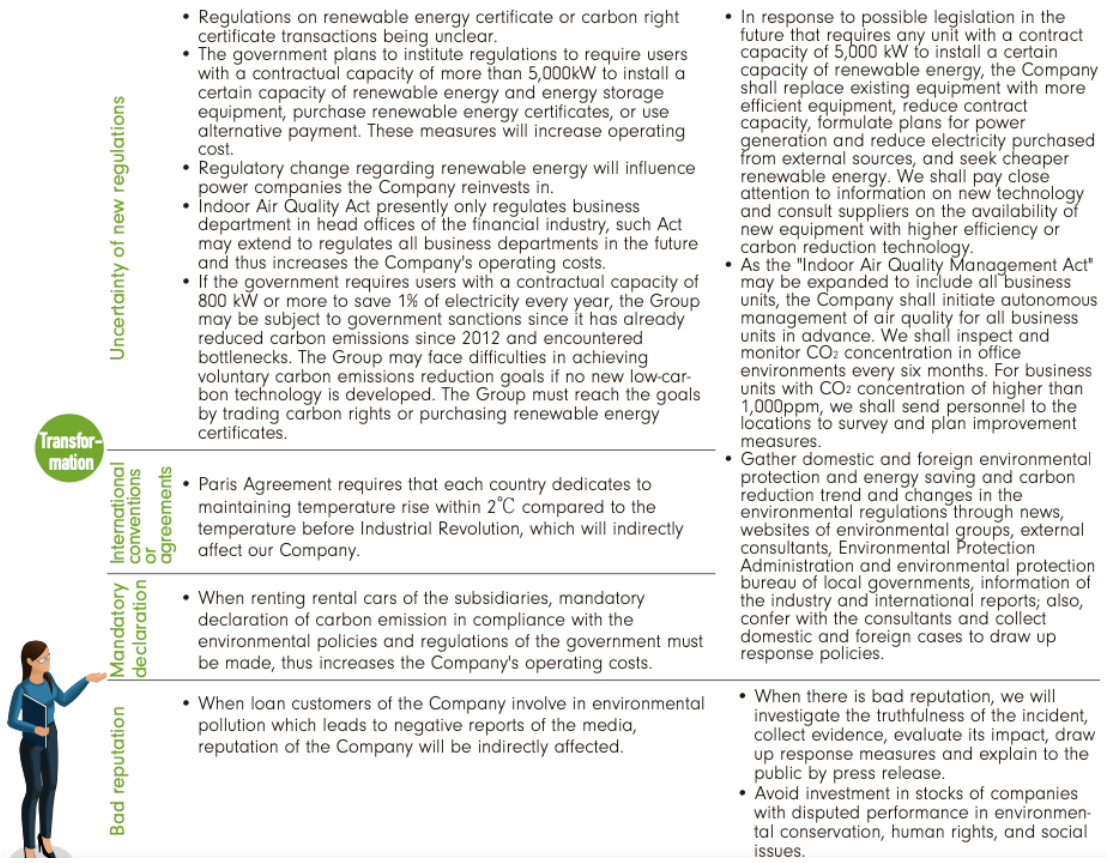
Senior executives of each business group of the Company direct business management units to establish and execute plans and set short, medium and long-term goals for climate change risks and opportunities. The results of their execution are periodically filed to the Board of Directors for review.

See the comprehensive table on page 96-97.

1-1 Climate change risks

◆ FFHC Identify the risks of climate change

Type	Item	Impact on Company Operations	Risk Mitigation Management Measures
Physical	Tropical cyclone/ Extreme precipitation	• Caused damage to offices, equipment, or transportation vehicles Heavy rain or strong wind brought forth by tropic cyclones may directly impact the Company's operation sites. • Employees suffer losses on their way to or from work, at the workplace, or on their way to confirm damages caused by disasters. • Work being called off which resulted in the disruption of operations. • Caused the affected households to be unable to repay loans which led to the loss of principal to the Company. • Caused bodily injury to the insured of the Company which led to the increase of claim amount. • Investee personnel's loss of property causes investment profitability to fall. • Borrowers suffer from interruption of operations or loss of personnel or property which leads to difficulties in repayment. • Caused decrease in the asset value of the Company's investment real estates.	• Include climate change risks into the Company's risk management policy and report to the Board of Directors for review and approval before rigorous implementation in accordance with the Company's risk management policy. • As tropical cyclones and extreme precipitation may cause damage to the information appliances, the Company appoints professional contractors to conduct inspections and maintenance for mechanical and electrical equipment and we set up waterproof gates, sandbags, other flood-prevention measures, and uninterrupted power system to ensure normal operation. • We purchase insurance for investment property held by the Company and all-risk home insurance for credit asset to transfer risks and enhance protection of creditor's rights. • As to the risks of extreme climates, rising sea levels and tropical cyclones, the Company pays close attention to droughts, severe rainfalls and power supply alerts and establish defense corps for responding to typhoons, flooding, earthquakes, bank runs, epidemics, fires, explosions and other emergencies to manage climate change risks. • Avoid waterfront low-lying areas when choosing the locations and purchasing lands and buildings for the operating offices; If any asset held locates at a waterfront low-lying area, we will try to dispose of it or transfer the risk by insurance.
	Rising sea levels	• Exposes some business units to flood risk.	
	Extreme drought	• May lead to lack of electricity which results in disruption of operations • May lead to fires. • Difficulties in obtaining water resources will increase operating costs	
	Extreme climate change	• In recent years, days of high and low temperature increased, the temperature change was severe. Days of high temperature caused substantial increase in electricity used for air conditioning and water of the Company, which increased the energy consumption. • The increase of the occurrence rate of infectious diseases increases the risks to employee health and disruption of operation.	



https://csr.firstholding.com.tw/en/doc/reports/20200630335356777790689_en.pdf (page 94-97)

Metrics and Targets - Recommended Disclosure (a)

Disclose the metrics used by the organisation to assess climate-related risks and opportunities in line with its strategy and risk management process.

Barclays PLC (Barclays)

Credit Exposures

Barclays is committed to understanding the risks associated with sectors sensitive to the impacts from climate change. Disclosing risk management metrics and quantitative credit exposures supports this approach and our ongoing alignment with the TCFD recommendations. The following sectors represent those that the Group considers at an elevated risk from the impacts of climate change, and cover a broader range of sectors beyond energy and utilities. However, in each sector there will exist a range of vulnerabilities and as such these figures do not represent elevated carbon emission exposures and should not be interpreted as an indicator of relative carbon intensity. These sectors have been identified through an analysis of Barclays Industrial Classifications by portfolio and benchmarked against Moody's and other external sources, with additional input from subject matter experts.

Overview of Credit Exposures by Industry Sector

'Manufacturing', 'energy and water', 'wholesale and retail distribution' and 'other' are those standard categories, as disclosed in the Annual Report, that have been identified to contain exposures at an elevated risk from the impacts of climate change.

Credit risk concentration by elevated risk sector

As at 31 December 2019	Manufacturing £m	Energy and water £m	Wholesale and retail distribution and leisure £m	Other £m	Total £m
Identified as elevated climate risk sectors:					
On-balance sheet:					
Loans and advances at amortised cost	1,454	2,944	213	5,234	9,845
Off-balance sheet:					
Loan commitments	6,576	13,228	842	6,179	26,825
Total	8,030	16,172	1,055	11,413	36,670
Of which:					
Airlines	–	–	–	1,390	1,390
Airports	–	–	–	546	546
Automobile manufacturers	2,987	–	–	–	2,987
Building materials	1,174	–	–	–	1,174
Coal mining and supporting infrastructure	–	40	–	–	40
Commodity chemicals	1,454	–	–	–	1,454
Mining and metals, excluding coal	206	1,880	–	–	2,086
Oil & Gas – Extraction	–	7,313	–	–	7,313
Oil & Gas – Midstream Energy	–	–	–	3,617	3,617
Oil & Gas – Oilfield Services	–	2,447	–	40	2,487
Oil & Gas – Refining and Marketing	1,726	–	1,055	–	2,781
Protein and agriculture	6	–	–	4,898	4,904
Shipping	–	–	–	237	237
Steel	477	–	–	–	477
Surface transportation and logistics	–	–	–	685	685
Unregulated utilities and power companies	–	4,492	–	–	4,492
Total	8,030	16,172	1,055	11,413	36,670

The table below shows, for these four categories, loans and advances at amortised cost and loan commitments at a total Group level and for those sectors at an elevated risk from the impacts of climate change. The data presented is before the effects of netting, collateral and risk transfer have been applied. The monitoring and reporting of exposures to elevated climate risk sectors will continue to evolve in line with Barclays' approach to climate change risk management and to further align to TCFD recommendations to disclose exposure to carbon-related assets.

As at 31 December 2019	Energy £m	Utilities £m	Total carbon-related assets £m
On-balance sheet:			
Loans and advances at amortised cost	2,998	621	3,619
Off-balance sheet:			
Loan commitments	13,240	10,139	23,379
Total	16,238	10,760	26,998
% of Total Loans & Advances and Loan Commitments[1]			4%

To align with the recommendation of the TCFD, we also disclose concentrations of credit exposure to carbon-related assets. The TCFD recommends that carbon-related assets are those assets tied to the energy and utilities sectors under the Global Industry Classification Standard (GICS) excluding water utilities, independent power and renewable electricity.

https://home.barclays/content/dam/home-barclays/documents/citizenship/ESG/Barclays-PLC-ESG-Report-2019.pdf (page 62-64)

Barclays PLC (Barclays)

Financing (Capital Markets)

Barclays' financing of carbon-related assets is wider than our loan book and in particular extends to underwriting and distributing debt and equity securities in our debt and equity capital markets businesses (referred to as capital markets financing). To facilitate greater understanding and transparency of our capital markets financing, we have disclosed below total capital raised for clients across all sectors in 2019. We have also provided a more detailed breakdown of capital raised for the energy and power sectors. The data is sourced from Dealogic and the industry sector categories are designated by Dealogic General and Specific Industry Group classifications. Financing volumes are reported on a manager-proceeds basis including bonds, equities, loans and securitised bonds (no modifications have been made by Barclays).

https://home.barclays/content/dam/home-barclays/documents/citizenship/ESG/Barclays-PLC-ESG-Report-2019.pdf (page 62-64)

National Australia Bank

In addition to the Group's environmental financing commitment, the Group is monitoring exposure to both carbon intensive and low-carbon sectors. Some of this data is reported to investors in the March 2019 half year and the September 2019 financial year results presentations, as well as in the Group's annual Sustainability Report. Currently, exposure to renewable energy represents 69.4% of the Group's power generation portfolio (up slightly from 68.8% at 30 September 2018) and exposure to coal-fired power generation decreased from 5.4% at 30 September 2018 to 1.7% at 30 September 2019. Exposure to coal mining increased from $0.7 billion at 30 September 2018 to $1.5 billion at 30 September 2019 (as exposure at default (EAD)). Of the $0.8 billion increase, $0.4 billion relates to model and regulatory prescribed methodology requirements (including: thermal coal +$0.2 billion, metallurgical coal + $0.2 billion). However, comparing September 2019 full year to March 2019 half year, which were calculated with the same model and regulatory prescribed methodology, thermal coal exposure decreased by 14.8% from $0.9 billion to $0.8 billion (as EAD) and metallurgical coal increased by 28.8% from $0.6 billion to $0.7 billion, with a small increase in total coal mining exposure of 2% from $1.47 billion to $1.5 billion (as EAD).

https://www.nab.com.au/content/dam/nabrwd/documents/reports/corporate/2019-annual-financial-report-pdf.pdf (page 39)

Metrics and Targets - Recommended Disclosure (b)

Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.

ABN AMRO Bank N.V. (ABN AMRO)

Summary of GHG Emissions ABN AMRO Scope

Reported kton GHG emissions			2019			2018
(by region)	NL	RoW[1]	Total	NL	RoW[1]	Total
Scope 1						
Energy (natural gas + solar PV)	-	2.80	2.80	-	n/a	-
Business travel (lease cars)	10.49	n/a	10.49	12.39	n/a	12.39
Total Scope 1	**10.49**	**2.80**	**13.29[2]**	**12.39**	**n/a**	**12.39**
Scope 2						
Energy (electricity & heating & cooling)	1.94	6.22	8.17	1.92	n/a	1.92
Total Scope 2	**1.94**	**6.22**	**8.17[2]**	**1.92**	**n/a**	**1.92**
Total Scope 1 + 2	**12.43**	**9.02**	**21.46[2]**	**14.31**	**n/a**	**14.31**
Scope 3						
Business air travel	5.65	4.75	10.39	6.33	5.46	11.79
Emissions of lending portfolio[3]			29,437			30,245
Total Scope 3			**29,447**			**30,257**

[1] RoW = Rest of the World.
[2] Increase in Scope 1 and 2 GHG emissions in 2019 due to newly added data for RoW.
[3] Calculation excludes consumer loans, other retail and client investments.
Note: Scoping is based on GHG Protocol. See specification of figures on the following pages. 32 kton CO_2 of our own operations are compensated by financing greenhouse gas emission reduction efforts at five biogas facilities in Brabant (the Netherlands). (Sub)totals may not add up due to rounding. Details of the figures are presented on the following pages.

https://www.abnamro.com/en/images/Documents/010_About_ABN_AMRO/Annual_Report/2019/ABN_AMRO_Non-financial_data_and_Engagement_2019.pdf (page 13-17)

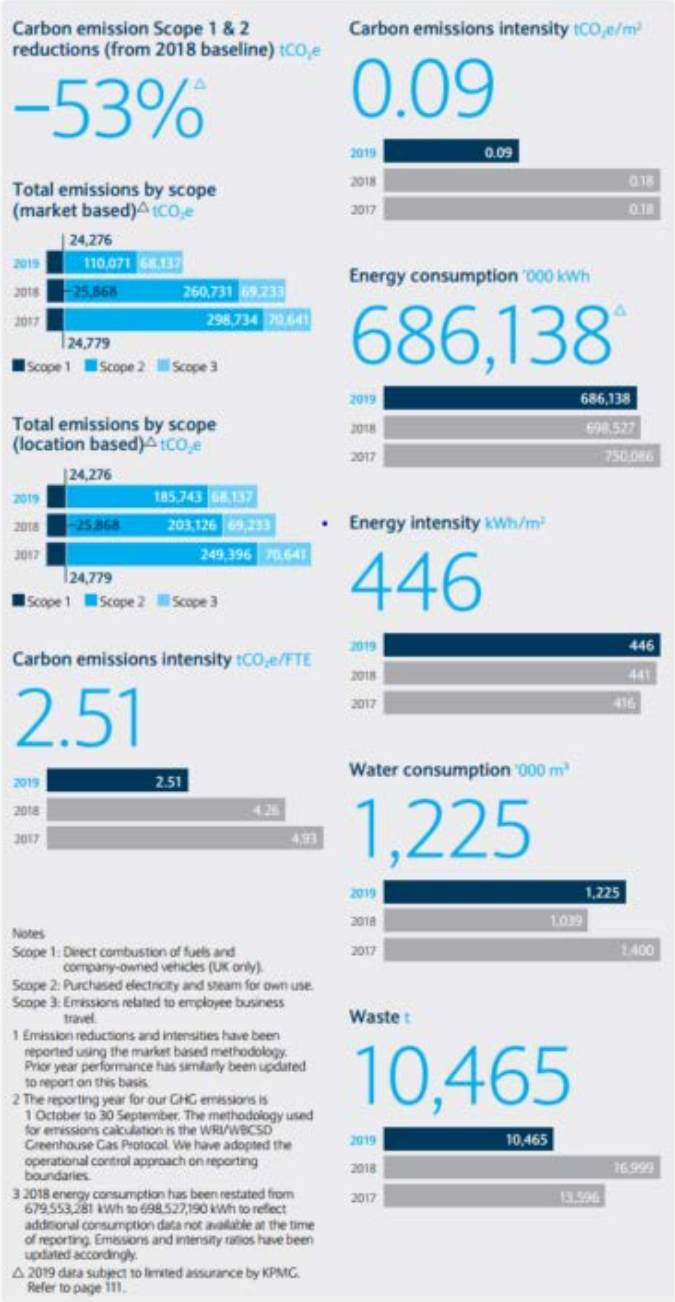
Barclays PLC (Barclays)

In 2019, we made significant progress towards our 80% carbon reduction commitment by 2025, achieving a 53% reduction in Group emissions against the 2018 baseline through purchase of renewable energy contracts across our operations in the UK and continental Europe. We are procuring 60% of our operational electricity needs from renewable energy and are on track to hit our interim RE100 target of 90% by 2025. In light of this progress, we have committed to accelerating these timelines and are targeting an 80% reduction in Scope 1 and 2 emission and to procuring 90% of our electricity from renewable sources by the end of 2021. In 2020, we will continue to explore opportunities for self-generation and power purchase agreements in the UK and US thereby adding additional renewable energy capacity to the market. We continue to work on improving the operational efficiency of our property portfolio and in 2019 conducted a number of projects globally which have achieved a total of 2GWh of energy savings.

Carbon Offsetting

We offset our operational carbon footprint, including from our properties and colleague business travel, by funding an equivalent carbon dioxide saving elsewhere through the purchase

of carbon credits. This is part of our wider strategy around reducing our overall footprint, which prioritises reducing operational carbon emissions through improved energy efficiency and sourcing low-carbon energy where it is cost effective to do so. We further drive carbon management and reduction downstream through working with suppliers and partners to instil a low carbon culture. Lastly, we offset unavoidable emissions from energy use in buildings and in business travel. We purchase credits from a range of projects, which must meet strict standards on verification and due diligence.



https://home.barclays/content/dam/home-barclays/documents/citizenship/ESG/Barclays-PLC-ESG-Report-2019.pdf (page 38-40)

ABN AMRO Bank N.V. (ABN AMRO)

Summary of GHG Emissions ABN AMRO Scope

Reported kton GHG emissions			2019			2018
(by region)	NL	RoW[1]	Total	NL	RoW[1]	Total
Scope 1						
Energy (natural gas + solar PV)	-	2.80	2.80	-	n/a	-
Business travel (lease cars)	10.49	n/a	10.49	12.39	n/a	12.39
Total Scope 1	**10.49**	**2.80**	**13.29[2]**	**12.39**	**n/a**	**12.39**
Scope 2						
Energy (electricity & heating & cooling)	1.94	6.22	8.17	1.92	n/a	1.92
Total Scope 2	**1.94**	**6.22**	**8.17[2]**	**1.92**	**n/a**	**1.92**
Total Scope 1 + 2	**12.43**	**9.02**	**21.46[2]**	**14.31**	**n/a**	**14.31**
Scope 3						
Business air travel	5.65	4.75	10.39	6.33	5.46	11.79
Emissions of lending portfolio[3]			29,437			30,245
Total Scope 3			**29,447**			**30,257**

[1] RoW = Rest of the World.
[2] Increase in Scope 1 and 2 GHG emissions in 2019 due to newly added data for RoW.
[3] Calculation excludes consumer loans, other retail and client investments.
Note: Scoping is based on GHG Protocol. See specification of figures on the following pages. 32 kton CO_2 of our own operations are compensated by financing greenhouse gas emission reduction efforts at five biogas facilities in Brabant (the Netherlands). (Sub)totals may not add up due to rounding. Details of the figures are presented on the following pages.

https://www.abnamro.com/en/images/Documents/010_About_ABN_AMRO/Annual_Report/2019/ABN_AMRO_Non-financial_data_and_Engagement_2019.pdf (page 13-17)

National Australia Bank

(tCO_2-e) GHG emissions	% change from prior year	2020 Market-based	2020 Location-based	2019	2018	2017	2016
Scope 1							
Building-based refrigerants - HVAC, refrigerators	▲1%	1,630	1,630	1,619	1,657	1,443	1,380
Business travel - vehicle fleet and status-use vehicles	▼19%	6,885	6,885	8,483	8,416	8,597	8,909
Stationary energy - combustion of fuel: diesel, gas, propane	▼13%	7,811	7,811	8,976	8,947	9,146	7,874
Vehicle air conditioning refrigerant[2]	▲94%	252	252	130	188	190	210
Total scope 1	**▼14%**	**16,579**	**16,579**	**19,207**	**19,209**	**19,376**	**18,373**
Scope 2							
Stationary energy - electricity	**▼12%**	**71,913**	**79,685**	**90,434**	**97,820**	**103,936**	**131,658**
Scope 3							
A3, A4 and A5 paper purchased	▲110%	36	36	17	29	49	210
Base-building energy - combustion of fuel: diesel, gas (AUS only)	▼11%	1,535	1,535	1,730	2,230	1,946	2,188
Base-building & 3rd party data centre energy - electricity (AUS, NZ & UK)	▼8%	15,535	15,535	16,897	17,066	18,363	18,994
Business travel - Air travel[3]	▲5%	22,154	22,154	21,105	22,153	18,375	26,600
Business travel - Hotel stays	▼27%	2,792	2,792	3,843	2,828	3,082	5,072
Other business travel[4]	▼25%	2,224	2,224	2,983	2,831	3,014	4,524
Transmission losses - base-building energy: diesel, gas, electricity (AUS, NZ & UK)	▼10%	1,825	1,825	2,036	2,265	2,350	2,638
Transmission losses - stationary energy: diesel, gas, propane, electricity	▼12%	8,351	9,041	10,328	11,703	12,749	18,333
Working From Home energy - electricity, gas and associated transmission losses	N/A	3,597	3,597	DNR	DNR	DNR	DNR
Waste to landfill	▼22%	1,681	1,681	2,165	2,291	2,693	2,994
Waste to incineration	▲345%	685	685	154	214	266	DNR
Materials Recycled/Diverted from landfill	▼53%	7	7	15	DNR	DNR	DNR
Water use	▼28%	322	322	450	447	463	517
Waste water	▼18%	21	21	25	14	DNR	DNR
Paper Statements (Non Carbon Neutral) (New Zealand only)	▲35%	196	196	145	155	163	DNR
Total scope 3	**▼0.4%**	**60,961**	**61,651**	**61,893**	**64,287**	**64,113**	**82,070**
Gross GHG emissions (Scope 1, 2 and 3) prior to renewable energy purchase	**▼8%**	**149,452**	**157,915**	**171,535**	**181,316**	**187,425**	**232,100**
Renewable electricity purchased	▲152%	N/A	(8,463)	(3,360)	(365)	(553)	(13,182)
Carbon offsets retired[5]	▼11%	(149,452)	(149,452)	(168,175)	(180,950)	(186,872)	(218,918)
Net GHG emissions (carbon neutral)	**0%**	**0**	**0**	**0**	**0**	**0**	**0**

Source: National Australia Bank Sustainability Data Pack 2020

Goldman Sachs

Energy and GHG Emissions

	Trend 2018–2019	2019	2018[1]	2017[1]
Energy				
Global Direct Energy Consumption (MWh)	↑	45,281	41,237	41,207
Natural Gas		93%	91%	90%
Fuel Oil		7%	9%	10%
Global Intermediate Energy Consumption (MWh)	↓	489,908	508,703	499,077
Purchased Electricity		96%	96%	97%
Purchased Steam & Chilled Water		4%	4%	3%
Global Direct and Intermediate Energy Consumption (MWh)	↓	535,189	549,940	540,283
◊Reduction in Global Energy Consumption from Baseline (%)[2]	↓	-12%	-10%	-12%
Global Renewable Energy Consumption (MWh)	↓	460,455	463,192	453,518
◊Percent Renewable Energy	↑	98%	95%	94%
Greenhouse Gas (GHG) Emissions				
Scope 1 — Direct (metric tons CO_2 equivalent [tCO_2e])	↑	12,673	11,565	11,231
Natural Gas		68%	66%	67%
Fuel Oil		6%	8%	9%
HFC Refrigerants		26%	26%	24%
Scope 2 (location) — Indirect (tCO_2e)	↓	166,249	187,418	189,599
Purchased Electricity		98%	98%	99%
Purchased Steam & Chilled Water		2%	2%	1%
Scope 2 (market) — Indirect (tCO_2e)	↓	9,109	16,284	18,410
Purchased Electricity		64%	81%	87%
Purchased Steam & Chilled Water		36%	19%	13%
Scope 3: Category 6 — Business Travel (tCO_2e)	↓	135,473	139,893	120,001
Commercial Air		83%	88%	88%
Other Travel[3]		17%	12%	12%
Total Emissions: Scope 1 & 2 (location) (tCO_2e)	↓	178,922	198,983	200,830
Office Scope 1 & 2		55%	53%	53%
Data Center Scope 1 & 2		45%	47%	47%
Total Emissions: Scope 1, 2 (market) (tCO_2e)	↓	21,782	27,849	29,641
Total Emissions: Scope 1, 2 (market), and 3 Category 6 (tCO_2e)	↓	157,255	167,742	149,642
Verified Carbon Offset Emissions Reductions (tCO_2e)[1]		157,255	165,051	146,950
◊Net Emissions: Scope 1, 2 (market), and 3 Category 6 (tCO_2e)[1]		0	0	0
Revenues (tCO_2e/$M)[4]	↓	4.9	5.4	6.1
Rentable Square Feet ($KgCO_2e$/sq. ft.)[4]	↓	14.9	17.9	20.7
Employee (tCO_2e/employee)[4]	↓	4.7	5.4	6.0

Notes:

Note 1: Historical energy, water and GHG emissions data has been adjusted and restated from baseline 2013 onward to account for acquisitions and divestitures. Carbon offsets and net emissions reflect verified totals in the year of initial reporting.

Note 2: This symbol ◊ before an indicator denotes an environmental commitment through Goldman Sachs' 2015 EPF; reductions are from a 2013 baseline.

Note 3: This includes charter air, rail/bus, ferry, car and hotels.

Note 4: Metrics are normalized using Scope 1 & Scope 2 (location) emissions.

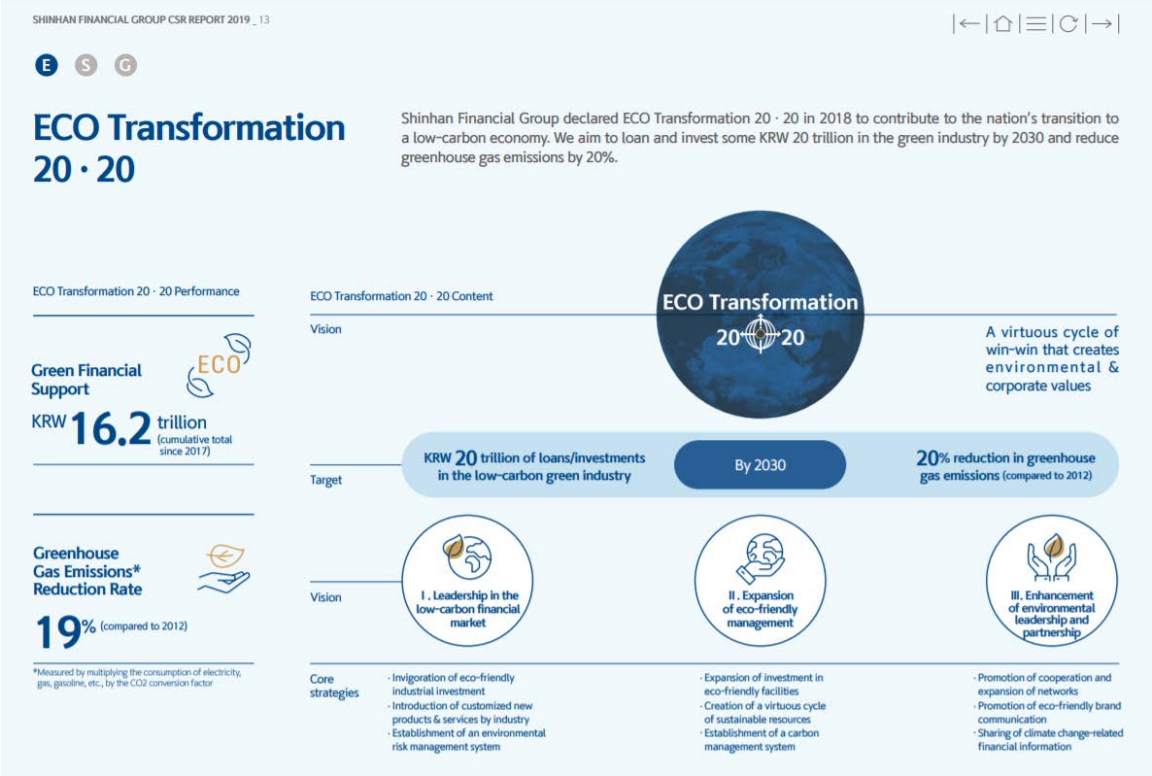
https://www.goldmansachs.com/investor-relations/corporate-governance/sustainability-reporting/tcfd.pdf (page 16)

Metrics and Targets - Recommended Disclosure (c)
Describe the targets used by the organisation to manage climate-related risks and opportunities and performance against targets.

Shinhan Financial Group

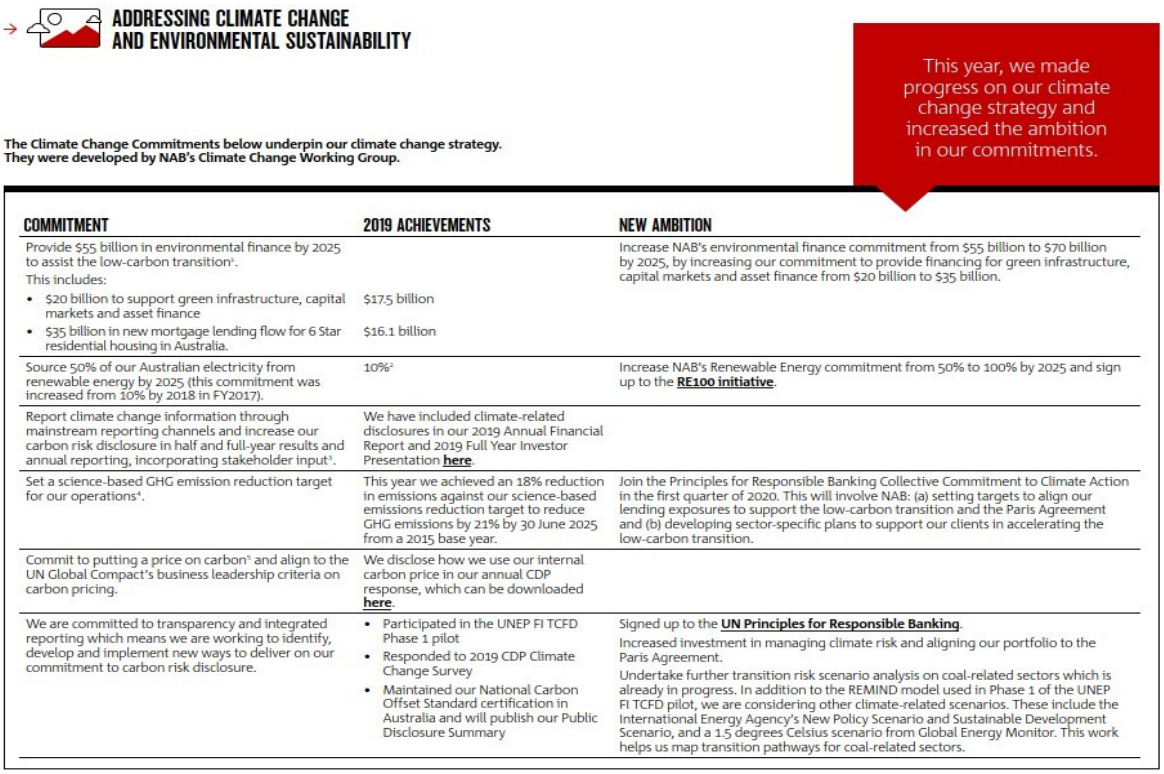
ECO Transformation 20 · 20

Shinhan Financial Group declared ECO Transformation 20 · 20 in 2018 to contribute to the nation's transition to a low-carbon economy. We aim to loan and invest some KRW 20 trillion in the green industry by 2030 and reduce greenhouse gas emissions by 20%.



http://www.shinhangroup.com/kr/common/download/commonDownload.jsp?actionValue=PDF&pathKey=CSRREPORT&fileName=2019_report_eng_download.pdf&force_isolation=true
(page 13)

National Australia Bank



ADDRESSING CLIMATE CHANGE AND ENVIRONMENTAL SUSTAINABILITY

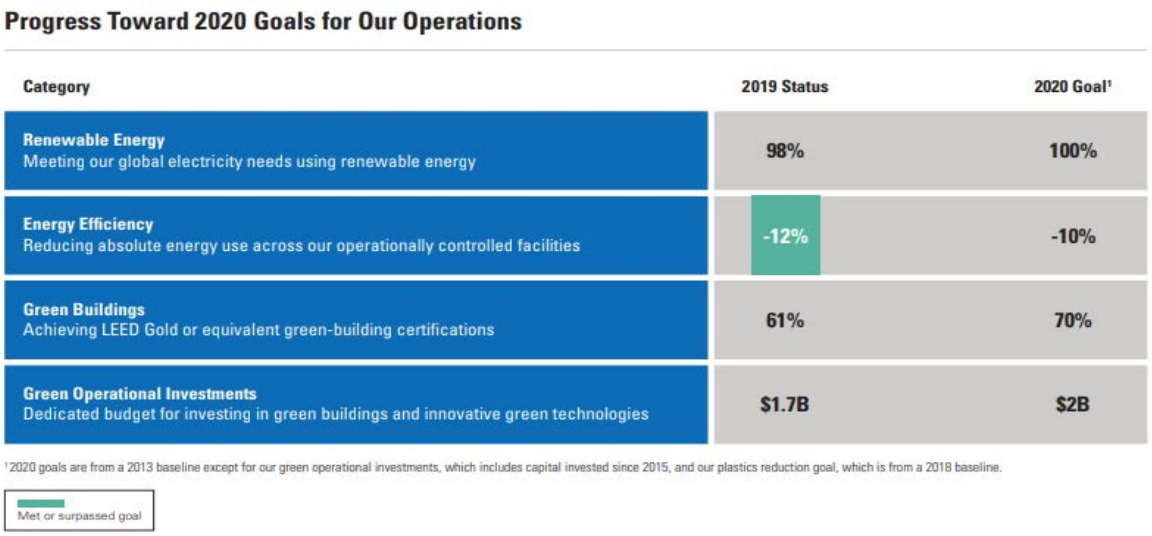
This year, we made progress on our climate change strategy and increased the ambition in our commitments.

The Climate Change Commitments below underpin our climate change strategy. They were developed by NAB's Climate Change Working Group.

COMMITMENT	2019 ACHIEVEMENTS	NEW AMBITION
Provide $55 billion in environmental finance by 2025 to assist the low-carbon transition[1]. This includes: • $20 billion to support green infrastructure, capital markets and asset finance • $35 billion in new mortgage lending flow for 6 Star residential housing in Australia.	 $17.5 billion $16.1 billion	Increase NAB's environmental finance commitment from $55 billion to $70 billion by 2025, by increasing our commitment to provide financing for green infrastructure, capital markets and asset finance from $20 billion to $35 billion.
Source 50% of our Australian electricity from renewable energy by 2025 (this commitment was increased from 10% by 2018 in FY2017).	10%[2]	Increase NAB's Renewable Energy commitment from 50% to 100% by 2025 and sign up to the **RE100 initiative**.
Report climate change information through mainstream reporting channels and increase our carbon risk disclosure in half and full-year results and annual reporting, incorporating stakeholder input[3].	We have included climate-related disclosures in our 2019 Annual Financial Report and 2019 Full Year Investor Presentation **here**.	
Set a science-based GHG emission reduction target for our operations[4].	This year we achieved an 18% reduction in emissions against our science-based emissions reduction target to reduce GHG emissions by 21% by 30 June 2025 from a 2015 base year.	Join the Principles for Responsible Banking Collective Commitment to Climate Action in the first quarter of 2020. This will involve NAB: (a) setting targets to align our lending exposures to support the low-carbon transition and the Paris Agreement and (b) developing sector-specific plans to support our clients in accelerating the low-carbon transition.
Commit to putting a price on carbon[5] and align to the UN Global Compact's business leadership criteria on carbon pricing.	We disclose how we use our internal carbon price in our annual CDP response, which can be downloaded **here**.	
We are committed to transparency and integrated reporting which means we are working to identify, develop and implement new ways to deliver on our commitment to carbon risk disclosure.	• Participated in the UNEP FI TCFD Phase 1 pilot • Responded to 2019 CDP Climate Change Survey • Maintained our National Carbon Offset Standard certification in Australia and will publish our Public Disclosure Summary	Signed up to the **UN Principles for Responsible Banking**. Increased investment in managing climate risk and aligning our portfolio to the Paris Agreement. Undertake further transition risk scenario analysis on coal-related sectors which is already in progress. In addition to the REMIND model used in Phase 1 of the UNEP FI TCFD pilot, we are considering other climate-related scenarios. These include the International Energy Agency's New Policy Scenario and Sustainable Development Scenario, and a 1.5 degrees Celsius scenario from Global Energy Monitor. This work helps us map transition pathways for coal-related sectors.

https://www.nab.com.au/content/dam/nabrwd/documents/reports/corporate/2019-sustainability-report-pdf.pdf (page 27)

Goldman Sachs



Progress Toward 2020 Goals for Our Operations

Category	2019 Status	2020 Goal[1]
Renewable Energy Meeting our global electricity needs using renewable energy	98%	100%
Energy Efficiency Reducing absolute energy use across our operationally controlled facilities	-12%	-10%
Green Buildings Achieving LEED Gold or equivalent green-building certifications	61%	70%
Green Operational Investments Dedicated budget for investing in green buildings and innovative green technologies	$1.7B	$2B

[1] 2020 goals are from a 2013 baseline except for our green operational investments, which includes capital invested since 2015, and our plastics reduction goal, which is from a 2018 baseline.

Met or surpassed goal

https://www.goldmansachs.com/investor-relations/corporate-governance/sustainability-reporting/tcfd.pdf (page 15)

ING Group

Terra Approach

Climate change is an enormous threat to our world, there's no doubt about that. In the Paris Climate Agreement, governments committed to take action to remain well below a two-degree rise in global temperatures compared to pre-industrial levels. Now, everyone has a role to play to make that happen.

As a bank, ING makes the most impact through our financing, via the money we loan to companies and customers. We have a loan book of about €600 billion across many sectors, which we have begun steering towards meeting the Paris Agreement's climate goals. We call our strategy to get there the Terra approach.

Why is this methodology so important?

We feel it can change the way banks think about climate impact measurement, target setting and steering. Compared to other methodologies, this one is precise, tailored to each sector's needs, forward-looking, and will ultimately have a bigger impact because it steers key sectors towards technologies that underpin a low-carbon future rather than only measure a carbon-rich past.

Where does ING's portfolio stand according to climate alignment measurement?

We released our second Terra progress report in October 2020. It details our progress and targets on climate alignment in the nine sectors most responsible for climate change.

For five of the sectors (automotive, power generation, residential real estate, commercial real estate, and cement) our current performance is outlined compared to last year's performance. This year we also disclosed our climate alignment for the sectors fossil fuels, aviation, steel and shipping.

With this, we fulfil our commitment to cover all nine sectors in scope by the 2020 report, including quantitative results and targets. The report's Climate Alignment Dashboard shows that the nine sectors are mostly on track for climate alignment, with progress still needed in some.

For example, the portfolios power generation, shipping, cement and steel are 'on track' for climate alignment, while residential real estate, automotive and aviation are 'close to being on track'. See the report for more details.

https://www.ing.com/Sustainability/Sustainable-business/Terra-approach.html

Barclays PLC (Barclays)

Specifically, Barclays' ambition is to become a net zero bank by 2050, across all of our direct and indirect emissions (Scopes 1, 2 and 3), and we are committed to align all of our financing activities with the goals of the Paris Agreement. We are one of the very first banks to make such

a commitment, across both lending and financing, and across all sectors. We will start with our provision of financing to the energy and power sectors, because energy production and use is the largest source of greenhouse gas (GHG) emissions, and we will extend this to our entire portfolio over time.

What does achieving net zero mean for a bank?

Barclays already has a plan to be net zero by 2030 in Scope 1 (all direct GHG emissions) and Scope 2 (indirect GHG emissions from the consumption of purchased electricity and heat). This plan is on track. We have halved our operational GHG emissions over the last two years, through the procurement of green energy, and our residual footprint from our properties and business travel is fully offset, which on some definitions would make us net zero today. We are committed to going further: as a member of the RE100,initiative global initiative bringing together the world's most influential businesses committed to 100% renewable electricity, we are committed to sourcing 100% renewable electricity. We are currently at 60%, and are targeting 90% by 2021 and our 100% goal by 2030 at the latest. From a scope 3 perspective, net zero means that the sum of the business activities that we finance around the world contribute to no net emissions in the world. We will strive to adjust our financing portfolio to mirror the trajectory in energy emissions required to meet net zero, taking the International Energy Agency's (IEA) Sustainable Development Scenario (SDS) as our starting point. Importantly, this will involve supporting our clients in the energy and power fields through the transition period, as well as being prepared to commit more financing to energy innovation.

In practice we will seek to:

a. reduce the carbon emissions arising from activities financed by us; for the energy and power sectors this is likely to be in the region of a 30% reduction in CO2 intensity in our power portfolio and a 15% reduction in CO2 intensity in our energy portfolio by the end of 2025;
b. prioritise our lending to companies themselves committed to Paris alignment
c. reduce materially our exposure to the most carbon-intensive forms of energy production;
d. re-weight our financing, and ultimately other activities too, to reflect the proportion of energy required by the world from different sources in order to meet the Paris target

Paper and Water

Globally we recycle 98% of our paper through our confidential waste stream. In addition, we are working with our Procurement teams to increase the coverage of sustainably sourced paper. We are actively looking to improve the efficiency of our water consumption across our buildings through the installation of water saving infrastructure in our buildings. A global pilot study of water reduction initiatives was launched in 2019.

Plastic Waste

In 2019 we delivered 80% of our global 5 Point Plastic Plan which aims to replace or remove single use plastic items available from our catering, branch and office areas. Where we have to date been unable to replace the use of plastics, we have worked with suppliers to ensure the

plastics used can be recycled. In total 20 million single use plastic items have been removed or replaced across our properties globally, with the remaining plastic items to be removed in 2020.

Environmental Property Policy and Environment Standard

Barclays' Group Property Policy sets out criteria for environmental management, risk, opportunity and control for our buildings as we operate our business. Within the Property Policy we have environmental controls which range from aspects and impacts, pollution control through to environmental data reporting. These controls are annually audited by Barclays Internal Audit and control effectiveness is reported as part of our Enterprise Risk Management Framework. Within our Property Policy we include a commitment that any building investment over £5m will achieve an independent best practice standard for environmental performance.

Environmental Management Systems

Barclays currently has 20 buildings globally certified to ISO 14001, which represents 50% of FTE. However, Barclays Environmental Operating Procedures, which are aligned to ISO 14001 standards, are implemented and reviewed against all buildings, ensuring environmental best practice, internal audit and management review is delivered across the full portfolio. Barclays also has an ambition to roll out full ISO 14001 certifications across its strategic campus sites globally by 2025.

WELL Registration

Barclays are working with the International WELL Building Institute (IWBI) and are a member of their new Portfolio Pathway Programme. IWBI delivers the WELL Building StandardTM, the leading global rating system and the first to be focused exclusively on the ways that buildings, and everything in them, can enhance, not compromise, our health and wellness. Barclays aims to certify key strategic sites individually and will work to continuously improve upon health and well-being.

https://home.barclays/content/dam/home-barclays/documents/citizenship/ESG/Barclays-PLC-ESG-Report-2019.pdf (page 2-4 and page 38-39)

APPENDIX
(ASSET MANAGERS)

Governance - Recommended Disclosure (a)
Describe the board's oversight of climate-related risks and opportunities.

BNY Mellon - Newton Investment Management (Newton)

At board level, the independent non-executive chair and a voting member of the Board Risk Committee, Susan Noble, is responsible for the oversight of climate-change topics. This includes ensuring that climate- related risks and opportunities are integrated into decision-making and business processes.

The governance structure chart below illustrates the relevant committees on which Susan sits.

Climate change is viewed as a cross-function risk, and relevant and material analysis is fed back into the Board Risk Committee.

https://www.newtonim.com/global/special-document/tcfd-disclosure-report/ (page 9)

Orix - Robeco

The CCTF's progress is reported to the Sustainability Impact and Strategy Committee (SISC) on a bi-monthly basis, while the Executive Committee is updated by the SISC once a month on relevant sustainability matters.

https://www.robeco.com/docm/docu-robeco-sustainability-policy.pdf (page 13)

Federated Hermes International (HFML)

The board and executive committee reviews Hermes Investment Management's climate management approach on an annual basis and is kept up to date on the progress of implementation through updates from the Head of Policy & Advocacy.

Person-in-charge of oversight: Head of Policy & Advocacy Ingrid Holmes

Our Head of Policy & Advocacy chairs the CCWG, and is the climate change coordinator for Hermes. She leads on implementation and delivery of our climate change strategy, reporting progress to the HFML Board and the Hermes Responsibility Working Group.

https://www.hermes-investment.com/wp-content/uploads/2020/03/tcfd-report-hermes-19.pdf (page 5)

BMO Global Asset Management

Board-level oversight of sustainability, including climate-related risks and opportunities, is embedded in the charter of the Audit and Conduct Review Committee (ACRC) of BMO's Board of Directors.

The ACRC reviews and guides strategy, action plans, and performance objectives and targets related to BMO's operational footprint and sustainable finance commitment in order to ensure that management is adequately addressing opportunities associated with the transition to a lower-carbon economy

https://corporate-responsibility.bmo.com/wp-content/uploads/2019/12/BMO-2019-Climate-Report.pdf (page 4)

Governance - Recommended Disclosure (b)
Describe management's role in assessing and managing climate-related risks and opportunities.

BMO Global Asset Management

The Chief Executive Officer (CEO) has delegated responsibility for sustainability to BMO's General Counsel, who is a member of the Executive Committee and reports directly to the CEO. BMO's General Counsel also has accountability for areas such as legal and regulatory risk, reputation risk and business conduct. This organizational structure aligns responsibility for sustainability with accountability for these related areas.

BMO's General Counsel chairs the BMO Sustainability Council, which was established in 2008 and comprises 19 senior leaders from business and Corporate Support areas across the organization as at fiscal year-end 2019. The Sustainability Council supports and advises on the implementation of BMO's sustainability strategy, and meets quarterly to discuss sustainability topics, including the risks, opportunities and disclosures related to climate change.

https://corporate-responsibility.bmo.com/wp-content/uploads/2019/12/BMO-2019-Climate-Report.pdf (page 4)

Nomura Asset Management

Although Nomura Asset Management is an asset management company under the Nomura Group, based on our Conflict of Interest Management Policy, the decision-making in the Investment and Research division is separated from management decision-making bodies such as the Board of Directors and the Executive Management Committee. In addition to preventing non-public information related to investment and research from being communicated to management in advance, we are working to address climate issues in investment and research in a manner that ensures the independence of decision-making for investment and research. Under this system, the Responsible Investment Department, which is responsible for responsible investment as a whole, acts as the TCFD Secretariat for monitoring climate-related risks and opportunities, and handles all administrative work.

The ESG specialists in the Responsible Investment Department work with the portfolio managers and the equity analysts to manage portfolios by monitoring GHG (greenhouse gas) emissions and ESG scores of portfolio companies, analyze scenarios, and assess transition risks, and also work to understand the climate-related risks and opportunities of portfolio companies. Analytical data such as GHG emissions, ESG scores, and scenario analyses compiled by the Secretariat are shared with investment managers and analysts, and used for company analysis, engagement, and investment decision making, in addition to being regularly reported to the Responsible Investment Committee comprised of officers from the Investment and Research division.

Based on these reports, the Responsible Investment Committee members, including the executive in charge of the Investment and Research division, the CIOs (chief investment officers) of each asset class, SIOs (senior investment officers), the head of the Equity Research

Department, and others, ascertain the climate-related risks and opportunities of investment portfolios and portfolio companies, assess the impact on our business and portfolios, and discuss measures to be taken. Following this, the chair of the Responsible Investment Committee reports the matters reported to the Executive Management Committee, which allows senior management to monitor climate-related risks and opportunities, and determine the appropriate allocation of management resources and make other relevant decisions.

The details are ultimately reported to the Board of Directors via the Executive Management Committee. Through this process, important information about portfolios' climate-related risks and opportunities is shared with a wide range of decisionmakers, from management to personnel responsible for investment and research, and is appropriately monitored by the Board of Directors and the Executive Management Committee.

https://global.nomura-am.co.jp/responsibility-investment/pdf/ri_report_2019.pdf (page 14)

BMO

BMO's Chief Sustainability Officer (CSO) reports to the Corporate Secretary and to the General Counsel. The CSO is responsible for the development and execution of BMO's sustainability strategy, including internal advisory and support efforts, stakeholder engagement and disclosure. This mandate includes monitoring climate-related issues, developing strategies to manage risks and opportunities associated with climate change across the organization, and producing and publishing climate-related disclosures.

BMO's Chief Risk Officer (CRO) reports directly to the CEO and is head of Enterprise Risk and Portfolio Management and chair of the Risk Management Committee (RMC). The CRO is responsible for providing independent review and oversight of enterprise-wide risks and leadership on risk issues, developing and maintaining a risk management framework and fostering a strong risk culture across the organization. ERPM provides risk management oversight, supporting a disciplined approach to risk-taking for independent transaction approval and portfolio management, policy formulation, risk reporting, stress testing, modelling and risk education. ERPM is responsible for conducting climate change scenario analysis to identify potential risks in BMO's lending portfolio.

In 2019, BMO's Sustainability Office collaborated with ERPM to develop and implement a program for managing climate-related risk across our lines of business. The two teams worked together to incorporate climate change risk into the enterprise-wide risk taxonomy and to quantify carbon-related assets in our lending portfolio. A working group comprised of individuals from Sustainability, ERPM (including credit and operational risk) and BMO Global Asset Management (GAM) was established to identify global best practices for managing climate-related financial risks and to coordinate BMO's climate-related risk management program.

In 2019, BMO also responded to the UPRA Supervisory Statement on Enhancing Banks' and insurance companies' Approaches to Managing the Financial Risks from Climate Change by assigning Senior Management Function (SMF) accountability for climate change to the CRO,

Europe. At the same time, we developed an initial implementation plan outlining how BMO intends to meet the requirements of the UK PRA Supervisory Statement.

To better capture opportunities associated with sustainable finance, we established a Sustainable Finance team in 2019 that is supported by BMO's Sustainability Office. The group brings together existing capabilities in BMO Capital Markets and BMO Global Asset Management. It is responsible for mobilizing the enterprise to pursue opportunities that involve sustainability with customers across all lines of business. It includes Sustainable Finance specialists responsible for building customer engagement and identifying market opportunities for products and services as the sustainable finance market grows.

https://our-impact.bmo.com/wp-content/uploads/2019/12/BMO-2019-Climate-Report.pdf (Page 4)

BNP Paribas Asset Management (BNP)

In 2012, BNP Paribas established a dashboard consisting of 13 CSR key performance indicators (KPI) to steer its corporate social responsibility strategy. The Group Executive Committee and Board of Directors monitor the dashboard on a yearly basis.

https://group.bnpparibas/uploads/file/bnpparibas_tcfd_report_en.pdf (page 13)

Strategy - Recommended Disclosure (a)
Describe the climate-related risks and opportunities the organisation has identified over the short, medium, and long term.

BNY Mellon – Newton Investment Management (Newton)

Over the Shorter-Term

Investments which have operations in areas which already, or will soon, experience the physical effects of climate change, are likely to face greater risks, for example unexpected operating costs. This could be further compounded by governments raising additional fiscal revenues to repair physical damage through corporate taxation.

Over the Medium to Long-Term

The profits of heavy emitters (defined as those companies that have high operational greenhouse-gas footprints or highly emitting products) may be adversely affected owing to the burden associated with changing processes and practices to mitigate the level of emissions released, or on account of late adaptation costs.

Over the Longer-Term

Companies with heavy emissions in their supply chain, operations or product, such as those in the industrial/energy sectors, may be adversely affected by regulatory changes that could result in higher operating costs. In turn, this may lead to a wider negative impact on demand for such products, whether owing to price increases, or because of lower levels of consumer demand for the products produced by heavy emitters on account of environmental concerns such as air pollution. At the same time, increasing scale and competitive- ness of greener fuels may lead to lower energy prices, again squeezing margins for traditional energy producers.

Conversely, incumbents that are taking action, such as some utilities, or disruptive players which are providing solutions, such as renewable-energy companies or electric-vehicle manufacturers, are likely to profit. We believe that technological change will lead to winners and losers in this modern-day industrial revolution.

Across other asset classes such as credit, markets with greater exposure to activities which produce high emissions, including the UK, Australia and Canada, are likely to be the first affected. They may experience higher adaptation costs, stranded assets and debt-repayment issues, particularly if their economies are heavily reliant on agriculture, are low-lying, or are already experiencing societal tension, which may be exacerbated by scarcer natural resources.

While it is possible to outline potential scenarios across different industries and timeframes (such as those described above), the impact – positive or negative – of any scenario will not be the same for all companies operating in a particular sector or economy. Accordingly, we analyse the actions being taken today by a company's management to prepare for climate change, and, through our engagement efforts, seek to redirect a company's strategy to thrive though such a

transition. This is a complex discussion and is a vitally important part of our ESG process.

https://www.newtonim.com/global/special-document/tcfd-disclosure-report/ (page 12)

Federated Hermes International (HFML)

Short Term: Regulatory changes and mandatory legislation affecting licence to operate or management practices in certain sectors or geographies.

Medium Term: Regulatory changes and mandatory legislation affecting licence to operate in certain sectors or geographies;

- Market-led changes, emerging new opportunities, obsolescence of certain products and services affecting certain sectors;
- Risk of stranded assets.

Long Term: In addition to the above: Obsolescence and stranded assets across a range of assets, sectors and geographies due to regulatory changes, market transformation or extreme weather events; Extreme weather events impacting defined geographical locations and whole regions and supply chain disruption affecting large number of sectors; Impact to infrastructure and real assets, ranging from business discontinuity costs, refurbishments and rebuilding costs, to obsolescence and destruction; Impact to insurance premiums or ability to insure assets in certain location

https://www.hermes-investment.com/wp-content/uploads/2020/03/tcfd-report-hermes-19.pdf (page 6)

Orix - Robeco

Material ESG issues are systematically integrated in all our investment processes. The country and company research is done by the SI Research team and used by investment teams across the company. We have a systematic way of assessing the climate strategy and adaptive capacity of a company via the dedicated climate strategy questions in RobecoSAM's Corporate Sustainability Questionnaire. These questions are aligned with the Carbon Disclosure Project (CDP).

We also have access to forward-looking data in sectors where climate change poses material risks and opportunities (utilities, oil and gas, etc.). We address climate change issues through the evaluation of business models, corporate climate change strategies and products and services.

Materiality research determines for which sectors and industries climate change is a relevant topic. When relevant, the climate change strategy of a company is analyzed and compared to its peers. Based on this analysis our sustainability and financial analysts work together to assess the impact on the company's business model. By including the analysis on climate change in the investment process, our fundamental analysts have a better view of the risks (and

opportunities) that companies are exposed to. We believe that systematically considering climate change issues is essential to the success of our investing strategies.

https://www.robeco.com/docm/docu-robeco-sustainability-policy.pdf (page 16)

Nomura Asset Management

Strategy

The climate-related risks and opportunities which we have recognized are shown in the table below. Climate-related risks and opportunities impact corporate value as they affect companies' financial statements, including the balance sheet, income statement and cash flow statement. At Nomura Asset Management, ESG specialists work with portfolio managers and analysts to analyze the impact of climate-related risks and opportunities on a company's business, management strategy, and financial projections, and then incorporate these analyses into our investment strategies, ESG scores, stock price ratings, and other metrics. Analysis results based on corporate GHG emissions and ESG scores are utilized in engagement after making comparisons with benchmarks and other metrics, and are used to improve the corporate value of portfolio companies. If no signs of improvement based on engagement are seen in a company, we consider reflecting this in our investment decision-making. All of our investment products are subject to climate-related monitoring. We conduct scenario analyses on the impact of climate-related risks and opportunities on our portfolios using information provided by external data vendors, and use the results of analyses in our investment strategies, portfolio management, and engagement. One possible way to build a portfolio that is consistent with the 1.5°C and 2°C targets set out in the Paris Agreement is to adjust the weighting of certain holdings against the benchmark or divest of certain holdings. However, this only a technical and superficial action, and will not lead to effective climate change measures including climate change mitigation and adaptation efforts. We recognize that as an asset manager we play an important role in encouraging companies to promote climate change countermeasures through engagement by continuing to hold shares of companies that have relatively high GHG emissions, and we will continue to actively contribute to climate change countermeasures through these types of activities.

Climate-Related Risks and Opportunities

Risks and Opportunities		Description	Short-term	Medium-term	Long-term	Impact on finances	NAM	Portfolio companies
Transition risks	Policies/laws	Introduction of carbon pricing (carbon tax, emissions trading) or regulations/penalties on products/services	◀	▬	▶	Expenditures ↑ Income ↓	●	●
	Technology	Expenditures and/or technological risks in order to replace existing products/services due to competitors developing low-carbon products/services, fossil fuel-related facilities, etc. becoming stranded assets, and to transition to low-carbon technologies (including losses on investments in new low-carbon technologies)		◀ ▬ ▶		Expenditures (including impairment losses) ↑ Income ↓	●	●
	Consumer activity/ preferences	Changes in consumer activity/preferences due to heightened awareness of climate change and the decarbonization of society	◀	▬	▶	Revenues ↓ Income ↓	●	●
	Raw materials Expenditures	Soaring raw materials expenditures due to climate change		◀ ▬ ▶		Expenditures ↑ Income ↓	●	●
	Reputation	Reputation risk due to climate change, such as worsening view of the overall industry (to which a company belongs)	◀	▬	▶	Revenues ↓ Income ↓	●	●
Physical risks	Acute	Acute risks due to intensification of abnormal weather events, including typhoons and flooding	◀	▬ ▶		Revenues ↓ Expenditures (including impairment losses) ↑ Income ↓	●	●
	Chronic	Chronic risks due to changing rainfall patterns, larger volatility in weather patterns, higher temperatures, and sea level rise			◀ ▶	Revenues ↓ Expenditures (including impairment losses) ↑ Income ↓	●	●
Opportunities	Renewable energy	Solar, wind, geothermal, biomass	◀	▬	▶	Revenues ↑ Income ↑		●
	Energy conservation	Energy-saving products, EMS (energy management systems), cogeneration	◀	▬	▶	Revenues ↑ Expenditures ↓ Income ↑		●
	Hydrogen	Production, transport, storage technologies for (CO_2-free) hydrogen, hydrogen electric power generation, fuel cells		◀ ▬ ▶		Revenues ↑ Income ↑		●
	Low-carbon mobility	Electric automobiles, fuel cell vehicles	◀	▬	▶	Revenues ↑ Expenditures ↓ Income ↑		●
	Real estate	ZEB/ZEH (zero-energy buildings / zero- energy houses), smart cities	◀	▬	▶	Revenues ↑ Expenditures ↓ Income ↑		●
	Disaster prevention/ mitigation	Resilient products/services to prevent/mitigate disasters	◀	▬	▶	Revenues ↑ Income ↑		●
	Medicines/functional foods	Medicines/functional foods to address infectious diseases and rising temperatures	◀	▬	▶	Revenues ↑ Income ↑		●
	Meat substitutes/lab-grown meats	Meat substitutes (plant-derived), lab-grown meats	◀	▬	▶	Revenues ↑ Income ↑		●
	CCUS	CCU (Methanation, artificial photosynthesis, etc.), CCS			◀ ▶	Revenues ↑ Income ↑		●
	Financial products	Climate change-related financial products	◀	▬	▶	Revenues ↑ Income ↑	●	

https://global.nomura-am.co.jp/responsibility-investment/pdf/ri_report_2019.pdf (page 15)

BNP Paribas Asset Management (BNP)

Short-term (ST, i.e. within the year), medium term (MT, i.e. between two and five years) or long term (LT, i.e. after five years).

Risk category	Scope	Risk factor	Time frame	Potential significance of impact (for the Group)
Transition risks	Within BNP Paribas' scope of operations	Rise in carbon price (tax or quotas) applied to BNP Paribas' GHG emissions on its operational scope	MT	+
		Tighter regulations on climate reporting, which would require more time-consuming reporting tools/processes and more resources	ST	+
		Tougher environmental standards (e.g. on the energy efficiency of Group buildings, on our company car fleet, etc.) liable to call for additional investments	MT	+
	Risks for clients	Credit risk: Rise in carbon price (tax or quotas) applied to client GHG emissions, especially for clients with high GHG emissions (e.g. coal-fired power plants, heavy industry, etc.)	MT	+++
	Risks FOR BNP Paribas	Risks of loss of market share for the Group, and in particular for its subsidiaries Arval and Leasing Solutions if these do not adapt sufficiently to the demand of their customers for more environmental products and services (electric vehicles, leasing of low-carbon equipment, etc.)	MT	++
		Reputational risk: Risk of an adverse impact on BNP Paribas' brand image if external counterparties feel the Group is not contributing actively enough to the fight against climate change (e.g. being criticised by advocacy NGOs regarding energy sector finance policies)	ST	++/+++
Physical risks	Risks for clients	Weather changes, including in the water cycle, disrupting the production processes of some clients, and thus jeopardising their income (e.g. decreased river flows adversely affecting the production of hydropower plants, increase water temperatures adversely affecting the production of nuclear power plants)	MT	+/++

Scope	Opportunity factor	Time frame	Potential significance of impact (for the Group)
Within scope of operations	Energy renovation of Group buildings (offices, branches, etc.) leading to reduced energy consumption and thus lower power bills	ST	+
Via clients	Revenues generated by supporting corporations that contribute directly to SDGs (sustainable development goals)	ST	++++
	New businesses: green bonds, sustainable bonds, blended finance, green loans, Sustainability Linked Loans, etc.	ST	+++
	Development of low-carbon offers: low-carbon real estate promotion at BNP Paribas Real Estate, climate indices and green funds from BNP Paribas Asset Management, green investments within the general funds of BNP Paribas Cardif, etc.	ST	+ / ++
	Development of low-carbon offers: low-carbon real estate promotion at BNP Paribas Real Estate, climate indices and green funds from BNP Paribas Asset Management, green investments within the general funds of BNP Paribas Cardif, etc.	ST	+ / ++
	Arval's expanded range of electric cars to meet growing demand	MT	+
	Loans (home and consumer) to help households pay for energy renovations on their homes (e.g. green mortgage loans offered by Fortis, special consumer loans offered by Domofinance, BNP Paribas Personal Finance/EDF joint venture specialising in home energy renovations)	ST	++
	Development of the BNP Paribas Leasing Solutions range of more energy efficient and/or less GHG-emitting leasing products	MT	++
	Revenues generated from renewable energy financing	ST	+++
	Revenues generated from carbon credits (Carbon Desks at Global Markets, ClimateSeed)	ST	+
	Loans to start-ups specialising in the energy transition	ST	+

https://group.bnpparibas/uploads/file/bnpparibas_tcfd_report_en.pdf (page 27)

Federated Hermes International (HFML)

As part of our integration of ESG issues into our investment processes and business strategy, we assess and model future ESG policy and regulatory changes and their impact on our investment strategies. This is based on our internal expert knowledge and insights from third party studies and data providers.

As part of this process, we assess the transition, physical and regulatory risks from climate change across all our investment products through qualitative analysis of market and regulatory framework and future trends.

We analyse physical risks at asset level through use of open source data and detailed asset level exposure analysis. We have mitigation and emergency action plans for our real assets. Transition risks are assessed on a qualitative and quantitative basis using a pragmatic approach that acknowledges that there are issues with the amount and quality of data that is available.

https://www.hermes-investment.com/wp-content/uploads/2020/03/tcfd-report-hermes-19.pdf (page 6)

Orix - Robeco

Material ESG issues are systematically integrated in all our investment processes. The country and company research is done by the SI Research team and used by investment teams across the company. We have a systematic way of assessing the climate strategy and adaptive capacity of a company via the dedicated climate strategy questions in RobecoSAM's Corporate Sustainability Questionnaire. These questions are aligned with the Carbon Disclosure Project (CDP).

We also have access to forward-looking data in sectors where climate change poses material risks and opportunities (utilities, oil and gas, etc.). We address climate change issues through the evaluation of business models, corporate climate change strategies and products and services.

Materiality research determines for which sectors and industries climate change is a relevant topic. When relevant, the climate change strategy of a company is analyzed and compared to its peers. Based on this analysis our sustainability and financial analysts work together to assess the impact on the company's business model. By including the analysis on climate change in the investment process, our fundamental analysts have a better view of the risks (and opportunities) that companies are exposed to. We believe that systematically considering climate change issues is essential to the success of our investing strategies.

https://www.robeco.com/docm/docu-robeco-sustainability-policy.pdf (page 16)

Strategy - Recommended Disclosure (b)
Describe the impact of climate-related risks and opportunities on the organisation's businesses, strategy, and financial planning.

BNY Mellon – Newton Investment Management (Newton)

Across other asset classes such as credit, markets with greater exposure to activities which produce high emissions, including the UK, Australia and Canada, are likely to be the first affected. They may experience higher adaptation costs, stranded assets and debt-repayment issues, particularly if their economies are heavily reliant on agriculture, are low-lying, or are already experiencing societal tension, which may be exacerbated by scarcer natural resources.

https://www.newtonim.com/global/special-document/tcfd-disclosure-report/ (page 12)

Federated Hermes International (HFML)

Management of climate risk and opportunities that arise from the transition to a low-carbon economy, is fully integrated and formalised within our compliance, risk management and investment management procedures, and supported by the Responsibility Office and the CCWG.

Our approach covers our public equities and credit, private real estate and infrastructure assets. It is based on our belief that we can create positive feedback loops between investment and stewardship to reduce the climate risks, and maximise the opportunities for the companies and assets in which we invest.

Our strategy has four leading elements: Awareness, Integration, Engagement and Advocacy.

Awareness: Portfolio managers are aware of the climate-related risks in their portfolios, which investments are the largest contributors, what are the associated risks and mitigation strategies

Integration: Portfolio managers integrate climate-related risk considerations alongside other value and risk considerations, exploiting green investment opportunities or divesting where climate-related risk impacts value

Engagement: We act as engaged stewards of the investments we manage or represent on behalf of our clients. Where we hold assets with significant climate-related risk exposure, we will manage directly-owned assets, and engage with public and private companies, to mitigate the climate-related risk

Advocacy: We engage with public policymakers and sector organisations, nationally and internationally, to encourage policy or best practice that facilitates the transition to a low carbon economy

Integration: As we deepen our understanding we aim to further integrate climate change into our risk management systems, through the following actions:

- Determining and integrating the actual and potential impact of climate change on our business strategy, investment approach and financial planning.
- Development of a process that integrates climate management into every stage of the investment process, supported by the appropriate tools (internal and external) and information.
- Developing and integrating scenario analysis into our existing processes and assessing our alignment to the Paris Agreement.
- Further developing existing metrics to assess, manage and disclose our approach.

Advocacy: To be aware of climate change and other ESG risks is only the first step. The next is to act – and it is not sufficient to simply have a blanket plan to divest, which will not necessarily produce positive outcomes. If there are no immediately material reasons for divesting, then it is more productive to actively engage with companies on ESG issues where there is potential to see change happen, and in doing so, encourage them to make those positive changes. Below are some examples of our advocacy on climate risks.

https://www.hermes-investment.com/wp-content/uploads/2020/03/tcfd-report-hermes-19.pdf (page 7)

Orix - Robeco

Robeco will exclude investments in thermal coal as it is by far the highest carbon-emitting source of energy in the global fuel mix. Oil sands are among the most carbon intensive means of crude oil production, and Arctic drilling poses higher risks of spills compared to conventional oil and gas exploration, and has potential irreversible impacts on the sensitive Arctic ecosystem. Companies that derive 25% or more of their revenues from thermal coal or oil sands, or 10% from Arctic drilling, will be excluded from our funds. For sustainable strategies companies that derive 10% or more of their revenues from thermal coal or oil sands, or 5% from Arctic drilling, will be excluded.

https://www.robeco.com/docm/docu-exclusion-policy.pdf (page 3)

BNP Paribas Asset Management (BNP)

Mindful of the importance of seizing climate change-related opportunities in all its businesses, the Group organised a programme to support its corporate clients with their energy transition, which lasted throughout 2019. A group of 80 employees, from all Group business lines and regions (many working directly with major BNP Paribas clients), was created to share best practices Groupwide with the aim of seizing on as many energy transition opportunities as possible together. Six working groups were created to delve into specific opportunities such as financing small-scale renewable energy assets, energy efficiency and new energy sector technologies. These groups developed a number of deliverables that were presented to a panel of key Group managers, including the Head of Company Engagement and the Head of CSR.

How BNP AM uses its voting rights to influence the energy transition of portfolio companies (e.g. In 2019, BNP Paribas Asset Management opposed 61 resolutions at 16 General Shareholders' Meetings (vs. 16 times at 12 AGMs in 2018), primarily for climate change reasons.).

- Example, Page 21: BNP Paribas Asset Management took part in the submission of resolutions at Exxon AGMs several times in recent years: (i) In 2016 and 2017, support of a resolution calling for Exxon to draft a report on the consequences of climate change for the company. The resolution was postponed in 2016, but the vote was held in 2017. (ii) In 2019 and 2020 co-filing of a shareholder proposal with other investors calling for Exxon to disclose short, medium and long-term GHG emissions targets aligned with the Paris Agreement goals. While relations with Exxon clearly highlight a number of challenges, the dialogue engaged with many other companies has been more productive. For example, having conducted a meaningful dialogue with Repsol's upper management team for the last several years, in December 2019 Repsol announced an ambition to achieve net zero emissions by 2050, making it the first oil and gas company in the world to do so.

BNP Paribas seizes Climate-Related Opportunities with Investment Clients

The Group carried out a variety of initiatives with investment clients throughout 2019:
• The Group launched 10 Climate indices which raised over €750 million in 2019, and the green funds managed by BNP Paribas Asset Management (primarily invested in alternative energies and energy efficiency) totaled €11.6 billion in AuM at 31 December 2019. *[Read more from page 23 to 25]*

https://group.bnpparibas/uploads/file/bnpparibas_tcfd_report_en.pdf (page 21, and pages 23-25)

BNP Paribas Asset Management (BNP)

On Asset Management
BNP Paribas Asset Management has committed to align its portfolios with the goals set out in the Paris Agreement. To that end, in 2019 BNP Paribas Asset Management announced that it would be implementing a new, more restrictive coal policy, which took effect on 1 January 2020. The policy applies to all open-ended funds actively managed by BNP Paribas Asset Management, and is set to become the standard for mandates as well. As of 2020, BNP Paribas Asset Management no longer invests in companies generating more than 10% of their revenue from thermal coal operations and/or for which thermal coal represents 1% or more of their total global production. Electricity producers with a carbon intensity exceeding the global average of 491 gCO2e/kWh in 2017 will also be ruled out, as BNP Paribas Asset Management aligns itself with the path set to reach the Paris Agreement goals, as determined by the IEA in its Sustainable Development Scenario (SDS). This scenario calls for electricity producers to reduce their carbon intensity to 327 gCO2e/kWh by 2025. Accordingly, BNP Paribas Asset Management will require the companies it invests in to reduce their carbon intensity to an SDS-compatible rate between 2020 and 2025, excluding those who fail to do so.

https://group.bnpparibas/uploads/file/bnpparibas_tcfd_report_en.pdf (page 21, and pages 23-25)

Orix - Robeco

Our ambition is to decarbonize assets under management. This ambition applies to those assets where we have discretion over the investment approach, and so excludes client specific mandates and client-specific funds.

We will decarbonize the portfolios for two reasons:
– Risk-adjusted return perspective: in the mid term, we see transition and physical climate change issues as a risk to investment returns. We believe that carbon-intensive sectors and companies will be more affected by these risks.
– Systemic perspective: in the long term, climate change needs to be solved in order to keep our societies and economies afloat.

We believe the Paris Climate Accord is setting the right path for this. We are therefore committed to reaching the goals of the Paris Agreement and the Dutch climate accord. We acknowledge that decarbonizing portfolios does not directly decarbonize the companies we invest in, nor the economy.

However we do believe that active asset allocation decisions can make a difference in society. We understand that the direct impact that can be made in secondary markets shorter term might be low. This is where fixed income and equity markets inherently differ, and where engagement versus denying financing might have different roles to play in different asset classes. That is why we apply both instruments for this purpose and use them effectively.

https://www.robeco.com/docm/docu-robeco-sustainability-policy.pdf (page 16-17)

Federated Hermes International (HFML)

Our analysis highlights the significant legal and regulatory risks which we face in the short term. Chiefly, this refers to regulatory changes and legislation that affect a company's licence to operate or management practices in certain sectors or geographies.

There are also considerable risks associated with market transformation which will occur as new opportunities emerge during the transition to a resilient and net-zero carbon economy requiring a significant amount of capital to be reallocated towards new growth markets. There are also clear risks associated with the fact that companies will face higher operating costs from carbon pricing or taxes, or the costs of implementing new regulatory standards.

Companies may also have to pay higher insurance premiums or struggle to insure assets in certain locations at risk. Changes in market demand mean some products and services in certain sectors may become obsolete and some companies may lose their social licence to operate. Asset price dislocation will increase particularly for those entities in danger of becoming stranded assets, which includes deeply carbon oriented companies.

For investors in listed markets, the implications of climate change on investor decisions will differ sector by sector. The automotive and power sectors, for example, both have significant value at risk from the transition to a more sustainable economy, but also significant

opportunities – from electric vehicles and renewable energy, respectively. By contrast, the oil and gas sector will be one of the hardest hit, with little upside. Even if an oil company can achieve an economic return, it might not be in beneficiaries' interests to own its shares if the company worsens climate change and this creates a strong pressure on policymakers to clamp down on the industry.

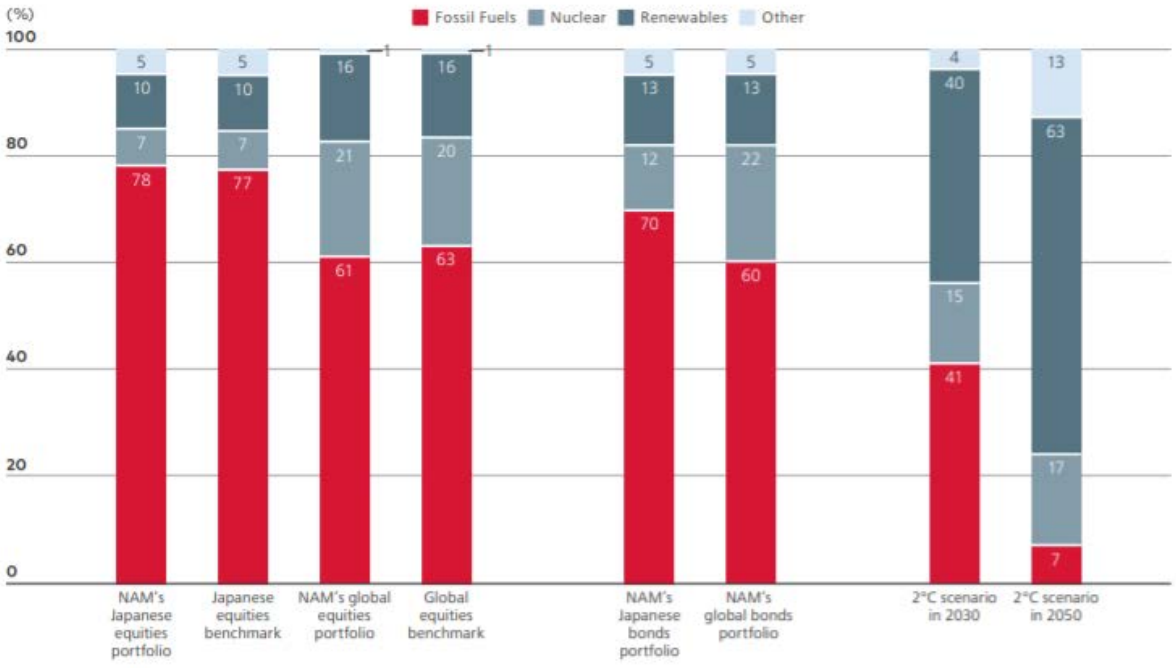
https://www.hermes-investment.com/wp-content/uploads/2020/03/tcfd-report-hermes-19.pdf (page 7)

Strategy - Recommended Disclosure (c)
Describe the resilience of the organisation's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.

Nomura Asset Management

Transition Risk Analysis

Energy Generation Mix (Portfolio, Benchmark, 2°C Scenarios). The graph below (Pg18) compares our portfolios, the benchmarks, and power mix based on the power generation volume in the 2°C scenario. The 2°C scenario, based on IEA forecasts, shows the energy generation mix that is likely to limit the temperature increase in 2030 and 2050 to less than 2°C above pre-Industrial Revolution levels. While the energy generation mix of both our domestic equities and global equities portfolios are almost the same as the benchmarks, the ratio of fossil fuels is higher in comparison to the energy generation mix in 2030 and 2050 under the 2°C scenario. By increasing the ratio of renewable energy in our portfolios through engagement with portfolio companies, we will strive to reduce the transition risk from fossil fuels, as well as reduce the total carbon emissions and weighted average carbon intensities of our portfolios.



https://global.nomura-am.co.jp/responsibility-investment/pdf/ri_report_2019.pdf (page 18)

BNY Mellon – Newton Investment Management (Newton)

We work with the business continuity team of our parent company to understand and manage a broad set of short, medium and long-term business continuity risks, of which climate change is one component.

We assess that our current risk from physical climate change is low, and therefore have commensurate systems, processes and controls in place to ensure that our exposure to physical climate risk is mitigated.

The business continuity programmes focus on three areas – crisis management, business resumption and technology recovery – and are designed to ensure resilience and preparedness to withstand and recover from natural or man-made disasters.

A further risk to our assets are that climate change, including the associated risks, render our business model or products obsolete. Our commercial sustainable and sustainability focus groups work to ensure that our sustainable and screened products remain relevant and suitable for our clients, as global sustainability challenges, of which climate change is a key facet, evolve.

https://www.newtonim.com/global/special-document/tcfd-disclosure-report/ (page 22)

Federated Hermes International (HFML)

There are also considerable risks associated with market transformation which will occur as new opportunities emerge during the transition to a resilient and net-zero carbon economy requiring a significant amount of capital to be reallocated towards new growth markets. There are also clear risks associated with the fact that companies will face higher operating costs from carbon pricing or taxes, or the costs of implementing new regulatory standards.

https://www.hermes-investment.com/wp-content/uploads/2020/03/tcfd-report-hermes-19.pdf (page 7)

BNP Paribas Asset Management (BNP)

Strategy taken to improve resillience to climate change:

- BNP Paribas is carbon-neutral in its scope of operations
- BNP Paribas has developed business continuity plans incorporating climate risk
- Moreover, the Group's business continuity plans are based on the identification of risks, including those associated with climate change, which are liable to weaken or threaten the capacity of the Group's infrastructures and operational chains. The potential consequences in terms of extreme events, heat waves, water stress, can reduce the resilience of IT processing centres, which are critical infrastructures for the continuous provision of services to clients.
- BNP Paribas' strategy is adequately resilient to the energy and climate-related risks incurred by the Group. They take appropriate measure to mitigate these risks. On this basis, no elements have been identified that would cast significant doubt on the resilience of the Group's business model and strategy to energy and climate-related-risks.

https://group.bnpparibas/uploads/file/bnpparibas_tcfd_report_en.pdf (page 32)

BNY Mellon – Newton Investment Management (Newton)

Building Resilience

Our business continuity plans incorporate environmental risk assessments, and prepare the business for the increased likelihood of natural disasters associated with climate change affecting our offices.

Energy Procurement

Via our parent company, BNY Mellon, we purchased renewable electricity to help reduce our carbon footprint and demonstrate demand for cleaner energy sources to the market. In 2018, 32,000 tonnes of carbon dioxide equivalent (tCO2e) in carbon offsets and 311,700 megawatt hours (MWh) of renewable-energy products and certificates were purchased for all of BNY Mellon's operations, to cover 100% of global electricity consumption with renewable sources and achieve carbon neutrality.

BNY Mellon has also set a greenhouse-gas emissions reduction target in line with a well-below 2°C science-based target methodology. The goal is to reduce Scope 1 and 2 greenhouse-gas emissions by 20% by 2025 from a 2018 base year.

https://www.newtonim.com/global/special-document/tcfd-disclosure-report/ (page 21)

BNP Paribas Asset Management (BNP)

Scenarios Tied to Increased Physical Climate-Related Risks

In order to analyse the resilience of its strategy and measure the alignment of its portfolio with the Paris Agreement goals, the Group relies on appropriate climate scenarios. Climate scenarios are thus very important for BNP Paribas. They can be used to assess the impacts of climate change on client businesses as well as its own businesses, to identify climate-related opportunities and to determine to what extent its current actions are compatible with the Paris Agreement goal. From a practical standpoint, there are several steps to the scenario analysis: 1. Assessing the most material climate-related risks and opportunities for BNP Paribas; 2. Identifying and defining a range of scenarios, including at least one scenario compatible with the Paris Agreement goal, which are relevant for BNP Paribas (in terms of granularity, geographic and sector coverage, etc.); 3. Assessing the potential impacts of the situations described in these scenarios on BNP Paribas' businesses; 4. Identifying potential responses (i.e. how the Group can align its activities with a path that is compatible with the Paris Agreement goal).

Data Sources, Relevant Aiding Parties and Scoring Methodologies in Establishing Resilience

BNP Paribas Asset Management works with a specialist research firm that provides it with physical risk scores, which are used to improve its investment analysis. Physical risk scores include three key components: operational risk, supply chain risk ad market risk. The scores are standardised to compare the climate risk of companies between different portfolios. Two

measures are used to assess market risk: where the company generates its sales and how its industry has reacted in the past to climate variability.

In terms of data access, the assessment of physical risks is covered as follows:

- operational risk scores (based on facility-level mapping) are provided for 2,000 entities on the MSCI ACWI (which includes the MSCI World and MSCI EM indices), covering more than 90% of the MSCI ACWI in terms of weight;
- scores for supply chain risk and market risk are available for 12,800 companies, covering 100% of the components of the following indices: MSCI World, MSCI EM, S&P Global Large-Mid and Barclays EUR Corporates.

BNP Paribas conducted two studies in 2019 to assess the resilience of its loan books to transition risks and physical risks. The Industry Research Department (EIS) of the Group Risk Department performed an internal analysis on five-year energy and climate-related risks, physical risks and transition risks. This report is part of the Group's standard analysis of systemic risks, inter alia in the context of the analyses conducted by EIS on the impact of different risk factors on economic sectors. The purpose of the analysis was to identify and assess the main energy transition and climate change risks incurred by BNP Paribas. It notably examined the impact of climate change on sovereign risk and the more or less significant exposure of various economic sectors to energy transition risks and opportunities.

This broad, detailed study found BNP Paribas' business model to be resilient to these risks, with respect to:

- Its businesses, and the sector and geographic classifications of its portfolios;
- The measures taken to mitigate these risks.

For the first time, in 2019 and with the help of external specialists, BNP Paribas performed an assessment, on a sample of clients in its portfolio, of physical risks covering the consequences of climate change (extreme weather events) on the assets of Group clients. They generate financial risks for companies not only through direct impacts on their assets, but also in terms of indirect impacts through their supply chains and markets. For each counterparty analysed, the final score of exposure to physical risks is based on three risk factors: operational risks, supply chain risks (upstream) and risks of market share losses (downstream).

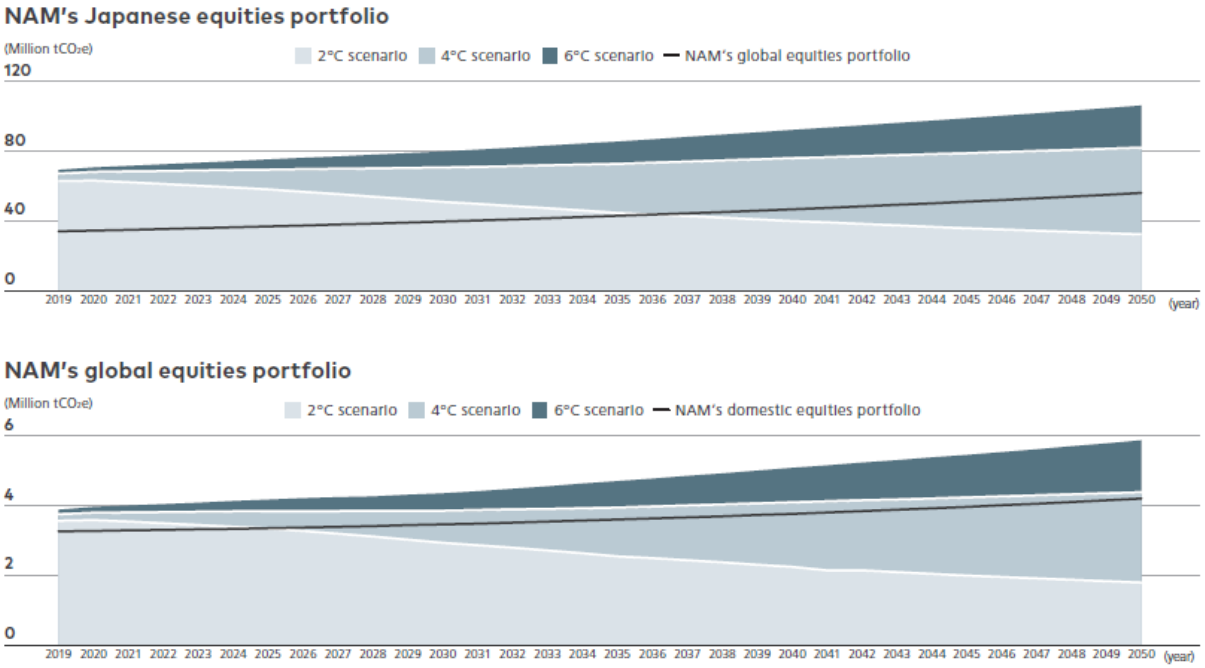
https://group.bnpparibas/uploads/file/bnpparibas_tcfd_report_en.pdf (page 28)

Nomura Asset Management

Scenario Analysis

We compared the total carbon emissions of our Japanese and global equities portfolios (only Scope 1 in this scenario analysis) with the 2°C, 4°C, and 6°C scenarios agreed to in the Paris Agreement. These three scenarios are set out in an IEA (International Energy Agency) report. The scenario analyses confirmed that global equities portfolio is likely to reach the total carbon emissions permitted in the 2°C scenario earlier than our Japanese equities portfolio. This is because our global equities portfolio includes shares in the energy, materials, and utilities

sectors in emerging and developing countries, where GHG emissions are increasing in tandem with economic growth. Our analysis also hints at the importance of calling on measures to address climate change across the market, as our investment portfolios include many passive investments.



https://global.nomura-am.co.jp/responsibility-investment/pdf/ri_report_2019.pdf (page 17)

Risk Management - Recommended Disclosure (a)
Describe the organisation's processes for identifying and assessing climate-related risks.

Federated Hermes International (HFML)

As part of our integration of ESG issues into our investment processes and business strategy, we assess and model future ESG policy and regulatory changes and their impact on our investment strategies.

As part of this process, we assess the transition, physical and regulatory risks from climate change across all our investment products through qualitative analysis of market and regulatory framework and future trends.

Our analysis highlights the significant legal and regulatory risks which we face in the short term. Chiefly, this refers to regulatory changes and legislation that affect a company's licence to operate or management practices in certain sectors or geographies.

There are also considerable risks associated with market transformation which will occur as new opportunities emerge during the transition to a resilient and net-zero carbon economy requiring a significant amount of capital to be reallocated towards new growth markets. There are also clear risks associated with the fact that companies will face higher operating costs from carbon pricing or taxes, or the costs of implementing new regulatory standards.

https://www.hermes-investment.com/wp-content/uploads/2020/03/tcfd-report-hermes-19.pdf (page 6-7)

Orix – Robeco

We monitor the development of standards and methods at regulators, standard-setting bodies, NGOs and so on.

Developing capabilities to identify and assess climate risks (e.g. scenario and stress test approaches) will be of growing importance to meet this soft compliance pressure, which will likely turn into hard regulation.

In line with the TCFD disclosure suggestion, we have measured the carbon intensity of our investments using the weighted average carbon intensity (WACI) approach, which makes emissions comparable across companies by dividing carbon emissions by revenues in a given year for each company we invest in. The WACI approach is often used with the purpose of assessing carbon risks.

In line with the EU taxonomy disclosure requirements for climate benchmarks and the Partnership for Carbon Accounting Financials (PCAF), we have also measured the carbon footprint of our investments by attributing carbon emissions to their share of enterprise value, broadly defined as the combined value of equity and net debt.

In line with the International Panel on Climate Change's recommendation to halve global greenhouse gas emissions by 2030 and reduce them to net zero by 2050

https://www.robeco.com/docm/docu-robeco-sustainability-policy.pdf (page 14 and 17)

BMO

To keep informed of emerging issues, BMO conducts independent research, participates in global forums with our peers, maintains an open dialogue with our internal and external stakeholders and monitors regulatory developments, emerging best practices and initiatives from non-regulatory international bodies. This helps us determine the scope and extent of existing and emerging climate-related risks. The inclusion of climate change in our enterprise risk taxonomy provides a basis for discussing and identifying the impacts of climate change on our operations and business activities.

https://our-impact.bmo.com/wp-content/uploads/2019/12/BMO-2019-Climate-Report.pdf (page 5)

BNY Mellon – Newton Investment Management (Newton)

Through integrated ESG analysis, embedded into our global investment process, material climate-change risks and opportunities are highlighted to our global analysts and portfolio managers.

Throughout our ESG analysis, our investment team will review company reports, third-party data providers and dedicated climate-change research, and may also speak to company management or directors, external analysts, consultants, subject-matter experts or non-governmental organisations to better understand and evaluate potential risks and opportunities.

This process involves discussion between our responsible investment team, sector analysts and portfolio managers. Recent output of this approach has highlighted climate-related investment risks linked to medium-term methane leakage concerns for a credit investment in a gas pipeline company, possible water stress for a semiconductor manufacturer, and clean technology opportunities for a conglomerate engineering company.

https://www.newtonim.com/global/special-document/tcfd-disclosure-report/ (page 22)

Nomura Asset Management

We classify climate-related risks into transition risks and physical risks. A company's climate-related transition risks are heavily dependent on the company's GHG emissions. Based on the TCFD Recommendations, we measure four portfolio metrics (refer to "Metrics and Targets") and compare them with the benchmarks and industry peers.

In addition, we feel it is important to analyze GHG emissions throughout the life cycle of a company's products and services, and use emissions and avoided emissions throughout the global supply chain disclosed by companies on a complementary basis. Meanwhile, for companies' climate related physical risks, we use information provided by external data vendors. With respect to climate-related transition risks and physical risks, we refer to the information disclosed by companies as well as information provided by external data vendors. If such information is insufficient, during engagement activities we directly ask companies about the status of their efforts to address climate-related risks. In 2019, we carried out 117 ESG engagements in Japan focusing on environment related risks and opportunities.

https://global.nomura-am.co.jp/responsibility-investment/pdf/ri_report_2019.pdf (page 18)

BNP Paribas Asset Management (BNP)

Transition risks: the impacts of transition risk are related to the process of adjusting to a low-GHG emissions economy. Emissions must achieve carbon neutrality to prevent climate change from getting worse. The emissions reduction process is liable to have a material impact on all sectors of the economy by affecting the value of certain financial assets and the profit margins of certain companies.

Physical risks: they include the economic costs and financial losses resulting from the increased severity and frequency of extreme weather phenomena triggered by climate change (heat waves, landslides, floods, fires, storms, etc.) and from graduate long-term climate changes (changes in rainfall, extreme weather variability, ocean acidification, rising sea levels and average temperatures, etc.). Furthermore, liability risks can also arise from both of these risk categories. They include the damages and interest a legal entity would have to pay if found liable for global working or for failing to anticipate its effects as it could and should have done. In keeping with international efforts, and especially those of the NGFS, BNP Paribas considers the risks associated with the advent of climate-related court proceedings for corporates and investors, for example liability risks, as a sub- set of physical and transition risks.

https://group.bnpparibas/uploads/file/bnpparibas_tcfd_report_en.pdf (page 15)

Nomura Asset Management

If we determine that climate-related risks will have a significant impact on our business, business strategy, or financial projections, we will encourage improvement through our corporate engagement activities.

We recognize that as an asset manager we play an important role in encouraging companies to promote climate change countermeasures through engagement by continuing to hold shares of companies that have relatively high GHG emissions, and we will continue to actively contribute to climate change countermeasures through these types of activities.

Future Initiatives for Portfolio Companies:

- Support TCFD and climate-related financial disclosure based on the TCFD Recommendations, including scenario analysis and GHG reduction targets
- Incorporate climate change countermeasures into KPI for executive compensation
- Attain approval of science-based targets and commit to them
- Provide information to CDP, join RE100
- Introduce internal carbon pricing
- Disclose Scope 3 and avoided emissions that enable GHG emissions to be assessed in the life cycle of products and services and throughout the supply chain.

https://global.nomura-am.co.jp/responsibility-investment/pdf/ri_report_2019.pdf (page 15 & 20)

Federated Hermes International (HFML)

We aim to bring all companies up to ESG and climate best practice through engagement. Through Hermes EOS, our stewardship service, which is one of the largest in the world, we represent £634 billion of assets and we engage with over 740 of the world's largest companies each year.

Stewardship through advocacy and corporate engagement is a crucial element of our climate change management approach. Engagement enables us to raise risks and controversies with company boards and demand action to address them. It also helps us to learn more about how companies are developing strategy and business plans to seize the opportunities as well as manage the risks that come from a changing climate and public policy and market responses to it.

Assessing carbon risk through carbon foot printing is a key mean by which we choose our engagement targets. We use it to identify companies with which we should initiate or intensify carbon-focused engagement. We also use it to gauge the level of carbon risk within portfolios, visualised with our proprietary carbon tool, and the progress we have achieved through engagement.

EOS engagement programme has identified climate as a specific engagement focus and is informed by the outcomes of the carbon tool. EOS has also taken an active role on the Climate 100+ initiative.

Other efforts: In May, Hermes EOS, acting as a lead engager for Climate Action 100+, called on BP to set out a business strategy that is consistent with the goals of the Paris Agreement on climate change. Hermes EOS co-filed the resolution alongside 57 investors, who collectively own just under 10% of the company's voting shares – equivalent to an £11 billion holding in the company. The binding resolution was an unprecedented success receiving exceptional levels of support from the board, and was passed at BPs AGM with backing from 99.14% of shareholders. While this is only the beginning of the story – we have yet to see the strategy BP will present - the success of the resolution demonstrates the positive impact that investors can have in driving

the changes they want to see by holding companies accountable for their actions.

https://www.hermes-investment.com/wp-content/uploads/2020/03/tcfd-report-hermes-19.pdf (page 11)

BNY Mellon – Newton Investment Management (Newton)

Corporate Engagement: Case Studies

US Investment Bank

Issue: The bank has been a significant financier of companies producing the most polluting types of fossil fuels.

Action taken: We have met management and emphasised the financial risks associated with climate change, and have highlighted that the TCFD is a useful mechanism to assess and disclose climate-related financial risks.

Outcome: The bank explained that it would be winding down its fossil fuel-related merger and acquisition advice, investing substantially in clean tech and banking services, and that it was preparing its first TCFD report.

Chinese Insurance Company

Issue: Coal demand is weakening globally owing to the energy transition which is causing some coal-related businesses to fail. We needed to understand the impact this could have on the valuation of the company as it provides insurance to the sector.

Action taken: We have stress-tested the valuation model by assuming that all coal-related insurance revenues and assets went to zero.

Outcome: Given the small exposure to the coal sector, we concluded that coal exposures were not material to the investment case.

https://www.newtonim.com/global/special-document/tcfd-disclosure-report/ (page 15)

BNP Paribas Asset Management (BNP)

Transition risks: the impacts of transition risk are related to the process of adjusting to a low-GHG emissions economy. Emissions must achieve carbon neutrality to prevent climate change from getting worse. The emissions reduction process is liable to have a material impact on all sectors of the economy by affecting the value of certain financial assets and the profit margins of certain companies.

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https://group.bnpparibas/uploads/file/bnpparibas_tcfd_report_en.pdf (page 15)

Federated Hermes International (HFML)

As part of our climate risk management, we are developing a comprehensive portfolio climate risk and opportunity management process. It covers carbon modelling tools, climate risk assessment, making sense of 1.5/2°C scenario analysis and impact to value. It also includes a dynamic approach to carbon footprinting that identifies concentrations of carbon risk in portfolios, the effect different carbon prices on valuations and tracks engagement activities. The overlap between our investment and engagement activities acts as a continuous positive feedback loop. We apply this approach to each asset class and we ensure that it is relevant to investors, portfolio managers and engagers and enables them to understand the key drivers of the transition, and challenge assumptions, either of companies or of third parties.

Physical risks: The US's National Oceanic and Atmospheric Administration reports that 2019 was the second hottest year on record, and the physical impacts of climate change are already becoming clear, with events including acute, disruptive impacts such as the devastating wildfires in Australia and California, heatwaves in the Arctic and increasingly frequent and devastating typhoons and hurricanes. There are also more gradual ongoing (chronic) impacts such as rising sea levels, an increase in vector-borne disease and reductions in agricultural yields, along with more floods, droughts and other extreme weather events.

Transition risks: Urgent action to reduce further and, in time, eliminate new GHG emissions and will require significant structural transformation of the economy, both at a global level and locally. The investment industry has a significant part to play in tackling both issues as the funding engine of economic development.

https://www.hermes-investment.com/wp-content/uploads/2020/03/tcfd-report-hermes-19.pdf (page 8)

Hermes Carbon Tool

The Hermes Carbon Tool allows fund managers to assess their fund's carbon performance, carbon risk, and corresponding engagements with investee companies in a comprehensive manner. The tool also facilitates enhanced reporting to clients to demonstrate how ESG and engagement is being credibly integrated into the firm's fund and stewardship offerings.

The carbon tool assesses and integrates the following four key elements to evaluate the impact that investment funds have on the environment:
1) Measuring the carbon risk of an investment fund relative to its benchmark and of listed companies relative to their peers, including Scope 1, Scope 2 and Scope 3 emissions.
2) Calculating the profit at risk for an investment fund for different carbon pricing and policy scenarios.
3) Identifying companies with which carbon-focused engagement should be initiated or intensified.
4) Gauging the level of carbon risk being engaged on within portfolios – and the progress achieved.

The tool helps our fund managers to more effectively take into account information about specific carbon risk and thereby enhance their investment decisions. This helps them identify investment opportunities and threats to value, and to begin or intensify engagements that can reduce the risk of holding exposed companies

https://www.hermes-investment.com/wp-content/uploads/2020/03/tcfd-report-hermes-19.pdf (page 9)

BMO

Green Bonds: BMO GAM oversees green bond mandates for individual institutional clients, and also invests in green bonds under our Responsible Sterling and Euro Bond strategies. We have a comprehensive in-house assessment process to screen bonds and ensure they meet our standards.

Sovereign Debt: BMO GAM's country-level ESG tool includes data on environmental risks, including indicators drawn from Yale University's Environmental Performance Index.

Property: BMO Real Estate Partners has a Responsible Property Investment strategy that considers environmental issues in relation to both existing assets and assets at the due diligence stage, and includes an assessment of how energy efficiency is factored into property management and refurbishment.

https://our-impact.bmo.com/wp-content/uploads/2019/12/BMO-2019-Climate-Report.pdf (page 8)

Risk Management - Recommended Disclosures (b) & (c)
Describe the organisation's processes for managing climate-related risks.
Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organisation's overall risk management.

BNY Mellon – Newton Investment Management (Newton)

For Asset Under Management: Once an investment is made, we monitor an investment's climate-change performance through regular engagement and annual ESG data updates. Recent examples of this have been discussions with UK oil & gas companies to encourage the setting of concrete emission-reduction targets, and with North American utility companies to encourage public reporting in line with the TCFD recommendations.

We use annual general meetings as another way to monitor and engage with companies to reduce the risks from climate change, as well as to support climate change-related resolutions and work with other investors where appropriate.

In relation to our sustainable strategies, the 'climate change red line' restriction is hard-coded into our risk-management system, which prevents portfolio managers from purchasing stocks that violate the climate criteria.

For Newton's asset: We work with the business continuity team of our parent company to understand and manage a broad set of short, medium and long-term business continuity risks, of which climate change is one component.

We assess that our current risk from physical climate change is low, and therefore have commensurate systems, processes and controls in place to ensure that our exposure to physical climate risk is mitigated. The business continuity programmes focus on three areas – crisis management, business resumption and technology recovery – and are designed to ensure resilience and preparedness to withstand and recover from natural or man-made disasters.

https://www.newtonim.com/global/special-document/tcfd-disclosure-report/ (page 22)

BNP Paribas Asset Management (BNP)

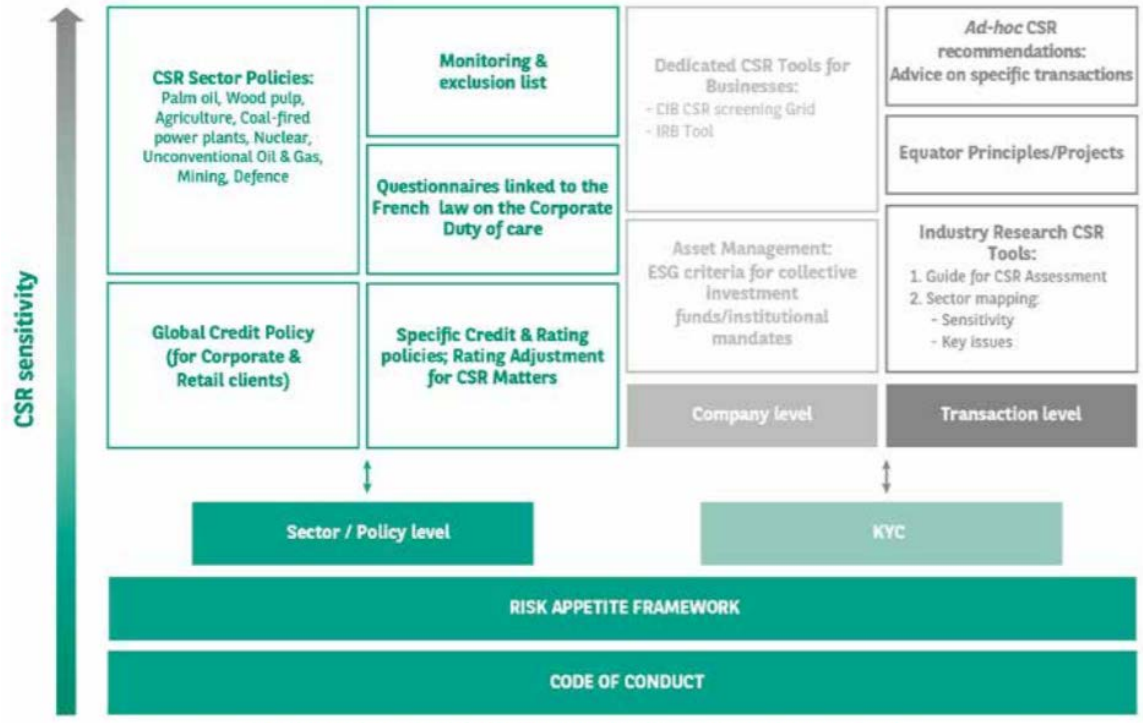
Since the Paris Agreement of November 2015, the BNP Paribas Group has launched multiple initiatives to integrate climate-risks in its risk management systems and promote the energy transition in line with the Paris Agreement. The Group's climate-related risk management system is part of its overall risk supervision approach and is centred on:

- The General Credit Policy, expanded in 2014 to include CSR clauses;
- 22 specific credit and rating policies now containing ESG criteria, including some climate-related criteria;
- Establishment of finance and investment policies ("sectoral policies") governing its businesses in sectors involving major energy and climate-related issues such as:
    - Coal-based electricity generation;

- Mining industry;
- Palm oil production;
- Paper pulp production;
- Agriculture
- Unconventional hydrocarbons.

These sectoral policies define a set of rules and procedures relating to financial products or services supplied by BNP Paribas entities for a given economic sector. These rules and procedures aim to respond to social and environmental problems in this sector and to establish guidelines for responsible conduct of the Bank's activities with this sector. All these policies are published on the Group website.

- Observation of the Equator Principles in the conduct of major manufacturing and infrastructure projects;
- Development and use of risk management and oversight tools (including questionnaires for business operations subject to prominent risks, including a general control plan;
- CSR metrics included in the BNP Paribas "Risk Appetite Statement" (RAS), established in line with the values informing its behaviour and risk culture. The figure below gives an overview of the tools and policies currently used to manage climate-related risks in the various business lines.



A comprehensive ESG risk management system for products and services provided by the Group

https://group.bnpparibas/uploads/file/bnpparibas_tcfd_report_en.pdf (page 37)

Federated Hermes International (HFML)

For Public Markets: We mitigate climate risks and tap into the opportunities from the climate transition in a number of ways including through stock picking for real assets, dedicated impact products, ESG and climate strategies seeking assets specifically delivering the climate transition. For example, under our Energy Transition theme, we invest in offshore wind, which is particularly attractive as its costs continue to fall, thanks to improving technologies and its potential to facilitate grid decarbonisation at scale.

We have also launched three strategies that explicitly link to the SDGs, encompassing tackling climate change as one of their goals.

- Hermes Impact Opportunities
- Hermes SDG Engagement Equity
- Hermes SDG Engagement High Yield Credit

For Private Markets: Across private markets, which for Hermes include real estate, infrastructure, private equity and private debt, our strategies cover sectors that lend themselves more naturally to innovative opportunities arising from the low-carbon transition. We use our rights and leverage as owners or shareholders of those assets and companies in which we are invested to influence practice and strategy.

In real estate, we have integrated climate factors into our active asset management and sustainable development and refurbishment activities since 2008. We have an increased focus on 'place-making' where we see an opportunity to bring together climate and environment risk with the other drivers of future performance. We take a disciplined approach to measuring factors such as energy and water consumption, and we have specific tools to reduce those inputs.

For example, in 2016, Hermes and managing agent Jones Lang LaSalle (JLL) engaged sustainability consultants, Carbon Credentials, to implement an energy-efficient and tenant-friendly programme across our portfolio. The so-called Collaborative Asset Performance Programme (CAPP) aimed to optimise technology while engaging with stakeholders to cut energy use and improve the comfort levels of building occupants.

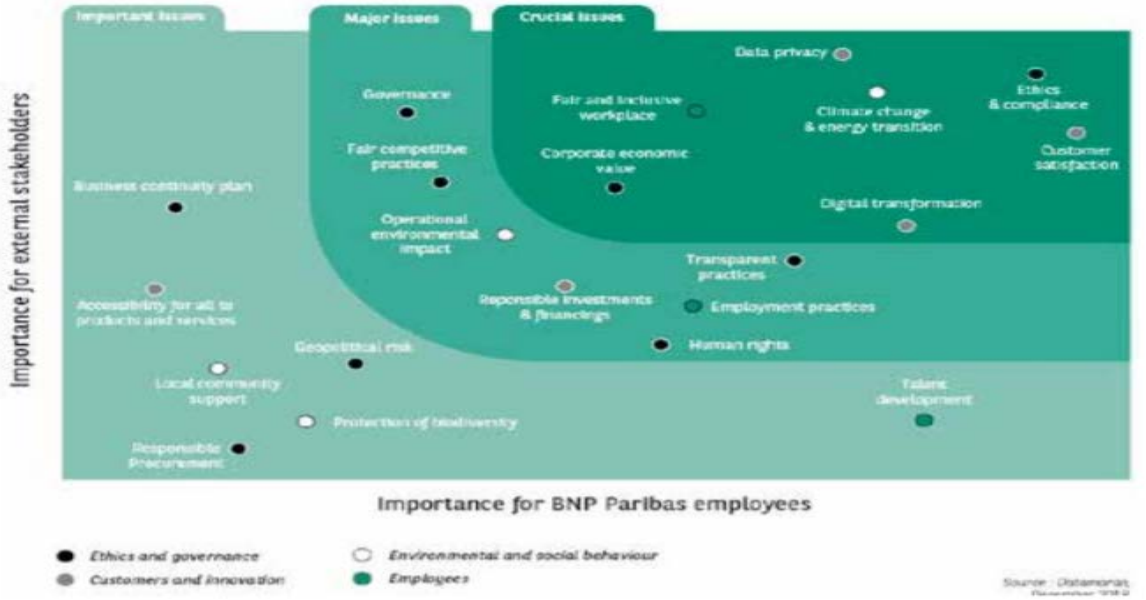
https://www.hermes-investment.com/wp-content/uploads/2020/03/tcfd-report-hermes-19.pdf (pages 10-12)

BNP Paribas Asset Management (BNP)

The stakeholder dialogue serves as the basis for the materiality matrix, which prioritises climate change as a critical concern for the Group.

In order to create its materiality matrix, which presents the top priorities for the Group's internal and external stakeholders, BNP Paribas assessed a series of materiality criteria to classify roughly 100 different non-financial issues according to their level of priority for its stakeholders and their impact on Group performance. A variety of sources were used to that end: a comparative study of publications by 59 banks, 2,070 regulations, nearly 15,000 industry

press articles, 128 million tweets, and finally feedback from 28% of top management staff contributed to determining the importance of these issues for BNP Paribas. The results of this exercise, presented below, are broken down into three categories: important, major and critical.



https://group.bnpparibas/uploads/file/bnpparibas_tcfd_report_en.pdf (page 35)

Metrics and Targets - Recommended Disclosure (a)
Disclose the metrics used by the organisation to assess climate-related risks and opportunities in line with its strategy and risk management process.

BMO

Legal and regulatory risk could arise from BMO's actions, or alleged lack of action, in relation to climate change, our climate change disclosures, or our customers' activities. BMO monitors legal risks associated with climate change as part of our overall risk assessment of operational, business and reputation risks.

Market risk could be affected by the impact of transition and physical risks on market conditions, including equity and commodity prices, which could increase the risk of losses in our trading and underwriting portfolios. Any adverse impacts would be captured and mitigated by the existing limit monitoring processes and risk management framework.

https://our-impact.bmo.com/wp-content/uploads/2019/12/BMO-2019-Climate-Report.pdf (page 7)

BNP Paribas Asset Management (BNP)

The Group is also exposed to reputational risk, for example should it fail to comply with climate-related regulations or if its stakeholders are of the opinion that the Group is not meeting their expectations in terms of climate risk management. Reputational risk is the risk of adversely affecting confidence in the company held by its clients, counterparties, sup- pliers, employees, shareholders, supervisors or any other third party whose confidence in any capacity whatsoever is a prerequisite to the normal conduct of business. Reputational risks have different impacts on the Group depending on the type and severity of the risk in question.

https://group.bnpparibas/uploads/file/bnpparibas_tcfd_report_en.pdf (page 16)

Nomura Asset Management

Physical Risk Analysis

ISS analyzes the physical risks of industries and regions from long-term and catastrophic perspectives. We use the results of analyses performed by ISS to understand the physical risks (acute and chronic) in our portfolios for each industry and region, and refer to this information when considering allocations for industries and regions. The results of analyses of physical risk for each industry and region in our portfolios are as follows. These results show the industries and regions with relatively high physical risk.

Industrial Analysis of Physical Risk (Acute)

*The % in the table are the total weights of each GICS sector in each NAM portfolio

	Energy	Materials	Industrials	Consumer Discretionary	Consumer Staples	Health Care	Financials	Information Technology	Communication Services	Utilities	Real Estate	Other
NAM's Japanese equities portfolio	1%	6%	21%	18%	8%	9%	8%	13%	8%	1%	5%	0%
NAM's global equities portfolio	4%	3%	9%	8%	8%	19%	20%	16%	6%	4%	2%	0%
NAM's Japanese bonds portfolio	0%	4%	13%	10%	2%	0%	36%	2%	2%	27%	4%	0%
NAM's global bonds portfolio	6%	4%	4%	6%	2%	3%	39%	2%	7%	4%	1%	22%

Industrial Analysis of Physical Risk (Chronic)

	Energy	Materials	Industrials	Consumer Discretionary	Consumer Staples	Health Care	Financials	Information Technology	Communication Services	Utilities	Real Estate	Other
NAM's Japanese equities portfolio	1%	6%	21%	18%	8%	9%	8%	13%	8%	1%	5%	0%
NAM's global equities portfolio	4%	3%	9%	8%	8%	19%	20%	16%	6%	4%	2%	0%
NAM's Japanese bonds portfolio	0%	4%	13%	10%	2%	0%	36%	2%	2%	27%	4%	0%
NAM's global bonds portfolio	6%	4%	4%	6%	2%	3%	39%	2%	7%	4%	1%	22%

Low risk Medium risk High risk

https://global.nomura-am.co.jp/responsibility-investment/pdf/ri_report_2019.pdf (page 19)

BNP Paribas Asset Management (BNP)

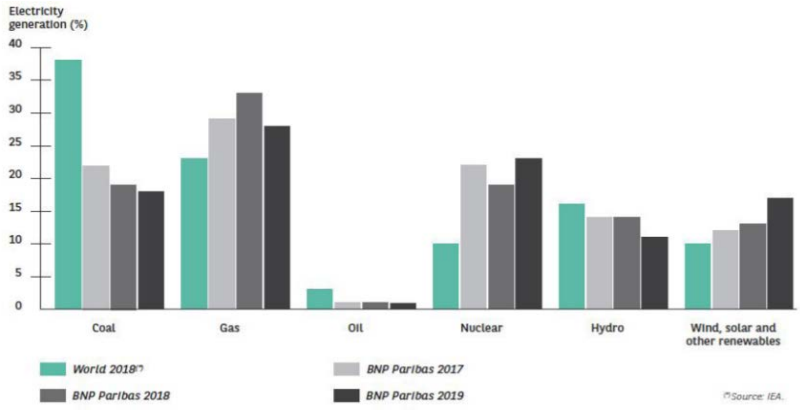
For the last few years, the Group has published a CSR dashboard including energy and climate-related metrics.

The dashboard comprises CSR metrics which are monitored at the highest level of the Group. It is published yearly in the Group's Universal Registration Document and Annual Financial Report28 (previously referred to simply as the Registration Document).

Two of the dashboard metrics concern energy and climate:

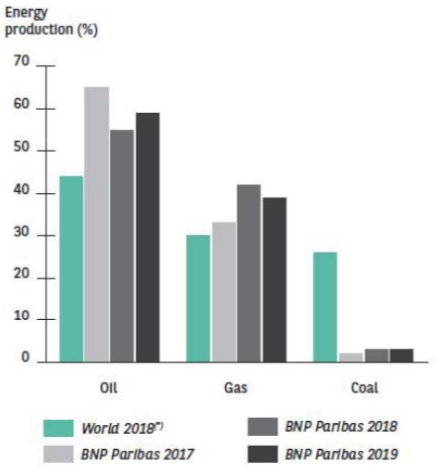
- Financing for renewable energies (in €bn); in 2019, this amount was up to € 15.9 billion, up from € 7.2 billion in 2015, i.e. an increase by 120 % in four years;
- Greenhouse gas emissions in the Group's operational scope (direct emissions, indirect emissions related to energy consumption and business travel) (in kgCO e/FTE); in 2019, these emissions amounted to 2.32 teqCO /FTE, down 2 from 2.89 teqCO2/FTE, i.e. a decrease by 20 % in four years.

Both metrics are improving and their targets are frequently raised to keep them on the right track.



Electricity mix financed by BNP Paribas

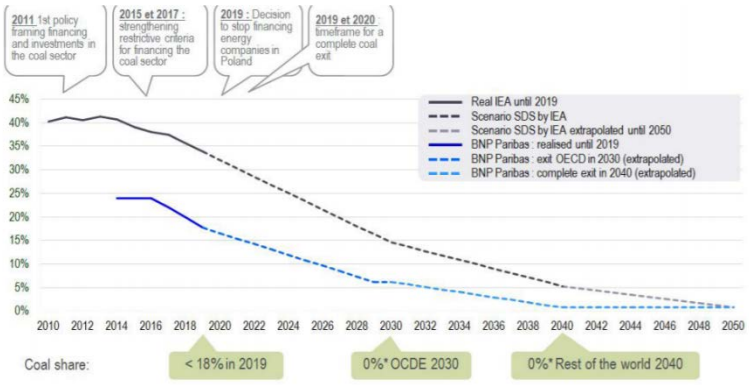
At the same time, BNP Paribas measures and publishes the electricity and energy mixes financed by the Group and their carbon intensity. For the purpose of measuring its indirect emissions (Scope 3), BNP Paribas has since 2014 disclosed the distribution of the primary energy mixes (extraction of fossil fuels) and secondary energy mixes (electricity generation) financed by the Group, and has undertaken to adjust them in line with the SDS (compatible with keeping global warming under 2°C) defined by the IEA.



Primary energy mix financed by BNP Paribas

With 46.7% fossil sources (gas, coal and oil) and 31% renewable sources (hydro, wind, solar and other renewables), the electricity mix financed by BNP Paribas in 2019 has a lower average carbon footprint than that of the world mix, which consisted of 64% fossil sources and 26% renewable sources in 2018. The kWh carbon content financed by the Group is 299 gCO2 e, compared with the world average of 476 gCO2 e in 2018 (source: IEA). Following the implementation of progressively more stringent financing policies, the percentage of coal in the mix has fallen significantly, and is on track to hit zero by 2030 in the OECD and by 2040 in the rest of the world, i.e. ahead of schedule relative to the IEA's SDS. Looking at the primary energy

mix financed by the Group, the percentage of coal in the mix has steadily dropped since 2017, thanks to the implementation of the coal policy, and only made up 2.4% of the primary mix in 2019. On a forward-looking basis, BNP Paribas also keeps track of its energy mixes over the longer term, through 2050 as shown in the figure below.



https://group.bnpparibas/uploads/file/bnpparibas_tcfd_report_en.pdf (page 39- 40)

BNP Paribas Asset Management (BNP)

The compensation paid to corporate officers includes an annual variable component associated with criteria that are representative of the Group's earnings, CSR criteria (10%) and a qualitative assessment performed by the Board of directors (15%).

The attribution of the portion of annual variable pay tied to CSR criteria is based on a multi-criteria measurement founded on a holistic approach to the environmental, civic and social external initiatives undertaken by BNP Paribas. This pay structure in- corporates three criteria, each weighted 3.33%:

- An assessment by the Board of directors of the year's highlights, mainly in terms of climate and social issues (see the inset opposite)
- A market criterion: non-financial rating agency publications measuring the quality of BNP Paribas' positioning relative to its peers in terms of CSR;
- Alignment with CSR goals in the compensation owed in respect of the Key Person loyalty plan.

https://group.bnpparibas/uploads/file/bnpparibas_tcfd_report_en.pdf (page 10)

Metrics and Targets - Recommended Disclosures (b) & (c)

Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.

Describe the targets used by the organisation to manage climate-related risks and opportunities and performance against targets.

BNP Paribas Asset Management (BNP)

Breakdown of GHG Emissions by Scope (Scope 1, 2 And 3)

Each year, the BNP Paribas Group measures and publishes its operational GHG emissions, by converting the energy used in its buildings and in business travel into metric tons of CO2 equivalent (teqCO2, including the six GHG defined in the Kyoto Protocol). In 2019, the Group's GHG emissions amounted to 461,030 teqCO230, representing a 7.1% year-on-year decrease.

Scope 1: Direct Emissions

Emissions generated by use of gas and fuel oil in Group buildings stood at 61,187 metric tons of CO2 equivalent in 2019, down from 62,149 metric tons of CO2 equivalent in 2018.

Scope 2: Indirect Emissions Associate with Energy Purchases

Emissions generated by use of electricity in Group buildings came out at 280,789 metric tons of CO equivalent in 2019, down from 288,902 metric tons of CO2 equivalent in 2018.

Scope 3: Asset Management - Measurement of the Portfolio's Carbon Footprint by BNP Paribas Asset Management

BNP Paribas Asset Management measures and publishes the carbon footprint of its portfolios in terms of financed GHG emissions. The approach determines the carbon footprint of each company in a portfolio, and corresponds to the share of a company's emissions that can be allocated to the portfolio, as a function of the percentage of ownership of each company. The carbon footprint of a portfolio is the weighted average of those carbon footprints. At this stage, only direct and indirect Scope 1 & 2 emissions are measured.

Scope 3 : Indirect emissions associated with business travel Emissions generated by business travel totalled 119,055 metric tons of CO2 equivalent in 2019, down from 144,974 metric tons of CO2 equivalent in 2018.

Breakdown of GHG emissions by type

Breakdown of GHG emissions by GHG Protocol/ISO scope ($teqCO_2$)

https://group.bnpparibas/uploads/file/bnpparibas_tcfd_report_en.pdf (page 42)

Carbon intensity per kWh financed by the Group

As presented above, the carbon content of each kWh financed by the Group stood at 299 gCO2e in 2018, versus a global average of 476 gCO2e. In line with the Paris Agreement, BNP Paribas is committed to reducing the kWh carbon content financed like the world average, which is due to fall under the IEA SDS scenario (i.e. 81gCO e/kWh by 2040).

BNP Paribas Asset Management also monitors the carbon intensity of electricity producers in its portfolio, and compares it with the Paris Agreement pathway for the sector as determined by the IEA in its SDS. BNP Paribas Group's operational emissions and carbon neutrality

Indicators	2012	2016	2017	2018	2019	2020 Objective
Greenhouse gas emissions ($teqCO_2$/FTE)	3.21	2.72	2.54	2.45	2.32	2.41

GHG emissions in scope of operations (tCO_2e/FTE), between 2012 and 2019, and target for 2020

The Group's total emissions stood at 461 kteqCO2 in 2019, as indicated above. The 2020 target (to reduce emissions per employee by 25% versus 2012) was not only reached, but surpassed, as of 2019.

Since 2017, the Group has undertaken to offset the GHG emissions it is unable to avoid, in order to fully align its businesses with the Paris Agreement scenario, which calls for the global economy to rapidly achieve carbon neutrality.

https://group.bnpparibas/uploads/file/bnpparibas_tcfd_report_en.pdf (page 43- 44)

BNP Paribas Asset Management (BNP)

The compensation paid to corporate officers includes an annual variable component associated with criteria that are representative of the Group's earnings, CSR criteria (10%) and a qualitative assessment performed by the Board of directors (15%).

The attribution of the portion of annual variable pay tied to CSR criteria is based on a multi-criteria measurement founded on a holistic approach to the environmental, civic and social external initiatives undertaken by BNP Paribas. This pay structure in- corporates three criteria, each weighted 3.33%:

- An assessment by the Board of directors of the year's highlights, mainly in terms of climate and social issues (see the inset opposite);
- A market criterion: non-financial rating agency publications measuring the quality of BNP Paribas' positioning relative to its peers in terms of CSR;
- Alignment with CSR goals in the compensation owed in respect of the Key Person loyalty plan.

https://group.bnpparibas/uploads/file/bnpparibas_tcfd_report_en.pdf (page 10)

BNY Mellon – Newton

Newton provided custom benchmark which comprised of 60% equities and 40% bonds which best reflect Newton's house holdings to compare the emissions of their client's investments against.

Summary of Newton's emissions and methodology					
All units in tonnes of carbon dioxide equivalent (tCO2e)		2017	2018	2019	Notes (see page 25)
Newton – Scope 1		58	50	58	1
Newton – Scope 2	Market-based	0	0	0	2
	Location-based	1,329	1,385	1,534	3
Sub-total: Newton – Scope 1 and 2	Market-based	58	50	58	–
Offsets		(58)	(50)	(58)	4
Total: Newton – Scope 1 and 2 emissions		**0**	**0**	**0**	
Total: Client investments – Scope 3 emissions		3,853,830	3,203,851	2,736,232	5
Total: Custom multi-asset benchmark		5,200,850	4,342,198	4,081,529	6
% below benchmark		25.90%	26.22%	32.96%	–
Newton – weighted average carbon intensity		79	81	67	7

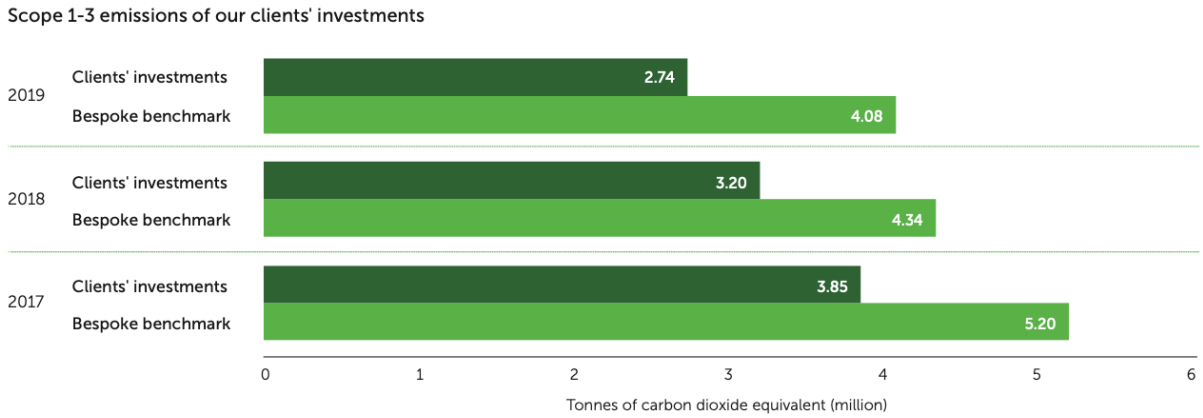
Source: BNY Mellon. Data as at 31 December 2019.

https://www.newtonim.com/global/special-document/tcfd-disclosure-report/ (page 24-25)

As part of our client offering, we also conduct carbon footprinting and climate-change analysis across our different investment portfolios.

This analysis identifies a portfolio's overall carbon footprint and carbon intensity, and highlights emissions-heavy companies to prioritise engagement with. It also shows a portfolio's exposure to green investments and carbon-related assets, contributions to a lower-carbon economy. The footprint analysis also highlights those companies that have science-based targets and helps monitor performance over time.

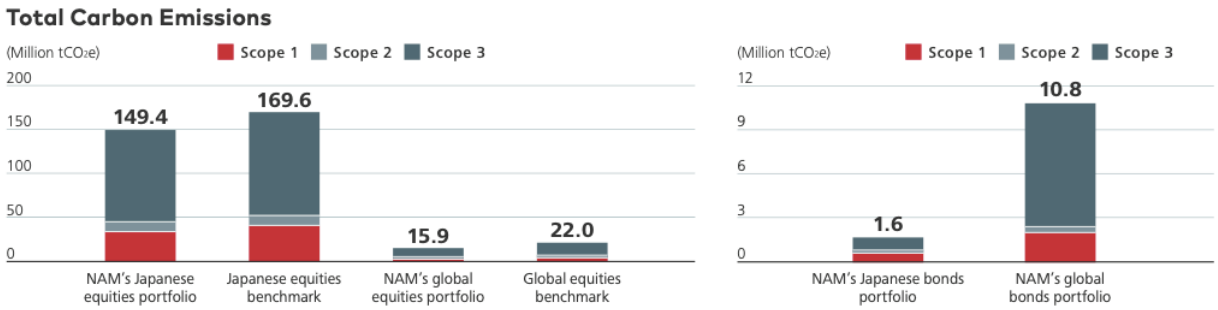
We regularly measure the carbon footprint of all our clients' holdings and in our largest investment portfolios in order to maintain a clear view as to how our portfolios are positioned.



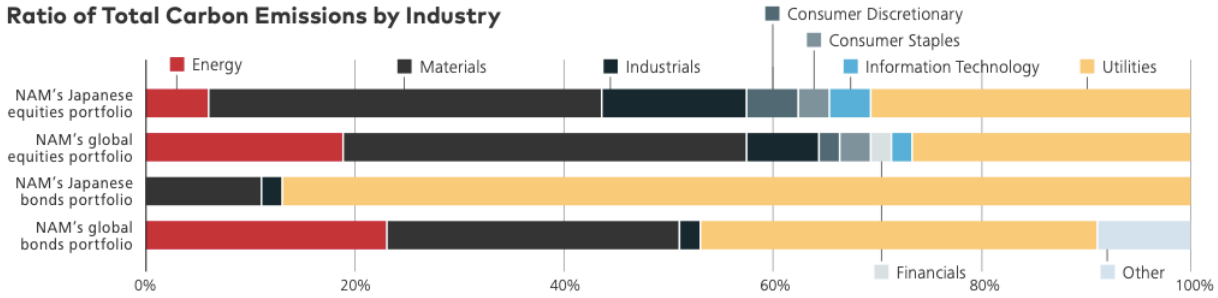
Newton's greenhouse-gas emissions are calculated using the World Business Council for Sustainable Development (WBCSD) Greenhouse Gas Protocol operational control methodology, as disclosed below.

https://www.newtonim.com/global/special-document/tcfd-disclosure-report/ (page 23- 24)

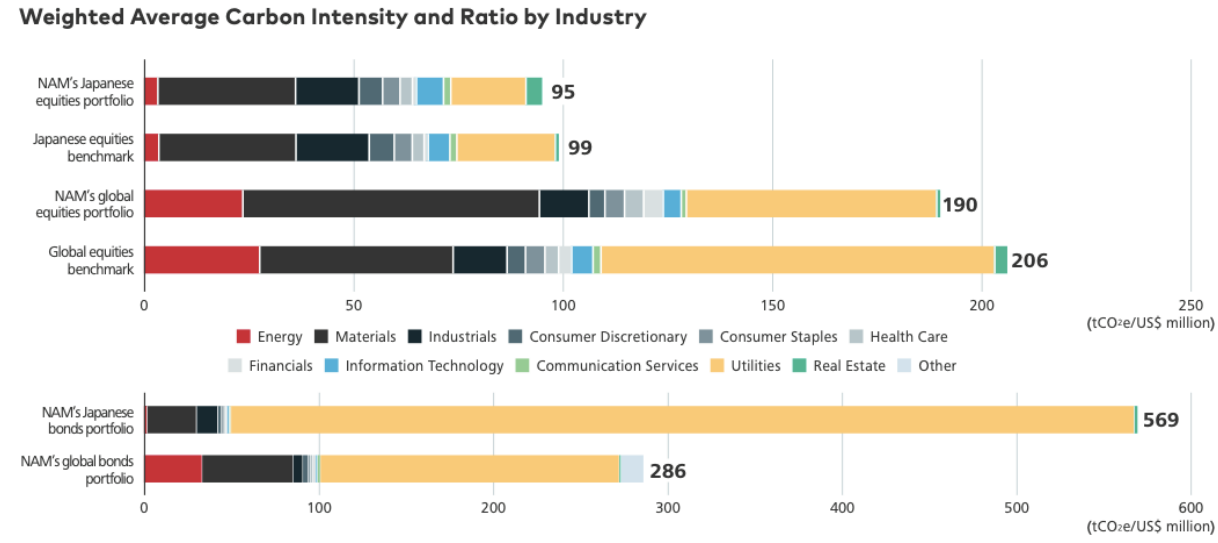
Nomura Asset Management



*For equities, total carbon emissions have been calculated using the company's ownership stake versus total market capitalization. For bonds, total carbon emissions have been calculated using adjusted enterprise value (total market capitalization + total debt).
*"Global" means the world excluding Japan; the same shall apply in this TCFD section.



*Industries whose composition ratio of the Global Industry Classification Standard (GICS) is less than 1% are not included in industry classifications.



The analysis revealed that the total carbon emissions of our Japanese equities portfolio and global equities portfolio were less than the total carbon emissions portfolios of the same monetary amount and comprised of the same stocks and weightings as the benchmarks. The ratio of total carbon emissions accounted for by each industry is characterized by a high ratio from Materials and Utilities, as well as a relatively high ratio from Energy and Industrials. The

same trend is seen in the industry ratios for weighted average carbon intensity.

https://global.nomura-am.co.jp/responsibility-investment/pdf/ri_report_2019.pdf (page 16-17)

BNY Mellon - Newton

Methodology Notes

(1) Newton's Scope 1 emissions include emissions from the tracked use of fuel oil and refrigerants and estimated use of natural gas in occupied facilities that use natural gas. Natural gas is estimated based on the average use per square foot for BNY Mellon's real-estate portfolio. BNY Mellon calculates the entire Scope 1 emissions for these facilities, and allocates a portion to Newton based on the portion of staff employed by Newton. Allocated emissions from enterprise data centres are also included on a revenue-based allocation.

(2) BNY Mellon procures renewable electricity products globally, including Renewable Energy Credits (RECs), Guarantees of Origin (GOs), International-RECs and PowerPlusTM instruments, equal to the amount of Scope 2 electricity purchased. Newton's electricity use is included in BNY Mellon's electricity purchases. Therefore, Newton also uses 100% renewable electricity through the instruments described above which results in zero market-based Scope 2 emissions.

(3) Location-based Scope 2 electricity emissions are tracked or estimated for BNY Mellon's real estate footprint. There is a portion of the leased portfolio where electricity consumption is included within the lease cost and BNY Mellon is not sub-metered for electricity or other energy. As a result, BNY Mellon does not receive a utility invoice for electricity consumed at these specific locations. Based upon accurate knowledge of annualised typical watts per square foot for like facilities within our portfolio, BNY Mellon includes a watts per square foot estimate for properties where electricity is included in rent. A factor of 1.75 watts per square foot per hour is utilised. In this way, BNY Mellon approaches a more realistic Scope 2 indirect number versus leaving that usage out entirely owing to lack of data. Newton's location-based Scope 2 emissions are calculated based on electricity used in or estimated for a facility occupied by Newton and the portion of staff in a facility that are employed by Newton. Allocated emissions from enterprise data centres are also included on a revenue-based allocation.

(4) BNY Mellon has been carbon neutral (net zero greenhouse- gas emissions) for Scope 1 and 2 emissions from 2015 through 2018, and plans to maintain carbon neutrality through 2025, through setting emission-reduction targets in line with a well-below 2 degree science-based target methodology. Instruments for carbon neutrality have been procured for 2019, and the company's carbon neutral status for 2019 will be verified by a third party later in 2020. After taking steps to reduce the company's energy use and resulting emissions and purchasing renewable electricity, BNY Mellon procures carbon offsets for the remainder of its Scope 1 emissions. The carbon offsets purchased provide financing to projects around the world that achieve emissions reductions and other social and environmental benefits. BNY Mellon's carbon neutral program includes emissions attributable to Newton; therefore, Newton is also carbon neutral for Scope 1 and 2 emissions.

(5) We have assessed the 15 categories of Scope 3 emissions within the GHG Protocol and concluded that our clients' investments are the most material component. Newton calculates its Scope 3 clients' investments emissions using the following methodology.

For a corporate equity or bond:
(Value of security held/ enterprise value of corporate entity) *Scope 1 and 2 emissions of the corporate entity.

For a government bond:
((Value of security held/total government debt) *Scope 1 and 2 emissions from government activities) + (emissions in industry that result from government expenditure).

(6) The custom benchmark is comprised of 60% equities and 40% bonds which best reflect Newton's house holdings to compare our emissions against.

(7) The TCFD recommendations state asset owners and managers publicise this key metric in their disclosures. The metric calculates a portfolio's exposure to carbon-intensive companies, expressed in tCO2e/£m revenue. Scope 1 and Scope 2 greenhouse-gas emissions are allocated based
on portfolio weights (the current value of the investment relative to the current portfolio value), rather than an equity ownership approach.

While the reporting guidelines for investment emissions in the Greenhouse Gas Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard emissions are mostly clear, accurately capturing Scope 3 emissions is complex.

This complexity is caused by a number of factors including the lack of globally available Scope 1 and 2 emissions disclosures, the inherent double counting involved in capturing Scope 3 emissions, and a lack of definitive guidance on sovereign bond emissions. While the above represents our best efforts in capturing the data, it is worth highlighting that methodologies may change or we realise that there are different ways of capturing and presenting the data in the future.

https://www.newtonim.com/global/special-document/tcfd-disclosure-report/ (page 25)

BNP Paribas Asset Management (BNP)

In 2015, BNP Paribas set a goal of doubling the amount allocated to renewable energy finance by 2020 (compared to 2015 levels), which meant reaching a goal of €15 billion by 2020. The Group exceeded that goal as of 2018. At end-2019, loans to the renewable energy sector totalled €15.9 billion. The Group has raised its target for the sector to €18 billion by end-2021.

Carbon intensity per kWh financed by the Group

As presented above, the carbon content of each kWh financed by the Group stood at 299 gCO2e in 2018, versus a global average of 476 gCO2e. In line with the Paris Agreement, BNP Paribas is committed to reducing the kWh carbon content financed like the world average, which is due to fall under the IEA SDS scenario (i.e. 81gCO e/kWh by 2040).

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https://group.bnpparibas/uploads/file/bnpparibas_tcfd_report_en.pdf (page 43- 44)

APPENDIX (INSURANCE COMPANIES)

Governance - Recommended Disclosure (a)
Describe the board's oversight of climate-related risks and opportunities.

MS & AD Insurance Group

Strategies and plans for sustainability-related initiatives are discussed at the Board of Directors meetings and quarterly Committee Meetings.

The Sustainability Committee comprises of members that include presidents, officers in charge of planning and risk management, outside directors of the Company and the Group's domestic insurance companies, and discusses considerations for sustainability issue in all business activities. The details of the Sustainability Committee's discussions are reported to the Board of Directors and the Management Committee.

https://www.ms-ad-hd.com/en/csr/report/main/05/teaserItems1/0/linkList/0/link/csr_report2019_default.pdf (page 13)

MS & AD Insurance Group

Climate-related issues and progress with initiatives are reported to both the Board of Directors and the Group Management Committee after discussions primarily by the Sustainability Committee and Risk Management Committee (respectively four times annually).

https://www.ms-ad-hd.com/en/csr/report/main/05/teaserItems1/0/linkList/0/link/csr_report2019_default.pdf (page 35)

Storebrand ASA

The Board of Storebrand ASA has as well established a Risk Committee consisting of 3-4 Board members, which has the overall responsibility for managing, limiting and following up the interdisciplinary risks associated with the activities. Here, the climate-related issues are included. The main task of the Risk Committee is to prepare matters to be considered by the Board in the area of risk, with a special focus on the Group's appetite for risk, risk strategy and investment strategy. The reason why the board has this responsibility, is that the Board sets annual limits and guidelines for issues including risk-taking in the company, receive reports on the actual risk levels, and perform a forward-looking assessment of the risk situation. The Board-level Risk Committee meets monthly and contributes forward-looking decision-making support related to the Board's discussion of risk taking, financial forecasts and the treatment of risk reporting, including climate-related risks.

https://www.storebrand.no/en/sustainability/sustainability-library/_/attachment/inline/d0e9764c-1757-4fe1-a96b-c71c90a998a4:7cf55a6b7cc6fcd106f6bad885985c4c3608b11d/2019-annual-report-storebrand-asa.pdf (page 113)

Swiss Re

At Swiss Re's highest governance level, three Board of Directors committees are charged with overseeing the implementation and execution of Swiss Re's Climate Action Plan.

The Chairman's and Governance Committee, presided over by the Chairman, has the overall responsibility of monitoring the Group's Strategic Priorities on enabling sustainable progress, including initiatives and actions specifically addressing climate change.

The Investment Committee reviews Swiss Re's asset management-related activities and, as part of this, receives regular updates on Group Asset Management's Responsible Investing Strategy and implementation, including in the area of climate change.

The Finance and Risk Committee defines the Group Risk Policy, reviews risk capacity limits, monitors adherence to risk tolerance, and reviews all top risk issues and exposures, including those with a specific climate dimension.

The role of the Board of Directors is the oversight of the development and adoption of sustainability policies and strategies, while the Group Executive Committee approves them.

As we move to implement our enhanced Group Sustainability Strategy, we will also introduce a number of key performance indicators at the Group Executive Committee level. One such indicator will align Swiss Re's business actions with the goals of the UN Paris Agreement to limit a global temperature rise to well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5°C.

https://reports.swissre.com/2019/financial-report/sustainability/climate-related-financial-disclosures-tcfd.html

Storebrand ASA

Climate related issues are continuously monitored in Storebrand. One of the highest management-level positions with responsibility for climate-related issues, is an independent control functions which have been established for risk management for the business (Risk Management Function / CRO), for compliance with the regulations (Compliance Function), for ensuring the insurance liabilities are calculated correctly (Actuary Function) and for the bank's lending. The independent control functions are organised directly under the companies' managing director and report to the board. The relevant independent control functions are affiliated with the CRO, who answers directly to the CEO and reports to the board. The CRO shall ensure that all significant risks are identified, measured and appropriately reported to the CEO and the Board. The CRO shall be actively involved in the development of the Group's risk strategy and maintain a holistic view of the company's risk exposure. This includes responsibility for ensuring compliance with the relevant regulations for risk management and the consolidated companies' operations. The reason why the CRO has the responsibility is that internal audit function is organised directly under the Board and shall provide the boards of the relevant consolidated companies with confirmation concerning the appropriateness and effectiveness of the company's risk management, including how well the various lines of defence are working.

Storebrand's Executive Vice President (EVP), Communication, Sustainability, and Industry Policy is also involved in monitoring climate-related issues relevant to the company. The EVP leads a team working on sustainability and climate issues and reports the team's progress to the Board. The EVP has overall responsibility for developing and implementing the company's sustainability action plans (as decided by the Board), monitoring key performance indicators, ensuring effective communication with customers on the topic of Storebrand's sustainability and climate work, and cooperating with relevant partners, organizations, and authorities. Storebrand has decided to place responsibility for monitoring sustainability and climate issues (as well as executing climate-related action plans and strategies) in a high-level position in order to promote sustainability and climate change as core values and priorities for Storebrand's business operations.

https://www.storebrand.no/en/sustainability/sustainability-library/_/attachment/inline/d0e9764c-1757-4fe1-a96b-c71c90a998a4:7cf55a6b7cc6fcd106f6bad885985c4c3608b11d/2019-annual-report-storebrand-asa.pdf (page 113)

Governance - Recommended Disclosure (b)
Describe management's role in assessing and managing climate-related risks and opportunities.

Assicurazioni Generali Spa

The Group P&C, Claims and Reinsurance Director and the CEOs of the Group's insurance companies are responsible for increasing premium from green products and they oversee the restrictions on the underwriting of customers in the coal and tar sands sectors. The Group Risk Officer and the Group Head of Sustainability and Social Responsibility are responsible for supporting business functions in identifying climate-related risks and opportunities and assessing the suitability of measures in place to manage them; they also support the monitoring and reporting on climate impacts to internal and external stakeholders. Finally, the Group Chief Financial Officer is responsible for reporting financial information to investors and other stakeholders, including the disclosure of material information on climate impacts.

Management is held responsible for achieving the objectives outlined in the Group Strategy on Climate Change and a component of the variable remuneration of the Group CEO and top management depends on the results achieved in its implementation.

https://www.generali.com/doc/jcr:1a649aef-6067-445c-a76a-aac6d28d6699/lang:en/Climate-related_Financial_Disclosure_2019.pdf (page 5)

Allianz SE

Group ESG Board

Established in 2012, the Group ESG Board is the principal governing body for sustainability-related issues at board-level. It is made up of Members of the Allianz SE Board of Management and the Heads of Group Communications and Reputation, Group Compliance, Group Risk, and Global Sustainability. The Group ESG Board meets quarterly and is responsible for ensuring ESG integration across all business lines and core processes dealing with insurance and investment decisions. It takes ownership of sustainability and climate-related topics and associated stakeholder engagement. Corporate functions provide regular updates on sustainability-related issues directly to the Group ESG Board.

In addition to the Group ESG Board, several committees play an important role in Allianz's decision-making processes:
• The Group Finance and Risk Committee oversees risk management and monitoring including sustainability risks. It is the escalation point for ESG-related transactions as part of the ESG Referral and Assessment process.
• The Group Underwriting Committee monitors the underwriting business, its risk management and development of underwriting policies and strategies. This includes the integration of ESG in these processes.
• The Investment Management Board monitors the investment approach for the group's proprietary assets and sets the high-level agenda for investments, including the ESG integration

approach.

https://www.allianz.com/content/dam/onemarketing/azcom/Allianz_com/sustainability/documents/Allianz_Group_Sustainability_Report_2020-web.pdf (page 20)

Cathay Financial Holdings

The Chief Risk Officer (CRO) leads the cross-company TCFD task force, which manages the effect of climate-related risks on real estate, negotiable securities, corporate loans, and insurance product. The TCFD task force reports the supervision situation to the CRO each month, and submits annual reports to the Risk Management Committee and Board of Directors.

https://www.cathayholdings.com/en/holdings/csr/intro/env/tcfd

https://www.cathayholdings.com/holdings//holdings/-/media/bf14697d29c04b6ba2046564bcf3dc02.aspx (page 75)

Great Eastern Life Assurance

The Board provides oversight on the Group's sustainability efforts through the Board Sustainability Committee (SC) that was established in February 2020. The Group CEO provides the SC with regular updates on sustainability efforts and initiatives, as well as updates on global and local trends that may have an impact on the Group's direction and strategy in sustainability. The Group Management Committee ("GMC") comprising of senior management from across the Group and chaired by the Group CEO, is responsible for the implementation of the Group's sustainability initiatives. Working groups comprising of representatives from business and support units undertake specific tasks and pursue new initiatives or projects to further our sustainability goals.

https://www.greateasternlife.com/content/dam/great-eastern/sg/homepage/about-us/investor-relations/annual-reports/2020-annual-report.pdf (page 5)

United Overseas Insurance

The Management Committee (MC), which includes senior executives from key functions, is chaired by the Managing Director and Chief Executive, who is also a member of the Board. Guided by the Board, the MC is responsible for preparing this sustainability report. The MC reviews and assesses the sustainability context, material ESG issues, report content and scope, and topics to be included in the report. Upon completion of the review and assessment, the MC proposes the material factors and ESG targets for the Board's approval. A cross-functional project team has the responsibility for collecting and verifying ESG performance data for reporting. Sustainability Management is responsible for implementing the sustainability strategies and overseeing operational matters through senior executive committees. These committees and their responsibilities are as follows:

Risk Management and Compliance Committee: examines all risk management, corporate governance and compliance issues affecting the Company, including ESG risks.
Underwriting and Claims Committee: establishes underwriting and claims policies and procedures, and monitors the compliance of such policies and procedures by all operational units. The committee monitors underwriting risks and oversees the development of any new underwriting policy and strategy.
Investment Committee: monitors and manages the Company's investment portfolios, ensuring sound and responsible economic performance.

https://www.uoi.com.sg/uoi/assets/pdfs/annual-report-2020.pdf (page 4)

AIA Group Limited

Board-level Governance

At AIA, the Board retains ultimate responsibility for the oversight of the Group's risk management activities and monitors material group-wide risks, whether they are common to our industry or unique to the Group and its businesses. The Board is supported by the BRC, comprised of select Board members and chaired by an Independent Non-executive Director, as well as the ORC and FRC which are comprised of our senior executives. AIA's RMF ensures that we have the capabilities and processes in place to identify, quantify, underwrite and manage and report risk. The Board is responsible for reviewing this framework to ensure that it is sufficiently effective given the Group's business environment and context. In addition, boards of directors of our business units play a similar role to ensure that the local risk framework is appropriately tailored to the local business and environment. We address ESG-related risks according to the process outlined in the RMF and categorise them based on the nature of the risk to our operations. The physical impacts of climate change, including flooding, or damage to facilities have immediate operational impacts and are treated as operational risks. Long-term challenges, such as emerging ESG issues, may be discussed by the BRC, ORC, FRC, or the Group's ESG Committee.

Management-level Governance

The Group's ESG Committee provides effective governance for integrating and addressing ESG issues, including climate change, within our business. The ESG Committee is comprised of members of the Group Executive Committee, with representation from an Independent Non-executive Director of the Board. The Committee meets on at least a quarterly basis and plays an integral role in overseeing the Company's ESG Strategy, policies and disclosure, including reporting to the Board on a biannual basis. The ESG Committee also considers ESG research, feedback raised by key stakeholders including institutional shareholders and reports by rating agencies and provides input on material ESG issues relevant to the Group. In 2020, feedback on climate change was discussed by the ESG Committee at all four meetings, with key outcomes and feedback formulated and raised to the Board. This included approval of the Group's ESG Strategy. On a day-to-day basis, AIA's ESG team works closely with the Group Investment function, working to develop consistent and enhanced approaches to addressing climate risk issues with the Group's analysts. The team also coordinates with the Group's Risk function on

ESG matters, including on climate change, both at its Group office and local business units.

https://www.aia.com/content/dam/group/en/esg/AIA_ESG_En.pdf (page 81)

Allianz SE

Linking ESG Performance with Board Remuneration

For 2020, Allianz's Supervisory Board first decided to link Allianz SE Board of Management remuneration to specific ESG targets. Board members' individual contribution factor looked at progress towards emission-related environmental targets and net-zero GHG emissions for both proprietary investments and Allianz Group operations.

These targets were achieved for 2020. For 2021, the variable component of Board member's remuneration (individual contribution factor) will take into account the following sustainability-related elements:

- Decarbonisation of Allianz operations 14 percent reduction of greenhouse gas (GHG) emissions per employee by 2021 from a 2019 baseline.
- 70 percent renewable electricity as share of total electricity consumption in 2021.
- Develop operative implementation plan to reach minus 25 percent CO2 emissions (scope 1 & 2 of investee companies according to GHG Protocol) absolute reduction on public equity and listed corporate debt by 2025 from a 2019 baseline.
- Ensure strong sustainability position in three major sustainability ratings. On top of these specific sustainability-related targets, other non-financial factors such as customer satisfaction (NPS) and employee engagement (IMIX) also contribute to Board member's remuneration

https://www.allianz.com/content/dam/onemarketing/azcom/Allianz_com/sustainability/documents/Allianz_Group_Sustainability_Report_2020-web.pdf (page 21)

Strategy - Recommended Disclosure (a)
Describe the climate-related risks and opportunities the organisation has identified over the short, medium, and long term.

NN Group

Our property & casualty (P&C) business is predominantly a one-year renewal business, and consideration of these risks in the underwriting and pricing processes is therefore on a relatively short time horizon (one to three years)

Many of our product development and strategy updates are based on three-to five-year time frames

Our investment strategies backing the life and income insurance liabilities need to consider the impacts of climate change over a period well beyond the next five years

https://www.nn-group.com/nn-group/file?uuid=55caeb72-5699-4d50-b540-d191328f5880&owner=84c25534-c28a-4a64-9c78-5cc1388e4766&contentid=10852 (page 52)

MetLife, Inc.

[CDP Climate Change 2019 C2.1]

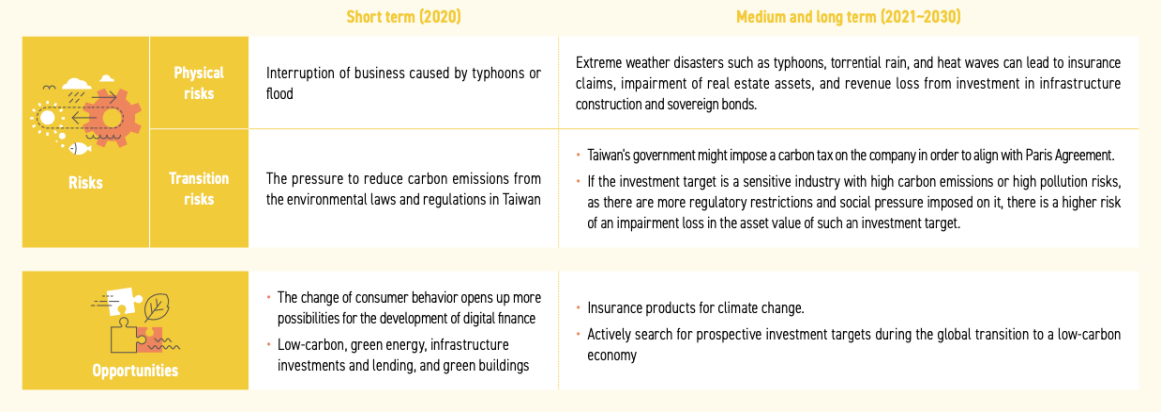
Short-term: 0 - 3 years
For the purposes of this report, the short-term time horizon is defined as the time frame from 2019 to 2022. This is aligned with the Company's risk policies which define "short-term" as an event happening once per 3 years.

Medium-term: 4 - 10 years
For the purposes of this report, the medium-term time horizon is defined as the time frame from 2023 to 2029. This is aligned with the Company's risk policies which define "medium-term" as an event happening once per 10 years.

Long-term: 11 - 100 years
For the purposes of this report, the long-term time horizon is defined as the time frame from 2030 to 2119. This is aligned with the Company's risk policies which define "long-term" as an event happening once per 100 years.

MetLife, Inc's response to the CDP questionnaire 2019 – available for download at: https://www.cdp.net/en

Cathay Financial Holdings



		Short term (2020)	Medium and long term (2021–2030)
Risks	Physical risks	Interruption of business caused by typhoons or flood	Extreme weather disasters such as typhoons, torrential rain, and heat waves can lead to insurance claims, impairment of real estate assets, and revenue loss from investment in infrastructure construction and sovereign bonds.
	Transition risks	The pressure to reduce carbon emissions from the environmental laws and regulations in Taiwan	• Taiwan's government might impose a carbon tax on the company in order to align with Paris Agreement. • If the investment target is a sensitive industry with high carbon emissions or high pollution risks, as there are more regulatory restrictions and social pressure imposed on it, there is a higher risk of an impairment loss in the asset value of such an investment target.
Opportunities		• The change of consumer behavior opens up more possibilities for the development of digital finance • Low-carbon, green energy, infrastructure investments and lending, and green buildings	• Insurance products for climate change. • Actively search for prospective investment targets during the global transition to a low-carbon economy

https://patron.cathaylife.com.tw/ODAB/Path/DTPDAB17/20200721130706595_國泰人壽2019CSR_英文_web.pdf (page 24)

MetLife, Inc.

Risks: [CDP Climate Change 2019 C2.3a]

Risk 1

Where in the value chain does the risk driver occur? Investment chain
Risk type: Transition risk
Primary climate-related risk driver: Policy and legal: Mandates on and regulation of existing products and services
Type of financial impact: Write-offs, asset impairment, and early retirement of existing assets due to policy changes Company-specific description: If current voluntary requests for insurers to divest entirely of investments in fossil fuels, such as thermal coal, and from publicly and privately owned utility companies that generate electricity from fossil fuels, regardless of whether they are changing their energy mix, were to become mandatory, MetLife could potentially incur impact on investment income.
Time horizon: Medium-term
Likelihood: Unlikely
Magnitude of impact: Medium
Explanation of financial impact figure: Our ability to deliver on policies many years into the future requires that we seek out stable, secure, and diverse investments. With this in mind, we invest in assets offering competitive, risk-adjusted returns that enable us to honor our financial commitments. In selecting and monitoring these investments, assessing risk (including stranded asset risk) is an integral part of our credit research and due diligence process. If current voluntary requests for insurers to divest entirely of investments in fossil fuels, such as thermal coal, and from publicly and privately owned utility companies that generate electricity from fossil fuels, regardless of whether they are changing their energy mix, were to become mandatory, MetLife could potentially incur impact on investment income.

Management method: MIM utilizes a robust risk management discipline across our investment portfolio. We conduct regular sector reviews which address material portfolio risks, including climate and potential regulatory changes and carefully assess the risks and benefits presented by each investment, including relevant ESG risks. For example, when evaluating any new investment in the energy and/or utilities sectors, relevant risks associated with the decline in use of fossil fuels are evaluated. Investments in the energy and utilities sectors may also support companies' ongoing efforts to transition to lower carbon fuel mixes and technologies. MIM also believes active engagement with Company leadership is a key to managing investment risk. Investment analysts frequently interact and engage in discussions with a firm's senior management throughout the initial due diligence process and as part of the portfolio monitoring process. An on-going dialogue helps to raise awareness of sustainable business practices.

Cost of management: 0
Comment: There is no additional cost for current action and management at this time.

Risk 2

Where in the value chain does the risk driver occur? Direct operations
Risk type: Transition risk
Primary climate-related risk driver: Technology: Unsuccessful investment in new technologies
Type of financial impact: Write-offs and early retirement of existing assets due to technology changes
Company- specific description: Recent and future changes in technology, including technology that supports a transition to a low-carbon future, may present us with new challenges and may intensify many of the challenges that we already face. For example, technological advances may impact the composition and results of our investment portfolio. Changes in energy technology may impact the relative attractiveness of investments in a variety of energy sources, and increasing consumer preferences for e-commerce may negatively impact the profitability of retail and commercial real estate. If we are unable to adjust our investments in reaction to such changes, our results of operations and financial condition may be materially and adversely affected.
Time horizon: Medium-term
Likelihood: About as likely as not
Magnitude of impact: Medium
Explanation of financial impact figure: Our ability to deliver on policies many years into the future requires that we seek out stable, secure, and diverse investments. With this in mind, we invest in assets offering competitive, risk-adjusted returns that enable us to honor our financial commitments. In selecting and monitoring these investments, relevant risk assessment is an integral part of our credit research and due diligence process. However, if MetLife is unable to adjust our investments in reaction to such changes, our results of operations and financial condition may be materially and adversely affected.
Management method: To help mitigate technology risks across our enterprise, we are investing heavily in our digital transformation, to update foundational standards for our business, capture areas of competitive advantage and accelerate disruptive innovation. Partnering with Techstars, we have launched a Digital Innovation Accelerator to identify, mentor, and give us early access to disruptors in the insurance space. We have also launched a $100 million Global Digital Venture Fund to partner with venture capital firms, pilot best concepts, and broaden our own

thinking. Finally, LumenLab, our innovation hub in Singapore, is driving a culture of innovation across MetLife with a goal of reshaping how we engage with customers. We believe that financial strength, technological efficiency and organizational agility are significant differentiators and that we are building a Company that is well positioned to succeed in any environment. Furthermore, MIM utilizes a robust risk management discipline across our investment portfolio. We conduct regular sector reviews which address material portfolio risks, including climate change and potential regulatory changes, and carefully assess the risks and benefits presented by each investment, including relevant ESG risks. When evaluating any new investment in the technology sector, risks like those associated with disruptive solutions are evaluated. Additional management method context is provided in the comment section. MIM believes active engagement with Company leadership is a key to managing investment risk. Investment analysts frequently interact and engage in discussions with a firm's senior management throughout the initial due diligence process and as part of the portfolio monitoring process. An on-going dialogue helps to raise awareness of sustainable business practices.
Cost of management: 0
Comment: There is no additional cost for current action and management at this time.

Risk 3

Where in the value chain does the risk driver occur? Direct operations
Risk type: Physical risk
Primary climate-related risk driver: Chronic: Changes in precipitation patterns and extreme variability in weather patterns
Type of financial impact: Increased insurance claims liability arising from climate-related impacts
Company-specific description: One of the main sources of physical climate change risk to MetLife's business operations comes from possible precipitation extremes and droughts. MetLife's climate change risks come from potential physical climate change and weather-related events that could have an impact on MetLife's internal operations and the profitability of our financial services products, in addition to impacts for our customers, employees, and supply chain. Extreme variability in weather-related occurrences has the potential to impact the health and financial needs of our customers, and may result in increased claims resulting from natural disasters and other catastrophes. MetLife operates in over 40 countries across the globe, categorized by four regions: United States; Latin America; Europe, Middle East and Africa; and Asia. Each region and local office is vulnerable to precipitation extremes, droughts, and other variability in weather patterns.
Time horizon: Short-term Likelihood: About as likely as not
Magnitude of impact: Low
Explanation of financial impact figure: MetLife recognizes the potential financial implications to its business due to climate change events, including precipitation extremes, droughts, and extreme variability in weather patterns. These potential costs include the physical destruction to our facilities and the disruption of services to our customers, as well as the potentially higher financial losses, resulting from weather-related incidents and the associated potentially higher volume of auto and homeowner insurance claims. Additional financial implications include a potential increase in operational costs and financial risks relating to loan defaults of agricultural borrowers.
Management method: To mitigate operations-related climate risk, MetLife has a Global Crisis Management Structure in place to oversee all aspects of a crisis situation. The Crisis Management Structure provides support from key stakeholders and subject matter experts at

the Global, Regional and Local Level. Across its global enterprise, MetLife recognizes and implements site-specific risk mitigation and action plans at each individual office. The Global Crisis Management Office facilitates the appointment, training and testing of Local Crisis Management Teams to manage incidents at each location and works closely with property management teams to coordinate responses. For the P&C business, in addition to purchasing re-insurance and evaluating various catastrophe and predictive modeling tools, MetLife is also partnering with Northern Illinois University (NIU) to utilize a new model that leverages meteorology, machine-learning, and artificial intelligence to predict hailstorms. In the future, NIU and MetLife would like to explore applying models to other weather events, such as tornadoes, hurricanes and floods. Within MIM's investment portfolio, investments in the agriculture sector are approached with a long-term view specifically as it relates to our investment strategy and underwriting individual investments. Our due diligence and underwriting analysis include a review of the property's access to natural resources, including water, to help ensure its economic life is in excess of our loan term. As an example, for new real estate equity and debt investments, MIM reviews a property's potential exposure to adverse events associated with climate-related events, such as droughts, flooding, etc. Focus is placed on investment in properties that are favorably positioned for long-term success and are capable of weathering potential adverse short-term challenges associated with naturally occurring events. MIM's borrowers are typically larger professionally managed farming, agribusiness or timber operators who actively develop long-term plans that help ensure sustainable access to resources and adequately anticipate and develop contingency plans for adverse events. In addition, MIM commissions Property Condition Reports to identify flood and coastal inundation zones. Insurance programs maintained by MetLife for our equity investments are designed to ensure adequate coverage for such perils and appropriate insurance coverage is obtained from borrowers.
Cost of management: 0
Comment: No additional cost for management.

Risk 4

Where in the value chain does the risk driver occur? Direct operations
Risk type: Physical risk
Primary climate-related risk driver: Acute: Increased severity of extreme weather events such as cyclones and floods Type of financial impact: Increased insurance claims liability arising from climate-related impacts
Company-specific description: One of the main sources of physical climate change risk to MetLife's business operations comes from extreme weather events such as tropical cyclones. MetLife's climate change risks come from potential physical climate change and weather-related events that could have an impact on MetLife's internal operations or the profitability of our financial services products, and may result in increased claims from natural disasters and other catastrophes. Both extreme climate change events and individual weather-related occurrences could disrupt our global offices or impact the financial needs of MetLife's customers. MetLife is a global Company and has many of its offices and business functions serving in regions that are more vulnerable to extreme weather-related events, including Asia (For example, MetLife has a strong presence in India and Japan) and the USA (especially the South-eastern states).
Time horizon: Current
Likelihood: About as likely as not
Magnitude of impact: Low

Explanation of financial impact figure: MetLife recognizes the potential financial implications to its business due to climate change events, including tropical cyclones, hurricanes and typhoons. These potential costs include the physical destruction to our facilities, the disruption of services to our customers, and the potentially higher financial losses resulting from weather-related incidents and the associated potentially higher volume of auto and homeowner insurance claims.
Management method: To help mitigate risk, to the extent permitted by law, some P&C insurance companies in the MetLife group mandate the use of higher hurricane wind deductibles on homeowners' insurance policies in coastal areas than those required for all other perils. To assess climate risks relating to P&C claims, MetLife utilizes independent catastrophe models in combination with exposure concentration and historical loss data in risk analysis. MetLife reviews both Long Term and Near Term hurricane model results, and purchases property catastrophe reinsurance based on these processes. Often, MetLife performs stress testing by evaluating the impact of past significant events and modeling the impact of past storms on other nearby areas. To mitigate operations-related risk, MetLife has a Global Crisis Management Structure and an IT Risk and Security Team in place to oversee all aspects of a crisis situation. In addition, MIM understands the importance of monitoring the P&C insurance companies we own within our investment portfolio in order to ascertain management's ability to properly reserve for and obtain adequate pricing for the risks they are insuring in the P&C market. For primary insurers, the use of reinsurance programs mitigates the exposure to large losses that could decimate the Company's capital position. We believe our investments portfolio is well positioned with exposure to high quality primary carriers that hold an adequate amount of surplus in excess of capital. As an example, MIM's agricultural portfolio's investment strategy actively considers current and potential climate-related changes. Agricultural production shifts geographically over time in response to changing climate, resources, logistics, etc. Our investment strategy identifies and appropriately adjusts for these shifts. MIM worked with an outside firm to analyze the entire real estate investments portfolio to potential sea level rise through the year 2100. Results indicated no immediate need to reposition the portfolio, but the analysis will help provide the necessary data points for long-term portfolio positioning and underwriting.
Cost of management: 0
Comment: Minor additional costs for the loss of premium associated with requiring higher deductibles and the cost of purchasing reinsurance. Otherwise, no additional cost for management.

Risk 5

Where in the value chain does the risk driver occur? Customer
Risk type: Physical risk
Primary climate-related risk driver: Chronic: Rising mean temperatures
Type of financial impact: Increased insurance claims liability arising from climate-related impacts
Company-specific description: Given MetLife's business extends to more than 40 countries globally, there is a strong likelihood that the Company's employees and customers will be affected by the health impacts associated with a changing climate, albeit by varying magnitudes depending on geography, demographics, and economic status. The impact to MetLife's Life and Health business will also be highly dependent on the regional product portfolio, where climate change will have a negative impact on some portfolios and a favorable impact on others. The key impacts to MetLife's life and health business will be related to increased health issues,

higher mortality and morbidity rates, and potential reserve strengthening. As one example, climate change factors can intensify air pollution by contributing to higher levels of fine air particles and airborne allergens. As a result, climate change has the potential to have a greater impact on the life and health industry, as medical studies show that higher concentrations of pollution increase the risk of stroke, heart disease, lung cancer, and chronic and acute respiratory diseases. The impacts of air pollution are expected to be more severe in developing markets in Southeast Asia and less severe in established markets in Europe and the United States. Climate change can further affect mortality rates and life expectancy by exacerbating other human health issues, such as increased death and injury from natural disasters, food insecurity due to both drought and flooding, and spread of disease caused by changing temperature and precipitation patterns. Water and vector-borne diseases, specifically diarrheal diseases and those spread by vermin and insects that thrive in warm climates, including rats, ticks, flies, and mosquitoes, will also intensify as climate change progresses. In general, developing countries will be more susceptible to the impacts of climate change than established markets.
Time horizon: Medium-term
Likelihood: Unlikely
Magnitude of impact: Low
Explanation of financial impact figure: If a changing climate contributes to increasing magnitude, severity, or geographic spread of a pandemic, this could have an adverse effect on our results of operations and financial condition. Our life insurance operations are exposed to the risk of catastrophic mortality, such as a pandemic. A significant pandemic could have a major impact on the global economy, including travel, trade, tourism, the health system, food supply, overall economic output, as well as financial markets. A pandemic that affects our employees or the employees of our suppliers could disrupt our operations. The effectiveness of external parties in combating the spread and severity of such a pandemic could have a material impact on the losses we experience. In our group insurance operations, a localized event that affects the workplace of one or more of our group insurance customers could cause a significant loss due to mortality or morbidity claims. Management method: MetLife recognizes that there are certain risks associated with changing climate conditions and their potential impact on its business. MetLife has strong risk management procedures built into its businesses to evaluate and mitigate various types of risk. In order to manage risk, we have often reinsured a portion of the mortality risk on life insurance policies. We participate in reinsurance activities in order to limit losses, minimize exposure to significant risks, and provide additional capacity for future growth. These reinsurance agreements spread risk and minimize the effect of losses. We routinely evaluate our reinsurance programs, which may result in increases or decreases to existing coverage.
Cost of management: 0
Comment: There is no additional cost for current action and management. Reinsurance for mortality risk would be purchased regardless of climate change.

Opportunities: [CDP Climate Change 2019 C2.4a]

Opportunity 1

Where in the value chain does the opportunity occur? Direct operations
Opportunity type: Markets
Primary climate-related opportunity driver: Use of public-sector incentives

Type of financial impact: Increased revenues through access to new and emerging markets (e.g., partnerships with governments, development banks)
Company-specific description Changes in policy and legislation, especially those aimed at incentivizing a low carbon economy, may drive new pricing incentives that favour sustainable businesses, in addition to driving growth of the renewable energy sector. As a leader in environmental stewardship and significant investor in renewable energy and other green investments, MIM is positioned to benefit from growth in sustainability businesses and practices. As of year-end 2018, MIM held $16.6 billion in green investments, including ownership stakes in wind and solar farms, in MetLife's general account and institutional third-party asset management client portfolios. In addition, to the degree that climate change drives regulators to implement stronger building codes and other mitigation and adaptation measures, MetLife has the opportunity to decrease loss costs for certain weather-related events, thus providing the opportunity to offer more coverage at lower rates. Metropolitan Property and Casualty Insurance Company and its subsidiaries already offer homeowner premium discounts to policyholders who implement mitigation measures such as installing storm shutters and storm-resistant glass in their homes.
Time horizon: Current
Likelihood: About as likely as not
Magnitude of impact: Medium-low
Explanation of financial impact figure: MIM invests in assets offering competitive, risk-adjusted returns that enable MetLife to honor its financial commitments. In selecting and monitoring investments, MIM utilizes a vigorous risk management discipline across its investment portfolio and carefully assesses the risks and benefits presented by each investment. Although the expected return on our investments can vary due to external drivers, MIM's investments are expected to continue to provide strong contributions to MetLife's financial results. MIM also pursues socially responsible investments that have the potential to increase in value in a changing climate, as well as help mitigate increasing humanitarian demands from climate. As of year-end 2018, responsible investments totaled $52 billion. MetLife's P&C business, to the degree that climate change drives regulators to implement stronger building codes or other mitigation/adaptation measures, has the opportunity to decrease loss costs for certain weather-related events. Strategy to realize opportunity MIM is primarily an institutional fixed income and real estate investment manager and our ESG integration focus seeks to ensure that companies and assets in which we invest have sustainable business practices that create long-term value. When assessing credit risk related to any opportunity, we conduct bottom-up, fundamental research and focus on multiple factors. ESG considerations are a vital part of our due diligence, as we seek to identify any issues that may impact the reputation of a borrower as well as its financial condition, credit rating and transaction pricing. We believe that adhering to sound ESG practices can minimize financial risks, such as controversy-triggered loss of customers, fines, penalties and environmental clean-up costs. MetLife's P&C business offers homeowner premium discounts to policyholders who implement mitigation measures (i.e. installing storm shutters, storm resistant glass). In addition, MetLife promotes legislative changes for stricter building codes to mitigate the damage caused by natural catastrophes. In 2018, MetLife began a partnership with NIU that leverages meteorology to enable the Company to plan farther in advance for hailstorms and other weather events. This partnership gives MetLife access to a hail forecasting model that analyzes national weather patterns and uses both machine-learning and artificial intelligence, and provides the Company with an extra 1-2 days of advanced warning to prepare call centers and alert associates. Being able to better prepare allows MetLife to better utilize resources and reduce costs. MetLife already provides discounts to Texas homeowners

who install hail-resistant roofing and is considering other underwriting strategies that would reward customers who take proactive steps to protect their property from hail. Additionally, we believe that this study will enable advanced communication to individuals living in storm paths to help mitigate injury and death.
Cost to realize opportunity: 0
Comment: We do not consider the costs of capitalizing on this opportunity to be significant. The staff expertise and investment strategies that allow us to take advantage of increased regulatory drivers that increase financial incentives to invest in, or get tax advantages from, renewable energy are already well developed inside the Company. As for the P&C Business, the staff expertise and strategies in place that enable MetLife to benefit from financial incentives are also well established.

Opportunity 2

Where in the value chain does the opportunity occur? Direct operations
Opportunity type: Products and services
Primary climate-related opportunity driver: Development of climate adaptation and insurance risk solutions
Type of financial impact: Increased revenue through new solutions to adaptation needs (e.g., insurance risk transfer products and services)
Company-specific description: As a global insurance provider, MetLife offers a variety of insurance products that help customers who want protection from weather events and is prepared to handle increasing payouts or increasing demands for products due to increasing climate-related concerns. To the degree that customers seek greater protection from severe climate-related events, MetLife could also experience an increase in sales of our insurance products. The rising concerns associated with climate change could also provide MetLife the opportunity to adapt our product offerings, such as P&C and life and health insurance products, in order to further manage and mitigate the risks surrounding climate-related severe weather events. Rising concerns associated with climate change may also provide MIM with investment opportunities to finance the development and adoption of more environmentally sustainable practices in real estate and agriculture.
Time horizon: Medium-term
Likelihood: Unlikely
Magnitude of impact: Low
Explanation of financial impact figure: To the degree that customers seek greater protection from climate-related weather events, MetLife could experience an increase in sales of our insurance products. Additionally, market and government drivers towards environmental sustainability may provide investment opportunities for MIM. Strategy to realize opportunity MetLife takes actions to encourage customers to use lower-carbon methods of doing business and has begun incentivizing consumer resilience to climate-related events within our offerings. For example, Metropolitan Property and Casualty Insurance Company and its subsidiaries already offer homeowner premium discounts to policyholders who implement mitigation measures (i.e. installing storm shutters,storm resistant glass). In 2018, MetLife began a partnership with NIU that leverages meteorology to enable more advanced planning for hailstorms and other weather events. In 2019, MetLife plans to pilot a series of programs to communicate with customers in advance of hailstorms through social media campaigns and text messages. In addition, MetLife offers e-billing and invests up to $300 million a year in digital technologies. In 2018, MetLife deployed mobile apps in Egypt, Chile, Brazil and Japan that allow

people to submit insurance claims via their phone. Digital solutions help reduce paper consumption and may attract customers who are environmentally conscious. In Asia, MetLife created 360Health, a combination of insurance and health services, to directly address customer concerns about serious illness. As climate and health are directly related, these types of solutions could potentially see increased sales in the future. In addition, in 2018, MetLife Foundation realized its five-year goal to provide $200 million in grants to advance financial inclusion. Going forward, the MetLife Foundation intends to broaden its focus to financial health. To date, financial inclusion and health work has reached 9.9 million low-income individuals in 42 countries. MetLife Foundation awards grants for disaster relief and rebuilding, including disasters from climate-related events, contributing more than $270,000 in 2018. These efforts help build resilience, respond to the increasing humanitarian demands associated with climate change and positively affect communities
Cost to realize opportunity: 0
Comment: We do not consider the costs of capitalizing on this opportunity to be significant. The staff expert knowledge, risk management processes, and investment strategies to take advantage of new product and/or investment opportunities are already well developed throughout the enterprise. In 2018, MetLife expanded our new product development process globally. In addition to deepening our relationship with customers, we believe this strategy will reduce risk, lower costs and drive greater value.

MetLife, Inc's response to the CDP questionnaire 2019 – available for download at https://www.cdp.net/en

Assicurazioni Generali Spa

We are managing our emerging risks within our broader Main Risk Self-Assessment process, coordinated by the Group Risk Management Function. The overall process involves a network of business specialists, which represent all main Group Business Functions, ranging from Underwriting, Investment and Operations, to Marketing and other expertise. Two major roles are played by Business Strategy and Group Sustainability & Social Responsibility with the purpose of granting both a strong integration with the defined business strategy and the increasing embedding of ESG factors within the risk management process. All our Group Business Units, spread around the globe, are participating to this Group exercise. Coordinated by local Chief Risk Officers, they provide their own inputs to the risk identification process by focusing on the most relevant risks for their markets. These are assessed in terms of vulnerability, timeframe as well as risk management preparedness, ensuring coverage of all major ESG factors' interrelations in parallel. This grants a consistent risk-based approach for the Group Materiality Matrix definition. The overall Group Emerging Risk Register is updated on yearly basis, taking into account the results of the exercise performed both at Group Head Office and Business Unit level, as well as relying on the most relevant market studies on the major trends, among which, for example, the World Economic Forum. The 2019 Generali Group Emerging Risk Register maintains a predominant focus on climate change and natural disasters, geopolitical instability with related financial distresses and digitalisation aspects. Compared to the previous year, a major focus is also given to demographic and social changes aspects as well as to pandemic and antimicrobial resistance.

https://www.generali.com/what-we-do/emerging-risks/Generali-s-approach-to-emerging-risks

Swiss Re

Physical risks posed by climate change could potentially affect four areas of our business. They can:

- Reduce/disrupt our operations
- Influence modelling and pricing of weather-related natural perils
- Impact the economic viability of re/insurance for risks exposed to extreme weather events
- Impact real assets exposed to weather-related natural perils

Transition Risks in Our Re-Insurance Business

Transition risks may arise as a result of the extensive policy, legal, technology and market changes that are required to make the transition to a low-carbon economy. We have assessed the two transition risks that may potentially affect our business:

Climate-Related Litigation Risks

We identified potential climate-related litigation risks as an emerging risk over a decade ago and assessed its potential relevance through our own research. After years of decline, climate change litigation activities against large greenhouse gas emitters have increased recently. However, associated insurance coverage disputes have remained stable.

As a result, we have not faced any new claims from climate-related litigation in recent years and the results of the litigation, which have remained in favour of the defendants, suggest that this trend will likely continue, but warrants continued monitoring.

Transition Risks in our Investments

Climate-related risks can impact the value of our investments and are therefore considered a substantial part of our Responsible Investing Strategy. A key risk for asset owners is that a changing environment may result in a specific company or a particularly exposed industry becoming a stranded asset in investment portfolios, ie the devaluation of investments driven by unfavourable changes, such as increased taxes or new regulations. With regard to climate change, the market environment could shift to address mitigation and adaptation requirements to limit a global temperature rise to well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5°C.

Governments and regulators have started to develop proposals to steer and transition climate change-related market activities to more sustainable alternatives. The European Commission's Action Plan for Financing Sustainable Growth and the UK's Green Finance Strategy, which legislates for net-zero emissions by 2050, are just two examples.

Based on these market developments, we continue to focus on policy and legal risks, as well as technology risks, as we mainly expect changes within these two dimensions to potentially impact asset values. In this way, we aim to capture those industries and groups of companies that are most exposed to these risks and may therefore require adjustments in the near to medium term.

Industries and companies that are particularly exposed to changes in policy and legal, as well as technological developments, show elevated risk exposures either in the production process, in raw materials, in transportation/logistics or distribution and store operations due to high carbon footprints in these areas. Furthermore, industries may face increased costs due to higher or more volatile energy prices, compliance costs in the production and distribution process, and costs from product demand substitution. All these changes may cause increased price volatility of the underlying assets.

Climate-related opportunities:
Climate change does not just create risks, but also presents new opportunities. Developing corresponding products and services is a core part of our Group Sustainability Strategy, 2030 Sustainability Ambitions and Climate Action Plan. With our offerings, we pursue two different but complementary objectives: adapting to the effects of climate change and supporting the transition to a low-carbon economy.

https://reports.swissre.com/2019/financial-report/sustainability/climate-strategy/climate-related-risks.html#accordion1

NN Group

Overall, NN anticipates that the global pricing of financial assets will increasingly be influenced by factors such as public policy, technological developments and changing consumer preferences. Such trends and changes are likely to materialise over the medium term. However, our investments are also exposed to specific short-term risks, such as sudden possible adjustments to market sentiment around climate risks impacting segments and investments in our portfolio.

Physical risks

Physical risks relate to the physical consequences of climate change. These risks are particularly relevant to our non-life insurance business, where weather events such as windstorms or hail can lead to higher expenditures (claims and operational costs), thus affecting the margins of our P&C insurance products. Several studies show that the occurrence of these severe weather events will be more likely in the future. Our business unit NN Non-life offers P&C insurance solutions to the Dutch and Belgian markets. In addition, NN offers a range of non-life products in Spain and Poland.

As well as impacting on our liabilities, physical risks could also impact our investment portfolio. For example, a severe windstorm or flooding might damage buildings within our European real estate portfolio which could result in asset impairments or indirectly affect our clients' ability to pay their mortgages.

Finally, prolonged and multiple periods of heatwaves or other consequences of rising temperatures may result in increased mortality and morbidity, thereby impacting our life and income insurance liabilities. Long-term threats are difficult to predict, but at this time, we expect this to have less impact on our life and income insurance liabilities than other risks, such as changes in demographics or pandemics. It should be noted though that whilst pandemic

outbreaks can be attributed to a number of interrelated factors, climate change is likely to increase the risks by spreading of disease vectors into areas that formerly did not experience these.

Opportunities

Helping our customers adapt to climate change, or supporting them in opportunities related to a lower carbon economy, could generate new sources of revenue. For example: NN's Non-life department has conducted research to capture the carbon footprint linked to our non-life activities. The project also sought possibilities for creating and expanding our role in the circular economy. We will take further steps in this area in 2020.

https://www.nn-group.com/nn-group/file?uuid=55caeb72-5699-4d50-b540-d191328f5880&owner=84c25534-c28a-4a64-9c78-5cc1388e4766&contentid=10852 (page 52-53)

Assicurazioni Generali Spa

Physical Risks

Physical risks are determined by the change or intensification due to climate change of weather phenomena, including heavy precipitation, atmospheric wind circulation, drought and melting ice, which contribute to the occurrence of extreme events such as floods, storms, cyclones, wildfire, sea level rise and heat waves. For the insurance sector, these phenomena mainly affect pricing and catastrophic risks in the Non-Life segment, impacting - other conditions being equal - on the number and cost of the claims and the related management costs, as well as reinsurance costs. The Life segment might also be impacted: the intensification of heat waves and the expansion of habitats suitable for hosting vectors of tropical diseases might worsen expected mortality and morbidity rates

Transition Risks

This category of risks is associated with the decarbonisation of the economy: changes in national or international public policies, in technologies and in consumer preferences might affect the value of assets linked to activities, sectors or countries with a high carbon footprint, leading to their early depreciation.

Opportunities

The implementation of climate mitigation and adaptation strategies also offers investment opportunities as well as opportunities for the development of the insurance market. As weather phenomena and extreme events evolve and intensify, a related increase in the demand for protection through specific insurance solutions is plausible. New regulations and public plans launched in Europe to stimulate the transition to a green economy, together with changes in consumer preferences, are supporting the demand for insurance coverages in the renewables and energy efficiency sectors. This increases also the retail demand for green insurance products

related to sustainable lifestyles and it strengthens the demand for green finance investment products, both from institutional investors and in the retail segment.

https://www.generali.com/doc/jcr:1a649aef-6067-445c-a76a-aac6d28d6699/lang:en/Climate-related_Financial_Disclosure_2019.pdf (page 6)

Strategy - Recommended Disclosure (b)
Describe the impact of climate-related risks and opportunities on the organisation's businesses, strategy, and financial planning.

NN Group

> [NN identified that] helping [their] customers adapt to climate change, or supporting them in opportunities related to a lower carbon economy, could generate new sources of revenue. [Therefore,] NN's Non-life department has conducted research to capture the carbon footprint linked to our non-life activities. The project also sought possibilities for creating and expanding our role in the circular economy. We will take further steps in this area in 2020.
>
> Proactively addressing climate change can improve our reputation, and therewith positively influence customer satisfaction. Of course, the opposite can also occur if we fail to adequately address stakeholder expectations (see also key risk: Good Corporate Citizenship on page 12). For instance, our P&C customers might be displeased if they were charged higher insurance premiums, making affordability an issue, or if they discovered they had been unaware of uninsured risks. We therefore focus on informing our customers clearly and being transparent about coverage, as well as helping initiate adaption and resilience in a changing environment.
>
> https://www.nn-group.com/nn-group/file?uuid=55caeb72-5699-4d50-b540-d191328f5880&owner=84c25534-c28a-4a64-9c78-5cc1388e4766&contentid=10852 (page 53)

ManuLife

> In 2019, Manulife initiated the climate-related risk identification process across businesses, geographies, and time horizons. For example, we identified the need and defined the plan to systematically analyze the impact of climate change on our mortality and morbidity assumptions. Actuarial impacts of climate change are not yet sufficiently researched in the insurance industry, yet vector- borne diseases, extreme weather, and altered food systems could impact morbidity and/or mortality assumptions of life insurance companies over the long-term. The Property and Casualty Reinsurance business is a smaller part of our underwriting portfolio, and it may experience business risks associated with the increased frequency and severity of catastrophic weather events. This reinsurance business is subject to annual repricing which acts as a mitigant to this risk over the medium and long-term. Manulife performed a series of climate change simulations to gain insight into the impact of climate-related risks on investment portfolios. The review included utilizing the Dutch Central Bank's macroeconomic scenarios to inform considerations in investment decision making and capital management. Following MIM's identification of climate change as a business risk, MIM tested a climate scenario risk tool jointly with industry peers convened by the United Nations' Environment Programme – Finance Initiative. Finally, Manulife sees a business opportunity in enabling clients to invest in decarbonization. We invest general fund assets and third- party client funds in renewable energy, green buildings, and sustainably-managed forestry, and offer diversified

investment funds that offer exposure to low-carbon opportunities.

https://www.manulife.com/content/dam/corporate/investors/MFC_MDA_2019_Y1_EN.pdf (page 42)

Cathay Financial Holdings

We assessed operational risks based on the plan to achieve 20% renewable energy generation by 2025 announced by Taiwan's government, as well as the goal of the Paris Agreement for temperature rise to not exceed 2 degrees Celsius. Methods such as increasing the ratio of renewable energy use to slow temperature rise create the risk of electricity price fluctuations. From a long-term perspective, this will impact our operating costs and require us to formulate strategies.

Cathay FHC's climate and environmental strategies are centered on low carbon products and services and digitalization. We not only offer digital services to increase the efficiency of resource use, but also examined GHG emissions and energy consumption in the product design, sales, after-sale service, and waste disposal processes. We then formulated response strategies, such as electronic documents and digital business processes. For example, the Dunnan Branch of Cathay Securities offers fully online account opening services, so that customers do not need to set foot in a branch. (page 75)

Simulations on real estate scenarios: Non-material risk was evaluated after overall assessment, nonetheless, our real estate management departments still established emergency response procedures and purchased business insurances covering typhoons and floods for real estate with higher asset values to reduce the risks and mitigate the impact of climate change. (page 24, CL SR)

All of Cathay's insurance products are low carbon products, and business developments focus on becoming "mobile" and "electronic." All of Cathay Life's products led the industry in being certified with the carbon reduction label. Besides calculating carbon emissions in the product life cycle, we also compare the margin of carbon reduction compared with three years ago, in which carbon emissions significantly decreased by 14% between 2016 and 2018. Furthermore, Cathay Century led the industry in establishing PCR for property insurance services in November 2019 according to EPA regulations. Cathay Century hopes this will promote the calculation of carbon footprint for property insurance products. Both subsidiaries set important milestones for Taiwan's development towards a low carbon economy. Cathay's low carbon insurance products significantly reduce energy and resource use, and reduced paper use by nearly 100 million sheets in 2019, which is equal to over 12,000 trees (page 78)

https://patron.cathaylife.com.tw/ODAB/Path/DTPDAB17/20200721130706595_國泰人壽2019CSR_英文_web.pdf (page 24)

https://www.cathayholdings.com/en/holdings/csr/intro/csr-report (page 75 and 78)

MetLife, Inc.

[CDP Climate Change 2019 C2.5]

Products and services

- Impact for some suppliers, facilities, or product lines
- Description: Climate change has the potential to impact the revenue associated with some of MetLife's products and services, especially those within our P&C businesses. Our P&C businesses have experienced, and will likely in the future experience, catastrophe losses that may have a material adverse impact on their business, results of operations and financial condition. As a key part of the business strategy, MetLife takes action to limit our exposure to catastrophic risks through volatility management and reinsurance programs. MetLife utilizes independent catastrophe models in combination with exposure concentration and historical loss data in risk analysis. For example, MetLife reviews both Long Term and Near Term hurricane model results, with and without demand surge and storm surge. MetLife purchases property catastrophe reinsurance based on these processes. Often, MetLife performs stress testing by evaluating the impact of past significant events, and modeling the impact of past storms on other nearby areas. In addition, there is potential for climate change to create opportunities for MetLife to adapt our product offerings to provide additional protection against severe climate-related events or further integrate climate change mitigation or adaptation into our products and services. Potential opportunities are monitored and evaluated through MetLife's risk management, innovation, and product development processes.

Supply chain and/or value chain

- Impact for some suppliers, facilities, or product lines
- Description: In the event of a climate-related natural catastrophe, interruptions may interfere with our suppliers' ability to provide goods and services and our employees' ability to perform their job responsibilities. Most significant to MetLife, disruptions to our supply chain have the potential to cause failure of our computer systems and/or our disaster recovery plans. This could cause significant interruptions in our operations and result in a failure to maintain the security, confidentiality or privacy of sensitive data, including personal information relating to our customers. Such a failure could harm our reputation, subject us to regulatory investigations and sanctions, expose us to legal claims, lead to a loss of customers and revenues and otherwise adversely affect our business and financial results. To mitigate this risk, we have made information security a priority, and MetLife's global privacy program and information technology risk and security program work hand in hand to ensure we protect, limit the use of, limit access to and appropriately process personal information. To mitigate the risk within our supply chain, MetLife conducts due diligence, negotiates contractual provisions and, in many cases, conducts periodic reviews of our vendors, distributors, and other third parties that provide operational or information technology services to us to confirm compliance with MetLife's information security standards. In addition, we maintain cyber liability insurance that provides both third-party liability and first-party liability coverages. In addition, MetLife has integrated climate change risk management, in addition to climate-related opportunity assessment, into our Global Procurement processes. Through our Supply Chain Sustainability Program, MetLife has incorporated sustainability into both the supplier sourcing and management process. When responding to a request for a proposal, suppliers must provide

sustainability information and, once on-boarded, are requested to disclose climate change risks through the CDP Supply Chain questionnaire. Performance on this questionnaire is weighted and incorporated into each supplier's annual vendor management scorecard.

Adaptation and mitigation activities

- Impacted for some suppliers, facilities, or product lines
- Description: Our risk management framework is designed to address all risks that are material to the business, and to identify appropriate risk mitigation and adaptation activities required to manage all risks. Risk management programs and practices are embedded in business and strategic decision making processes. MetLife uses a risk management approach called the "Three Lines of Defense". In this framework, the lines of business are the first and primary line of defense in identifying, measuring, mitigating and reporting on risks. The second line of defense is comprised of Global Risk Management, Corporate Ethics and Compliance and Information Technology Risk and Security. This second line of defense provides effective oversight and advisory services to the lines of business. The third line of defense is the Internal Audit function, which provides independent assurance over the risk and control environment and related processes and controls. As each risk is identified, the respective line of business, in partnership with Global Risk Management and other advisory groups or committees, develops appropriate mitigation and adaptation activities required to manage each respective risk. For each climate-related risk and opportunity, adaptation and mitigation activities have been developed within the appropriate lines of business, including within P&C, Investments, and Global Technology and Operations (GTO). These activities are described in more detail in question C2.3 under "management method." For P&C, examples of mitigation and adaptation activities include purchasing property catastrophe reinsurance and to the extent permitted by law, mandating use of higher hurricane wind deductibles on homeowner's insurance policies in coastal areas than those required for all other perils.

Investment in R&D

- Impact for some suppliers, facilities, or product lines
- Description: Digital is at the center of MetLife's refreshed enterprise strategy. The Company is increasing investment in our digital transformation, to update foundational standards for our business, capture areas of competitive advantage and accelerate disruptive innovation. We are focused on identifying innovative ideas and technologies from outside our Company to reinvent our internal processes and customer service experiences. In 2017, MetLife created MetLife Digital Ventures, which can invest up to a total of $100 million, to co-invest in strategically-aligned, early-stage start-up companies in partnership with leading venture capital firms. Through direct investments in these companies, MetLife will acquire new capabilities and enhance our ability to innovate for our customers. MetLife also launched the MetLife Digital Accelerator powered by Techstars®, which is a program to identify, fund, and mentor early-stage start-ups from around the world that are developing disruptive technologies in the industry. To date, ten companies have graduated from the MetLife Digital Accelerator, seven of which have also launched test projects with MetLife. In addition, MetLife works with start-ups through LumenLab, MetLife's Singapore-based innovation center. Through its open innovation program, called "collab", LumenLab works with entrepreneurs and insurtechs to scale their business with MetLife, while solving some of our biggest innovation challenges. To date, MetLife has awarded more than half a million U.S. dollars in contracts through collab in Asia. Although

these efforts are not targeted primarily at any specific climate change risk or opportunity, MetLife believes that financial strength, technological efficiency and organizational agility are significant differentiators, and that we are building a Company that is well-positioned to succeed in any environment. By investing in digital strategies and the latest emerging technologies, MetLife is taking action to capture opportunities associated with the transition to a low-carbon economy, in addition to mitigating the risks associated with a failure to evolve one's technology. If MetLife identifies further revenue-driving opportunities associated with integrating climate change considerations within our products or services, there is potential that we will invest more into R&D in respective areas.

Operations

- Impact for some suppliers, facilities, or product lines
- Description: In the event of a natural catastrophe or epidemic influenced by climate change, unanticipated problems with our disaster recovery systems could have a material adverse impact on our ability to conduct business and on our results of operations and financial position, particularly if those problems affect our computer-based data processing, transmission, storage and retrieval systems and destroy valuable data. In addition, in the event that a significant number of our managers, or employees generally, were unavailable following a disaster, our ability to effectively conduct business could be severely compromised. MetLife has integrated climate change risks and opportunities into our operational business strategy, and this climate change strategy is led by MetLife's Chief Sustainability Officer in Corporate Affairs and MetLife's SVP, Head of Real Estate and Corporate Services (RECS) and is implemented by the Environmental Sustainability Team which in 2018, sat within the RECS team within Global Technology and Operations. Through its Sustainability Program, the Company strives to lower energy consumption, mitigate GHG emissions and reduce the overall environmental impact of its global operations. MetLife's GHG emissions reduction strategy is focused on energy efficiency and green energy purchasing for office facilities, as the Company achieves emissions reductions in other areas of its carbon footprint. RECS manages this strategy and the overall climate change efforts across MetLife's global operations. Specific responsibilities include establishing energy reduction targets, implementing corporate GHG reduction programs and embedding environmental sustainability practices in ongoing facility operations. MetLife's business strategy to address climate change is tied directly to its energy and GHG emissions reduction targets.

MetLife, Inc's response to the CDP questionnaire 2019 – available for download at https://www.cdp.net/en

MetLife, Inc.

[CDP Climate Change 2019 C2.6]

- Revenues

Impacted for some suppliers, facilities, or product lines Description: Our P&C businesses have experienced, and will likely in the future experience, catastrophe losses that may have a material adverse impact on their business, results of operations and financial condition. MetLife makes every effort to limit our exposure to catastrophic risks through volatility management

and reinsurance programs. The purchase of reinsurance is integrated into MetLife's annual financial planning. To determine the appropriate property catastrophe reinsurance required, MetLife utilizes independent catastrophe models in combination with exposure concentration and historical loss data in risk analysis. For example, MetLife reviews both Long Term and Near Term hurricane model results, with and without demand surge and storm surge.

- Access to capital

Impacted for some suppliers, facilities, or product lines Description: The largest potential financial impact from climate change is expected to impact the P&C business. The P&C premium, fees, and other income are less than 12% of all of MetLife's U.S premium, fees and other income. Further, MetLife P&C continuously evaluates the impact of large catastrophic events on capital at several different return periods and purchases reinsurance to reduce the impact of those large losses.

- Liabilities

Impacted for some suppliers, facilities, or product lines Description: Consistent with industry practice and accounting standards, we establish liabilities for claims arising from a catastrophe only after assessing the probable losses arising from the event. We cannot be certain that the liabilities we have established will be adequate to cover actual claim liabilities. From time to time, states have passed legislation that has the effect of limiting the ability of insurers to manage risk, such as legislation restricting an insurer's ability to withdraw from catastrophe-prone areas. While we attempt to limit our exposure to acceptable levels, subject to restrictions imposed by insurance regulatory authorities, a catastrophic event or multiple catastrophic events could have a material adverse effect on our business, results of operations and financial condition.

MetLife, Inc's response to the CDP questionnaire 2019 – available for download at https://www.cdp.net/en

MS & AD Insurance Group

Sometimes damage from natural disasters such as typhoons becomes huge and increases the amount of insurance pay-outs. If the impact of climate change worsens major natural disasters, there is a risk that insurance payments will be large. The Group prepares for such payments through reinsurance, catastrophe bond arrangements and maintaining appropriate catastrophe reserves. In fiscal 2019, the common reinsurance special contracts newly entered into by Mitsui Sumitomo Insurance and Aioi Nissay Dowa Insurance worked effectively, and we were able to secure stable profits for the fiscal year. (page 36)

- We have been promoting flood and earthquake preparedness activities to explain to customers the risks of water disasters and earthquakes and prepare them for natural disasters by encouraging them to reappraise the risks they face.
- We sell weather derivatives to lessen the financial losses due to unseasonable weather.
- We are one of the underwriters for natural disaster risk under a natural disaster insurance facility established to provide reconstruction funds promptly to affected countries/regions

in cases when natural disasters of a certain scale occur in Pacific Island and Caribbean countries.
- We provide insurance for renewable energy including mega-solar and small-scale wind power projects.
- We provide accident prevention and maintenance support for efficient power generation by diagnosing the business and maintenance risks of renewable energy. [Page 37]

https://www.ms-ad-hd.com/en/csr/report/main/05/teaserItems1/0/linkList/0/link/csr_report2019_default.pdf (page 36-37)

Swiss Re

Natural catastrophes are a key risk in our Property & Casualty (P&C) businesses. The damage caused by storms, floods, droughts and other natural catastrophe perils (including wildfires) can affect millions of lives and the economies of entire countries. In 2019, we received USD 2.94 billion of property and casualty reinsurance premiums from our clients for all natural catastrophe covers (for losses larger than USD 20 million). This represents approximately 15% of total premiums in P&C Reinsurance, which shows the importance our clients place on obtaining re/insurance protection against natural catastrophe risks. On average, insured losses due to natural catastrophes have increased steadily over the past 20 years. The key reasons have been economic development, population growth, urbanization and a higher concentration of assets in exposed areas. At the same time, the protection gap, ie the difference between insured and total economic losses, has remained substantial in all regions (see graph in Climate metrics and targets). In view of the high potential relevance of climate change for our P&C businesses, climate change continues to be an essential element in our enhanced Group Sustainability Strategy, which includes “Mitigating climate risk and advancing the energy transition” as one of our three 2030 Sustainability Ambitions.

As part of this ambition, we have developed a Climate Action Plan. Building on our commitments and initiatives of recent years, our Climate Action Plan (which serves as our climate strategy), combines three objectives: 1) Becoming the leading re/insurance company providing cover for physical climate risk 2) Becoming a leading provider of re/insurance solutions for low-carbon transition opportunities 3) Building partnerships to develop scalable solutions to mitigate and adapt to climate change You can find out more about our Group Sustainability Strategy, our 2030 Sustainability Ambitions and Climate Action Plan in the 2019 Sustainability Report. As our Climate Action Plan indicates, understanding the risks posed by climate change and identifying the potential to create suitable products and services are and will continue to be priorities for Swiss Re.

Opportunities related to physical risks in our re/insurance business

Since most of our re/insurance contracts are renewed on an annual basis, we can offer our clients effective natural catastrophe protection that can help them cope with current climate risks. The same applies to our weather insurance solutions. In addition, we undertake special efforts to help expand re/insurance protection by focusing on non-traditional clients (in particular from the public sector), underdeveloped markets and innovative risk transfer

instruments. You can read about some innovative transactions we have recently completed in our 2019 Sustainability Report.

Opportunities related to transition risks in our re/insurance business

While Swiss Re is active in all types of renewable energy re/insurance, over the years we have become a recognised lead market for offshore wind risks. More than five years ago, Swiss Re Corporate Solutions established a Centre of Competence for Wind Power and through this focused investment, we have built up and refined the technical expertise required to understand and manage these risks. For example, in 2019, we played a key role in several major windfarm projects, including the Parc éolien en mer de St-Nazaire, the first large commerical windfarm project in France. Additionally, we took on the role of lead insurer for a number of large projects in Taiwan – Formosa II and Greater Changhua 1 & 2a. Over the next decade, we expect many new development opportunities to arise, which are likely to create demand for re/insurance protection in numerous lines of business (credit, engineering, property, liability, etc). You can read about our involvement in some new offshore wind farm projects in our 2019 Sustainability Report.

https://reports.swissre.com/2019/financial-report/sustainability/climate-strategy.html
https://reports.swissre.com/2019/financial-report/sustainability/climate-strategy/climate-related-opportunities.html

Strategy - Recommended Disclosure (c)
Describe the resilience of the organisation's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.

Allianz SE

After the release of the landmark Special Report on Global Warming of 1.5°C by the Intergovernmental Panel on Climate Change (IPCC) in October 2018, we thoroughly reviewed the implications on our corporate response. Consequently, we increased our ambition from "well below 2°C" and are now committed to pursuing efforts to limit global warming to a maximum of 1.5°C by the end of the century, postulated as the high ambition level of the Paris Agreement. In 2019, we updated our carbon reduction target to align with 1.5°C-compatible pathways and adjusted our coal phase-out plan accordingly.

https://www.allianz.com/content/dam/onemarketing/azcom/Allianz_com/sustainability/documents/Allianz_Group_Sustainability_Report_2019-web.pdf (page 65)

Aviva

Figure 9: Aviva's Climate VaR output by scenario for shareholder funds as at 30/11/2019. Source: Aviva. The grey bars represent the range of outputs between the 5th percentile and the central estimate for each scenario and the orange bars represent the range between the central estimate and the 95th percentile. (page 15)

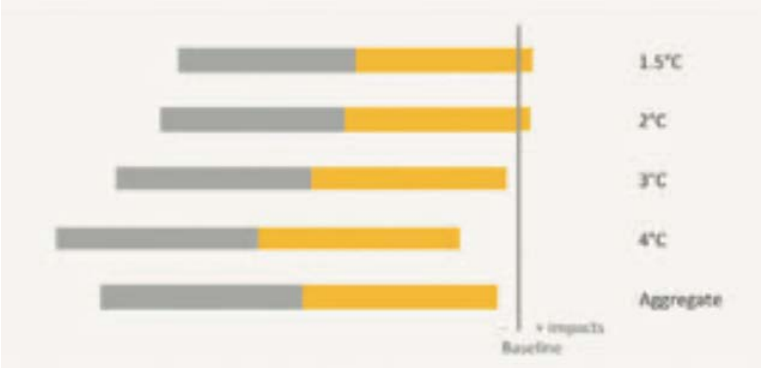


Figure 9 compares a plausible range of outcomes (5th to 95th percentile) from our Climate VaR analysis for the different scenarios considered. Consistent with last year, Aviva is most exposed to the business-as-usual (BAU) 4°C scenario where physical risk dominates, negatively impacting long-term investment returns on equities, corporate bonds, real estate, real estate loans and sovereign exposures. The aggressive mitigation 1.5°C and 2°C scenarios are the only scenarios with potential upside. Physical risk impacts are more limited but there is still downside risk on long-term investment returns from carbon intensive sectors (for example utilities) as a result of transition policy actions. This is offset partially by revenues on new technologies from some sectors (for example automotive).

Similar to last year, in all scenarios the impact on insurance liabilities is more limited than on investment returns. However, there is potential for some impact on life and pensions business as a result of changes in mortality rates in different scenarios either from physical effects such as more extreme hot and cold weather or transition effects related to changes in pollution levels. The impact on general insurance liabilities is relatively limited because of the short-term nature of the business and the ability to re-price annually and mitigation provided by our reinsurance programme. However, the physical effects of climate change will result in more risks and perils becoming either uninsurable or unaffordable over the longer term.

http://www.unepfi.org/wordpress/wp-content/uploads/2020/04/climate-related-financial-disclosure-2019-report.pdf (page 15)

Aviva

Similar to last year, in all scenarios the impact on insurance liabilities is more limited than on investment returns. However, there is potential for some impact on life and pensions business as a result of changes in mortality rates in different scenarios either from physical effects such as more extreme hot and cold weather or transition effects related to changes in pollution levels. The impact on general insurance liabilities is relatively limited because of the short-term nature of the business and the ability to re-price annually and mitigation provided by our reinsurance programme. However, the physical effects of climate change will result in more risks and perils becoming either uninsurable or unaffordable over the longer term. (page 15)

Insurance Liabilities

Aviva has assessed the impact on life insurance reserves from the potential reduction in mortality rates resulting from less air pollution in the aggressive and strong mitigation scenarios. This reflects an anticipated reduction in carbon emissions and an increase in electric vehicles replacing vehicles with internal combustion engines. For each transition scenario, there is potential for fewer deaths relating to air pollution. Although we note that this is very much dependent on the fuel mix generating electrical power for the grid. Whilst waste-to-energy plants have similar particulate outputs to gas-fired power stations, biomass plants such as wood pellet fired facilities, for their many positives, produce significantly more particulates than gas-fired power stations for example.

On the general insurance side, transition risks and opportunities may also arise. For example, the wider adoption of electric vehicles and the rise of car-sharing and automated cars might decrease the pool of vehicles to be insured leading to a decrease in claims frequencies but also premiums. However, these effects have not been included to date. We plan to extend our modelling to cover general insurance transition risks and opportunities over time.
[Pg 24 of Climate Related Financial Disclosure 2019 Report]

http://www.unepfi.org/wordpress/wp-content/uploads/2020/04/climate-related-financial-disclosure-2019-report.pdf (page 15 and 24)

Aviva

Aviva developed a Climate VaR measure that enables the potential business impacts of future climate-related risks and opportunities to be assessed in each of the IPCC scenarios and in aggregate.

The IPCC scenarios aim to measure the effect on the energy balance of the global climate system due to changes in the composition of the atmosphere from sources like greenhouse gas emissions, other air pollutants and changes in land use. The four IPCC scenarios represent different Representative Concentration Pathways (RCPs) which describe the composition of the atmosphere at the end of the 21st century. Figure 19 summarises the link between the RCPs, potential temperature rises by 2100 and the level of mitigation required, which we will use to describe the scenarios in this report.

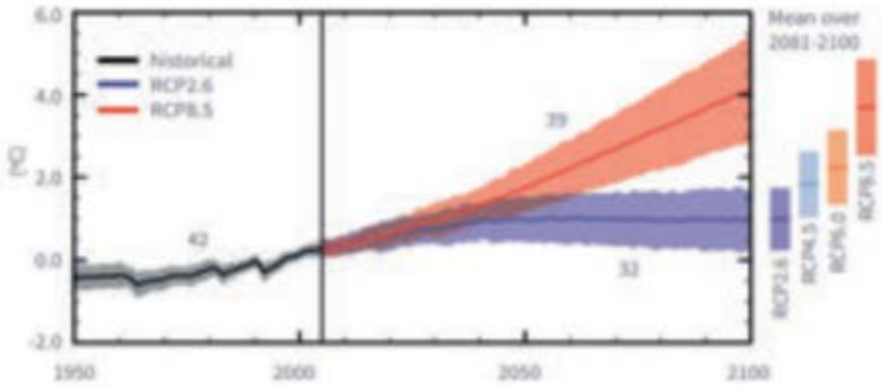
Figure 19: Mapping for RCPs, potential temperature rises and levels of mitigations. Source: TCFD.

RCP	Temperature rise	Description
RCP2.6	1.5°C	Aggressive mitigation
RCP4.5	2°C	Strong mitigation
RCP6.0	3°C	Some mitigation
RCP8.5	4°C	Business as usual (BAU)

Time horizon considered for each scenario

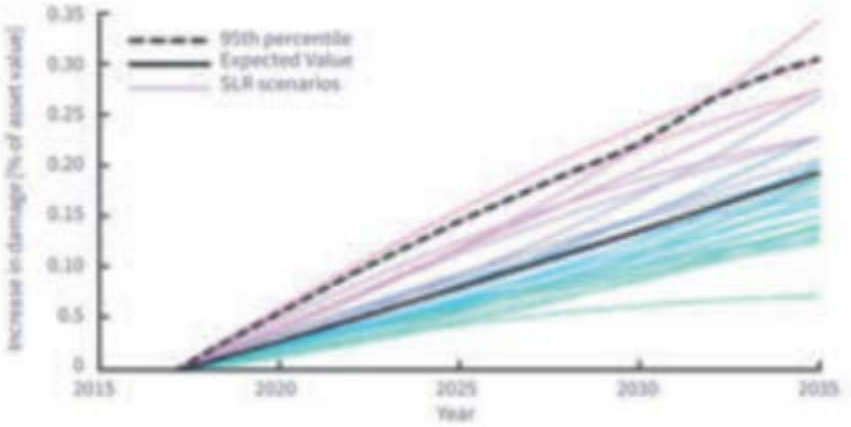
In conjunction with the UNEP FI investor pilot project, it was agreed to use a single 15-year time horizon for the Climate VaR measure to analyse the impact of the different scenarios on our business but with the capability to consider transition effects over shorter time horizons depending on the business decision being considered. Consideration was given as to whether a longer time horizon was needed to capture the worst physical impacts of climate change, as these are not likely to manifest themselves until the second half of the century (see figure 20).

Figure 20: Global average surface temperature change. Source: IPCC.



To address this point in a decision-useful way and ensure consistency with the 15-year time horizon for transition risk, it was agreed to look at a higher, 95th percentile of physical risks as well as the expected outcome in the BAU scenario over the 15-year horizon. Figure 21 shows large dispersion around the mean from the impact of climate change on coastal flooding over the next 15 years.

Figure 21: Example of coastal flooding. Source: MSCI (Carbon Delta).



http://www.unepfi.org/wordpress/wp-content/uploads/2020/04/climate-related-financial-disclosure-2019-report.pdf (page 21-22)

Risk Management - Recommended Disclosure (a)
Describe the organisation's processes for identifying and assessing climate-related risks.

Storebrand ASA

[CDP Climate Change 2019 C2.2c]

Current Regulation

The current regulations are included as a part of our interdisciplinary risk process by being continuously monitored as part of our company wide risk identification and assessment process. Example: For Storebrand Real estate all buildings owned, managed or controlled is renovated in accordance with the regulations in the country it is located in, when it comes to climate-related issues this is particularly important when it comes to building efficiency and reducing fossil fuel for energy related purposes. Another example is the new EU-regulation linked to the handling and reporting of climate risk. The result of the EU taxonomy will affect how we can label and market our investment products. It can be a reputational risk if our investments are not "green enough".

Emerging Regulation

Changes in regulatory requirements are assessed as a risk if regulation involves increasing demand on solvency when seen in conjunction with climate change. Storebrand includes the risks from emerging regulation as a part of our interdisciplinary risk process, and they are being continuously monitored as part of all legal risks. For example, a tax on carbon will have a significant impact. The Board considers the company to be fully in compliance with the applicable regulations and well-prepared for impending changes. Example: Regulations in our investment portfolio might emerge from the latest emission reduction target set by Finance Norway which is to reduce emissions from investments in Norway by 50 % in 2030. We are a member of Finance Norway as well as other engagements on reducing emissions in both Norway and Sweden. Measuring emissions from investments is carried out for Storebrand, which is a way of dealing with potential regulations on this in the future.

Storebrand ASA's response to the CDP questionnaire 2019 – available for download at https://www.cdp.net/en

Swiss Re

The processes we use to identify, assess and manage climate- related risks are integrated into our risk management, underwriting and asset management. Sound risk management, underwriting and asset management lie at the core of the re/insurance business. This enables us to use our existing processes and instruments to address climate-related risks.

Physical risks:

To assess our P&C businesses accurately and to structure sound risk transfer solutions, we need to clearly understand the economic impact of natural catastrophes and the potential effect of climate change on their frequency and severity. Natural catastrophes constitute one of the core risks modelled in Swiss Re's risk landscape. Specifically, they are one of three categories in which we classify and model our P&C re/insurance risks (the other two being man-made and geopolitical risks). These risks arise from the coverage we provide to our clients for property, liability, motor, accident and specialty risks. We have an internal property risk modelling team that builds, maintains and updates sophisticated models for all relevant natural catastrophe risks (flood, tropical cyclones, wind storms, earthquakes). The models are based on current scientific knowledge and are regularly updated to include new scientific findings – including from our research collaborations with academic institutions – and to make use of advances in computing capabilities. Using statistical data spanning more than 100 years, our models are capable of simulating probabilistic "daughter" events that may have never occurred in reality but that may occur in the future. Swiss Re's full, proprietary integrated risk model is an important tool for managing the business: we use it to determine the economic capital required to support the risks on our books as well as to allocate risk-taking capacity to our different lines of business.

Transition risks in our re/insurance business:

To ensure appropriate management of transition risks and assess potential impacts on our business, we have set up a monitoring system that combines expertise in risk management and casualty underwriting, as well as for relevant legal developments. For the other types of transition risks described in Climate-related risks and Climate-related opportunities we also have risk management systems in place. Technological developments are monitored through Swiss Re's respective underwriting units and pricing of associated covers is reviewed on an annual basis. General sustainability risks in our re/insurance business: We use our Sustainable Business Risk Framework to identify and address potential sustainability risks in all our underwriting and investment transactions (see 2019 Sustainability Report). This framework continuously evolves to reflect scientific knowledge and internal standards. With respect to climate change, this framework prevents us from offering any re/insurance cover to businesses with more than 30% exposure to thermal coal utilities or mining and for offshore drilling activities in the Arctic. In 2019, we continued the implementation of our thermal coal policy for treaty business with over 300 engagements with insureds across all regions. We also intensified our efforts to decarbonise our business by committing to net-zero emissions by 2050 on the liability and the asset side.

https://reports.swissre.com/2019/financial-report/sustainability/climate-risk-management.html

NN Group

We carry out analysis at a portfolio level to assess potential climate risks and opportunities, and to inform the content and implementation of a broader climate change strategy. For example,

we measure the carbon intensity of our proprietary investments, which gives us insights into our highest carbon risk exposure and is useful for, amongst other things, engagement purposes. For NN Group's proprietary investment portfolio, we additionally announced an objective to reduce our investments in thermal coal mining and/or coal power to close to zero (defined as between 0 and 5%) by 2030. This decision affects a portfolio of bonds in the mining and utility sectors of approximate EUR 2 billion.

https://www.nn-group.com/nn-group/file?uuid=55caeb72-5699-4d50-b540-d191328f5880&owner=84c25534-c28a-4a64-9c78-5cc1388e4766&contentid=10852 (page 54)

NN Group

In our insurance business, we explicitly consider large catastrophic losses in economic capital modelling in order to ensure NN Group is resilient to such extreme scenarios.

NN Group considers climate change to be an emerging risk that may impact our business model over the long term. As such, the ORSA took into account the scenario-based analysis performed on our own general account investment portfolio to better understand the impact on our business. Specific consideration was given to government bonds and mortgage analyses. The initial outcome of these analyses, based on current understanding and the scenarios shown, imply that in the short-term climate change will not materially affect our business. In the longer run (2030- 2050), it is an area for further consideration, given the considerable investments that will be required by both governments and individual houseowners to deal with the transition and physical risks, as well as the macro and micro economic consequences.

The impact of climate change on our underwriting business is also included as part of NN Group's ORSA. While noting that this scenario showed negative effects for NN Non-life, it also shows that those effects would be manageable on NN Group's consolidated balance sheet.

NN Non-life also studied the impact of climate change leading to a gradual but systemic increase in catastrophic events, and the impact of this on the consolidated balance sheet and capital position. The study concluded that climate change will not materially affect Non-life business in the short term (3-5 years), pointing out that this is an area for further consideration in the longer run (2030-2050).

https://www.nn-group.com/nn-group/file?uuid=55caeb72-5699-4d50-b540-d191328f5880&owner=84c25534-c28a-4a64-9c78-5cc1388e4766&contentid=10852 (page 54)

Allianz SE

Embedding ESG considerations into our insurance business means we are better placed to manage risks and opportunities to support sustainable development. Our risk exposure is mostly indirect through the risks Allianz carries for its insured clients. We embed a strong ESG risk management approach throughout our underwriting processes to manage exposure to such risks. Our ESG referral and assessment process ensures risks are identified, assessed and

managed (see section 02.4). The process is integrated into our overarching risk management framework that is applied to all insurance business globally, whether we are the lead insurer or acting as part of a panel. When our insurance underwriters identify an ESG risk, they refer the case for assessment to Allianz Global Corporate & Specialty (AGCS) ESG Business Services and/or Global Sustainability at Allianz SE. Our experts conduct in-depth assessments on a broad range of ESG risks including but not limited to environmental impacts, human rights violations (see section 02.4), and poor health and safety performance. Based on the outcome of these assessments, they decide whether a transaction may proceed with or without conditions. Conditions may include monitoring the project/client or engaging in a risk dialogue. If severe, systemic, and unmitigable ESG issues are identified, the transaction may be declined. In 2020, 430 insurance transactions were assessed for ESG risks, a slight decrease compared to 2019 (474 transactions). This decline from 2019 is in line with our public commitments on coal-based business models and a more stringent approach to our risk appetite, resulting in a lower number of transactions in these business areas, which had previously been referred.

https://www.allianz.com/content/dam/onemarketing/azcom/Allianz_com/sustainability/documents/Allianz_Group_Sustainability_Report_2020-web.pdf (page 27)

Risk Management - Recommended Disclosure (b)
Describe the organisation's processes for managing climate-related risks.

Metlife, Inc.

[CDP Climate Change 2019 C2.2d]
MetLife has strong risk management programs and procedures built into the Company's internal operations and businesses that help foresee, manage and mitigate risks and events impacting operations, which include but are not limited to incidents relating to climate change. The Company's risk management framework includes a risk appetite framework, risk policies and limits for material risks, along with reporting to senior management, risk committees and the Board of Directors. Supporting the Enterprise RAS is a cascaded set of Segment RASs defining the aggregate approved risk profile for each of our major operating segments. Independent from the lines of business, the centralized Global Risk Management, led by the CRO, collaborates and coordinates across all committees to properly identify, measure, aggregate and report material risks across the Company. The CRO is an Executive Group member who reports directly to the CEO and is primarily responsible for maintaining and communicating the Company's enterprise risk policies and for monitoring and analyzing all material risks. As an enterprise, MetLife's global business continuity and crisis management programs prepare and respond to climate related incidents that may impact the Company's services and operations. For example, for physical climate change risks such as increasing extreme weather events, MetLife's Global Resiliency team assists in the identification of processes, systems and applications that have a critical or non-critical rating due to the business recovery time objectives. At an asset level, the Company's Global Crisis Management program advances the Company's capabilities and prepares teams to respond to climate-related incidents across geographies where we have critical operations.

MetLife prioritizes management of risks and opportunities associated with climate change, especially those related to weather events. As both a means to mitigate against future climate change risks and to take advantage of the opportunities associated with the transition to clean energy sources, for example, MetLife upholds an effective energy management policy, invests directly and indirectly in sustainable and renewable energy technologies, and integrates energy efficient practices into its operations. In addition, MetLife is proud to be the first carbon-neutral U.S.-based insurer. For MetLife, carbon neutrality involves both immediate action on climate change and a long-term transition to a low-carbon economy. We have made significant progress toward our energy and GHG emissions reduction goals, and we continue to explore additional ways to mitigate climate change while making a positive impact on our communities around the world. MetLife has strong risk management procedures built into internal operations and businesses that help foresee, manage and mitigate risks, which include incidents relating to climate change. MetLife recognizes that every business faces economic, environmental and social risks including: natural disasters, liability loss, reputation damage and interruption of business. Climate change may amplify many of these risks, but most significantly to insurance, climate change can impact the frequency and/or severity of hurricanes, tornadoes, and hail, and may have the potential to impact the health and well-being of our customers and employees.

Global Crisis Management prepares MetLife's response to climate related incidents across geographies where we have critical operations and the Global Resiliency team helps identify

processes, systems and applications that have a critical or non-critical rating. For the property and casualty (P&C) business, MetLife prioritizes risk by reviewing near-term and long-term hurricane model estimates, and evaluates potential losses from an event that causes greater damage than observed historical events. MetLife re-evaluates multi-model results at least annually and more often if model changes occur during the year. In addition, the Company reviews risk concentrations monthly, and continually reviews latest climate change science and reinsurer financial strength requirements. To the extent permitted by law, some property and casualty insurance companies in the MetLife group mandate the use of higher hurricane deductibles on homeowners insurance in coastal areas and higher minimum wind deductibles in tornado prone areas than those required for all other perils.

MetLife, Inc's response to the CDP questionnaire 2019 – available for download at https://www.cdp.net/en

Aviva

Given its materiality and proximity, we are acting now to mitigate and manage the impacts of climate change both today and in the future. Through these actions, Aviva continues to build resilience to climaterelated transition, physical and liability risks. Aviva has developed models and tools to assess the potential impact on our business of the four Intergovernmental Panel on Climate Change (IPCC) scenarios. Each IPCC scenario describes a potential trajectory for future levels of greenhouse gases and other air pollutants. These can be mapped to likely temperature rises: 1.5°C (aggressive mitigation), 2°C (strong mitigation), 3°C (some mitigation) and 4°C (business as usual).

Aviva calculates a Climate Value-at-Risk (Climate VaR) for each IPCC scenario to assess the climate-related risks and opportunities over the next 15 years with the ability to look at shorter time periods (three to five years) where appropriate. A range of different financial indicators are used to assess the impact on our investments and insurance liabilities. These impacts are aggregated to determine the overall impact across all scenarios by assigning relative likelihoods or probabilities to each scenario. Climate VaR includes the financial impact of transition risks and opportunities. This covers the projected costs of policy action related to limiting greenhouse gas emissions as well as projected profits from green revenues arising from developing new technologies and patents. In addition, it captures the financial impact of physical risks from extreme weather (e.g. flood, windstorm and wildfires) as well as chronic effects (e.g. the impact of rising sea levels and temperature), although we recognise that the most extreme physical effects will only be felt in the second half of the century. Our UK Life and UK GI businesses have also participated in the PRA's 2019 Insurance Stress Test. This included a climate stress test covering both physical and transition risk. Aviva also recognises that there is a growing trend in climate-related litigation and has assessed its potential exposure accordingly

https://www.aviva.com/content/dam/aviva-corporate/documents/investors/pdfs/reports/2019/climate-related-financial-disclosure-aviva-plc-2019-annual-report-and-accounts.pdf (page 2, Risk Management Section)

NN Group

Page 55: NN helps customers take precautionary measures, with the aim of preventing and minimising claims caused by windstorms, fire or other events. We monitor our claims experience, and reprice or adjust contract conditions where necessary. NN's P&C portfolio is predominantly annually renewable, allowing repricing over the short term. We apply such measures cautiously, as over the longer-term insurance product affordability for our clients remains an important consideration for us when making strategic choices. We let insights from catastrophe models guide our risk management process in terms of pricing / underwriting. Portfolio diversification and tracking concentration risks are other key risk-mitigating steps. NN's wide product range offers a broad variety of non-life insurance protection cover options against damage and loss from a wide range of causes. In addition to our P&C products, our portfolio comprises income products, such as disability and accident insurance, that are less sensitive to windstorm or climate change. Finally, external reinsurance will, under certain conditions, partially mitigate potential impacts.

https://www.nn-group.com/nn-group/file?uuid=55caeb72-5699-4d50-b540-d191328f5880&owner=84c25534-c28a-4a64-9c78-5cc1388e4766&contentid=10852 (page 55)

Legal and General

Physical risk - Flood risk profiling
During 2019 we started work to ensure that we maintain an updated view of any emerging physical risks associated with flooding. An assessment of flooding risk is included in the due diligence process of all real asset property acquisitions. This enables the flood risk to each to be categorised and zoned. Our policy is to reject properties in high risk zones, unless a specific review confirms no risk to structure or operation and that flood defences will be constructed and maintained. Properties in medium risk zones are investigated in detail for resilience.

During 2019 we mapped the location of all of our real asset commercial properties against flood risk zones. This illustrated that 82% are located in very low and low risk zones. This was a first filter review which enabled us to confirm the prioritised properties located in medium and high risk zones. An increasing body of published scientific research indicates that climate change is linked to an increased risk of flooding in the UK, along with rising costs to deal with the damage caused. This is driving the need for increased scrutiny of flood risk through regular review and reassessment. During 2020 we will move to the next step to enable us to confirm the flood risk today and the future risk under our chosen scenarios. This information will be used as a basis for adaptation measures and to inform acquisition and disposal strategy. Finally, we will put in place an annual flood risk review, in order to identify any changes in flood risk profiles during the year. In addition to flooding, we have also carried out sample modelling of the risks to our properties associated with windstorms. This will be built upon as more robust and accurate data and modelling becomes available

https://www.legalandgeneralgroup.com/media/17720/lg_tcfd_100320-finalpdf-with-link-2-pdf-with-link.pdf (page 20)

NN Group

Page 53: We used data from local institutions ('Risicokaart' for the baseline scenario and 'Klimaateffectatlas' for the future scenario) that have projected flooding hazards. The future data set considers the projected impact of climate change (associated with a 2°C temperature rise by 2050) and planned improvements to the Dutch water defence systems during the coming decades (as defined in the Water Act).

Page 54: ORSA - The Solvency II supervisory framework requires that insurers hold sufficient capital to cover the losses of a 1-in- 200-year event, over a one-year time period. In addition, insurers also consider risks beyond this one-year time period as part of their Own Risk and Solvency Assessment (ORSA), and hold a level of capital that is in line with their defined risk appetite.

Page 55: NN uses a multi-year forward-looking approach with external vendor climate model - use external vendor models which use meteorological modelling that reflects observed storms and patterns in order to estimate the impact and damage that would be caused by large natural catastrophes, such as windstorms. NN uses a multi-year forward-looking approach.

https://www.nn-group.com/nn-group/file?uuid=55caeb72-5699-4d50-b540-d191328f5880&owner=84c25534-c28a-4a64-9c78-5cc1388e4766&contentid=10852 (page 53-55)

United Overseas Insurance

Risk-focused Organisational Culture

As a general insurance business, building a risk-aware organisational culture is essential for our success. Maintaining a robust risk management capability is also the best protection for our policyholders. Hence we have a number of ongoing initiatives that help our employees develop a sound understanding of risks. We regularly review the Company's tolerance limits and risk metrics to ensure they remain relevant and have measures in place to monitor compliance by all employees. A Board-approved Enterprise Risk Management Framework is at the heart of our risk management approach. With a clearly defined risk tolerance statement and operational tolerance limits, the framework is reviewed and updated at least once a year and regularly communicated to managers at all levels. Managers are expected to cascade the risk tolerance limits to their respective units.UOI's Risk Management and Compliance Committee (RMCC) is responsible for monitoring and managing risks, including unquantifiable but identifiable risks. The risks include strategic, reputational, cyber, geo-political, earthquake and other catastrophes, automation technology, climate change such as extreme drought, rains, rising sea levels and business process outsourcing.The RMCC is assisted by the Underwriting and Claims Committee (UCC) and Credit Control Committee (CCC) which address the key risks arising from the Company's core business activities. These committees meet monthly to consider matters relating to underwriting, claims handling, reinsurance, credit, asset allocation, concentration, investment management, liquidity, foreign exchange, operational risks as well as the identified

and emerging risks falling within their jurisdiction. Insights from the deliberations are shared with all other staff members through departmental meetings.

https://www.uoi.com.sg/uoi/assets/pdfs/annual-report-2020.pdf?force_isolation=true (page 46)

Risk Management - Recommended Disclosure (c)

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

Legal and General

Exposure to transition risk (page 12)

Chart 3.

GICS sector by valuation %

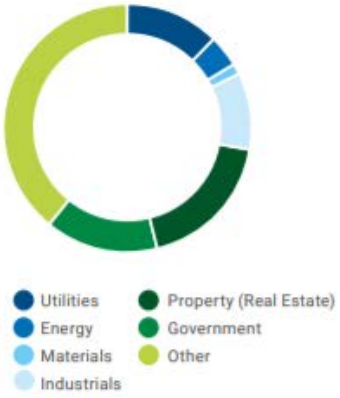


Chart 4.

GICS sector by CO_2e intensity %

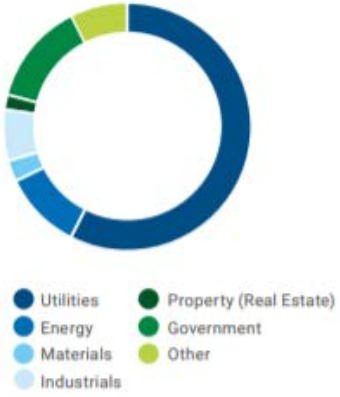
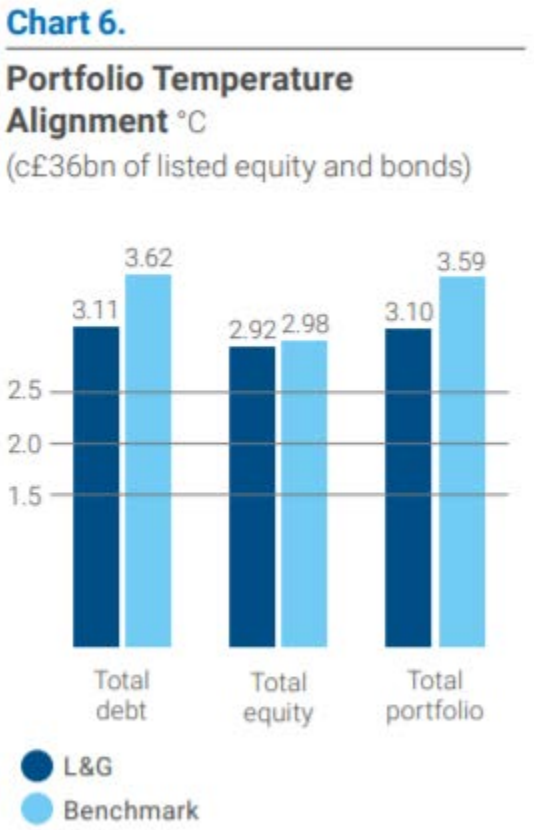


Chart 5.

Asset type by valuation %

The pie charts to the left show Dec 2019 Group asset exposures based on sector asset values and sector carbon intensity. Chart 3 shows that weighted by value roughly 46% of the portfolio is exposed to the highest carbon sectors, Energy, Utilities, Real Estate, Industrials (including Transport) and Materials. When weighted by carbon intensity (chart 4) we can see that transition risk is highly concentrated in the same sectors (79%). Chart 5 shows a breakdown by asset type. The key observation is that bonds comprise 84% of the portfolio analysed. This is an important factor when we show financial risk impacts in our two scenarios.

Temperature alignment of L&G portfolio



Another way of looking at transition risk is to look at the implied warming potential of our portfolio and compare it to well known indices which serve as a proxy for 'the world as it is'. This gives us a sense of where we are compared to both our Paris objective and the world as it currently stands in terms of carbon intensity. We have analysised c£36bn of listed assets (including government bonds) where we have the relevant carbon data. This is the analysis we show in chart 6 above 'portfolio temperature alignment' The lower the 'implied warming' compared to the chosen benchmarks the better the fund is positioned with respect to transition risk. We have used 'Destination' to calculate the required reduction in carbon intensity for the higher risk sectors to deliver the 'Paris' outcome. This gives us a trajectory against which we can assess the stocks we hold in those sectors. To the extent we own stocks where the expected emission intensity pathway is lower than the sector reference, the implied portfolio warming is lower than the Paris objective and vice versa. We have used up to 10 years' of reported carbon emissions for each stock as the key indicator of alignment (adjusted for where the stock sits with

respect to the average in the sector)

https://www.legalandgeneralgroup.com/media/17720/lg_tcfd_100320-finalpdf-with-link-2-pdf-with-link.pdf (page 12)

Swiss RE

Physical risks:

To assess our P&C businesses accurately and to structure sound risk transfer solutions, we need to clearly understand the economic impact of natural catastrophes and the potential effect of climate change on their frequency and severity. Natural catastrophes constitute one of the core risks modelled in Swiss Re's risk landscape. Specifically, they are one of three categories in which we classify and model our P&C re/insurance risks (the other two being man-made and geopolitical risks). These risks arise from the coverage we provide to our clients for property, liability, motor, accident and specialty risks. We have an internal property risk modelling team that builds, maintains and updates sophisticated models for all relevant natural catastrophe risks (flood, tropical cyclones, wind storms, earthquakes). The models are based on current scientific knowledge and are regularly updated to include new scientific findings – including from our research collaborations with academic institutions – and to make use of advances in computing capabilities. Using statistical data spanning more than 100 years, our models are capable of simulating probabilistic "daughter" events that may have never occurred in reality but that may occur in the future. Swiss Re's full, proprietary integrated risk model is an important tool for managing the business: we use it to determine the economic capital required to support the risks on our books as well as to allocate risk-taking capacity to our different lines of business.

Transition risks in our re/insurance business:

To ensure appropriate management of transition risks and assess potential impacts on our business, we have set up a monitoring system that combines expertise in risk management and casualty underwriting, as well as for relevant legal developments. For the other types of transition risks described in Climate-related risks and Climate-related opportunities we also have risk management systems in place. Technological developments are monitored through Swiss Re's respective underwriting units and pricing of associated covers is reviewed on an annual basis. General sustainability risks in our re/insurance business: We use our Sustainable Business Risk Framework to identify and address potential sustainability risks in all our underwriting and investment transactions (see 2019 Sustainability Report). This framework continuously evolves to reflect scientific knowledge and internal standards. With respect to climate change, this framework prevents us from offering any re/insurance cover to businesses with more than 30% exposure to thermal coal utilities or mining and for offshore drilling activities in the Arctic. In 2019, we continued the implementation of our thermal coal policy for treaty business with over 300 engagements with insureds across all regions. We also intensified our efforts to decarbonise our business by committing to net-zero emissions by 2050 on the liability and the asset side.

https://reports.swissre.com/2019/financial-report/sustainability/climate-risk-management.html

Cathay Financial Holdings

[Cathay had engaged with multiple external parties, like]
- Collaborate with university professors, utilizing climate, related experience database and Taiwan Climate Change Projection Information and Adaptation Knowledge Platform (TCCIP)
- Collaborate with consulting companies to examine the short-term and long-term financial impact of physical risks on real estate caused by typhoons and floods, [Page 24] to conduct the scenario analysis, used in the risk management process.

https://patron.cathaylife.com.tw/ODAB/Path/DTPDAB17/20200721130706595_國泰人壽2019CSR_英文_web.pdf (page 24)

Legal and General

Where we are responsible for the utility procurement, operation and management of our properties, through our managing agents, we can obtain energy and environmental data directly from site utility meters or from utility suppliers. Where we do not manage our properties, we generally rely upon our occupiers to provide utility data.

Alternatively we use benchmark data based upon property type and floor area. Data sources are: 1. Global Real Estate Sustainability Benchmarking (GRESB) – occupier data collection. As part of our occupier liaison processes, we currently receive operational data from approximately 30% of our occupiers. This data, an indication of the emissions within our property portfolio. 2. Industry standard benchmarks: Chartered Institute of Building Services Engineers (CIBSE) and Better Buildings Partnership's Real Estate Environmental Benchmarks (REEB). Energy (and carbon) benchmarks for various types of property have been published in the UK for over 20 years, originating from the government funded Energy Efficiency Best Practice programme (EEBPP).

The most recent update to these benchmarks was undertaken by CIBSE and can be found in their Technical Memorandum 46 (TM46): Energy Benchmarks 2008. 3. In addition, the Better Buildings Partnership, a voluntary group comprising 34 of the major commercial property owners in the UK, has established more recent benchmarks for particular types of commercial buildings, predominantly offices and shopping centres (http://www.betterbuildingspartnership.co.uk/node/129). REEB 2019 office benchmark was used for this analysis.

https://www.legalandgeneralgroup.com/media/17720/lg_tcfd_100320-finalpdf-with-link-2-pdf-with-link.pdf (page 22)

Legal and General

We have made changes in our Investment Management Agreements (IMAs) with LGIM to exclude investments in companies with more than 30% of revenues connected to thermal coal

and also stocks excluded by LGIM from the Future World product range under the Climate Impact Pledge.

Under the Climate Impact Pledge LGIM has been focused on the world's largest companies in sectors which are key to the low-carbon transition. Companies are assessed on over 100 indicators, based on their articulation of risk and opportunities, the level of transparency, the robustness of their governance, the strength of their strategies in pursuing new opportunities, the record of controversial incidents and how they lobby governments on climate regulations. All companies are contacted directly to discuss areas of improvements with constructive feedback based on their current disclosures.

Companies exhibiting best practice will be 'named and famed' publicly, whilst laggards that fall below what LGIM considers its minimum thresholds will be excluded, which will lead to voting against the chair of the board across the entire equity holdings of LGIM and to divestment in our Future World fund range. L&G Group's IMAs will also reflect these exclusions, helping to drive change in the market by backing up LGIM's engagement with the use of the Group's own balance sheet capital.

This list is reviewed in June each year and the IMAs are updated for any changes. The rule we apply to an excluded stock is 'do not buy'. If after 12 months' engagement we still have concerns about the company's strategy the relevant business and the asset manager will agree a course of action.

https://www.legalandgeneralgroup.com/media/17720/lg_tcfd_100320-finalpdf-with-link-2-pdf-with-link.pdf (page 16)

Swiss RE

As part of our dedicated approach towards climate risk management, we review our corporate credit and listed equities portfolios on an ongoing basis to track the development of our carbon footprint, as well as related forward-looking indicators. Additionally, we monitor our coal and oil sands-related investments that are below the set thresholds. As part of our active risk management, we stopped investing in coal and oil sands-related companies that are above the thresholds (for details, see Climate-related risks). [Link 1]

From July 2021, we will no longer provide individual insurance covers for those oil and gas companies that are responsible for the world's 5% most carbon-intensive oil and gas production. From July 2023, we will no longer provide individual insurance cover for those oil and gas companies that are responsible for the world's 10% most carbon intensive oil and gas production. [Link 2]

https://reports.swissre.com/2019/financial-report/sustainability/climate-risk-management.html
https://reports.swissre.com/2019/financial-report/sustainability/climate-metrics-and-targets/re-insurance.html

Allianz SE

Coal Phase Out Progress and Achievements 2018:
• Decided to no longer insure single-site coal-fired power plants and coal mines that are being operated or planned as of 2018
• Further strengthened the coal exclusion approach in investments in 2018
• Tightened restrictions on coal, introduced a longterm action plan for coal until 2040
• Divested additional 61.5 million Euro in equities and put an additional 906.7 million Euro in fixed income in run-off Coal

Phase Out Targets 2019:
• Committing to fully phase-out coal-based business models across its proprietary investments and P&C insurance portfolios by 2040, at the latest.

Other targets found on page 77.

05.6.1 TARGETS AND TARGET PERFORMANCE

	TARGETS 2018	PROGRESS & ACHIEVEMENTS 2018	TARGETS 2019	PROGRESS & ACHIEVEMENTS 2019	TARGETS 2020 AND BEYOND
Investment strategy	• Investigate further alignment of investment strategy with a 2°C target	• Committed to Science Based Targets initiative in May 2018	• Set long-term climate targets for proprietary investments and business operations in line with well below 2°C • Run pilot portfolios on climate-related target-setting and steering	• Actively contributed to setting up U.N.-convened Net-Zero Asset Owner Alliance (AOA), a group of asset owners committed to reduce the GHG emissions of their investment portfolios to net-zero by 2050 • Ran pilot portfolios on climate-related target-setting and steering, results used in operationalization of AOA commitment • Raised our carbon reduction target ambition to align with 1.5°C-compatible pathways.	• Set long-term and intermediary climate targets (2025) for proprietary investments in line with 1.5°C as soon as AOA has defined framework for target-setting (expected for Q4 2020) • Thereafter, regularly report on progress and review targets at least every five years in line with Paris Agreement Article 4.9 • Reduce GHG emissions of proprietary investment portfolio to net-zero by 2050
Coal phase-out	• Implement a group-wide divestment from coal-based business models	• Decided to no longer insure single-site coal-fired power plants and coal mines that are being operated or planned as of 2018 • Further strengthened the coal exclusion approach in investments in 2018 • Tightened restrictions on coal, introduced a long-term action plan for coal until 2040 • Divested additional 61.5 million Euro in equities and put an additional 906.7 million Euro in fixed income in run-off	• Update coal exclusion lists with most recent market data • Fully phase out coal-based business models across our proprietary investments and property-casualty portfolios by 2040 at the latest along well below 2°C pathway	• Worked on the implementation of coal exclusion approach in proprietary investments and P&C underwriting • On-boarded data provider specifically for identifying companies with coal-based business models • Divested additional 14 million Euro in equities and put another 236 million Euro in fixed income investments in run-off • Adjusted our coal phase-out plan to be aligned with our increased ambition of 1.5°C compliance	• Fully phase out coal-based business models across our proprietary investments and P&C portfolios by 2040 at the latest along 1.5°C pathway • Reduce threshold for coal-based business models for P&C insurance as well as investment portfolios from current 30% to 25% as of 31 December 2022 • Engage with companies in proprietary investment as well as P&C portfolios to move away from coal
Scenario analysis for insurance			• Initiate PSI project to develop new approaches on climate risk assessment tools for the insurance industry	• Gathered with 21 other insurance companies under the roof of PSI to develop new approaches on climate risk assessment tools for the industry and secured third-party support	• Final report of PSI project expected by Q4 2020

https://www.allianz.com/content/dam/onemarketing/azcom/Allianz_com/sustainability/documents/Allianz_Group_Sustainability_Report_2019-web.pdf (page 77)

Metrics and Targets - Recommended Disclosure (a)
Disclose the metrics used by the organisation to assess climate-related risks and opportunities in line with its strategy and risk management process.

Swiss Re

Annual expected losses (AEL)
AEL for weather-related natural perils can be used as an indicator for our average current climate-related risk exposure. However, AEL figures do not, by definition, provide an adequate measure for the potential risk of individual years with intense natural catastrophe losses like in eg 2019, 2018 and 2017 (below table indicates our risk exposures to four major natural catastrophe scenarios, ie single-event losses with a 200-year return period). The AEL figures are the result of expected weather activities, the vulnerability of insured objects, their values and the volume and structure of our insurance products. Changes in the AEL figures will show the evolution of our climate risk exposure. This could be due to climate change, but also due to changes in the vulnerability of insured objects, their values or changes in our business strategy. AEL figures are updated on an annual basis.

The four weather-related perils with the highest gross AEL for our business as per the end of 2019 are indicated in the table below.

Weather-related perils: Annual expected losses, Swiss Re Group

As of 31 December 2019	in USD millions
North Atlantic hurricane	680
US tornado	220
European windstorm	150
Japanese tropical cyclone	140

https://reports.swissre.com/2019/financial-report/sustainability/climate-metrics-and-targets/re-insurance.html

Aviva

We build the possibility of extreme weather events into our pricing to ensure it is adequate and monitor actual weather-related losses versus planned weather losses by business (net of reinsurance). Catastrophic event model results are supplemented by in-house disaster scenarios. Our general insurance business exposure is limited by being predominantly in Northern Europe and Canada. We require our general insurance businesses to protect against all large, single catastrophe events in line with local regulatory requirements, or where none exist, to at least a 1-in-250-year event.

https://www.aviva.com/content/dam/aviva-corporate/documents/investors/pdfs/reports/2019/climate-related-financial-disclosure-aviva-plc-2019-annual-report-and-accounts.pdf (page 53)

Allianz SE

Linking ESG performance with board remuneration

For 2020, Allianz's Supervisory Board first decided to link Allianz SE Board of Management remuneration to specific ESG targets. Board members' individual contribution factor looked at progress towards emission-related environmental targets and net-zero GHG emissions for both proprietary investments and Allianz Group operations.

These targets were achieved for 2020. For 2021, the variable component of Board member's remuneration (individual contribution factor) will take into account the following sustainability-related elements:

• Decarbonisation of Allianz operations 14 percent reduction of greenhouse gas (GHG) emissions per employee by 2021 from a 2019 baseline.
• 70 percent renewable electricity as share of total electricity consumption in 2021.
• Develop operative implementation plan to reach minus 25 percent CO2 emissions (scope 1 & 2 of investee companies according to GHG Protocol) absolute reduction on public equity and listed corporate debt by 2025 from a 2019 baseline.
• Ensure strong sustainability position in three major sustainability ratings. On top of these specific sustainability-related targets, other non-financial factors such as customer satisfaction (NPS) and employee engagement (IMIX) also contribute to Board member's remuneration

https://www.allianz.com/content/dam/onemarketing/azcom/Allianz_com/sustainability/documents/Allianz_Group_Sustainability_Report_2020-web.pdf (page 21)

Metrics and Targets - Recommended Disclosures (b) & (c)

Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.

Describe the targets used by the organisation to manage climate-related risks and opportunities and performance against targets.

Assicurazioni Generali Spa

Breakdown of GHG emissions by Scope

	location-based		market-based	
greenhouse gas emissions t CO2e	2013 (base year)	2019	2013 (base year)	2019
Scope 1*- Direct emissions, produced by heating systems and using the fleet of company vehicles	14,937	20,353	14,937	20,353
Scope 2- Indirect emissions from energy consumption, associated with the use of electricity and district heating	59,805	43,306	12,750	6,466
Scope 3- Other indirect emissions from energy consumption (T&D losses) , related to employees' business travel, paper and water consumption, and waste disposal	46,419	33,126	46,419	33,126
Total	**121,161**	**96,784**	**74,106**	**59,945**

** Scope 1 emissions in the base year 2013 were recalculated (previously 18,432 t CO2e) in line with the new methodology used in 2019 to calculate emissions from the corporate car fleet. The new methodology harmonised at Group level the criteria for splitting the car use for business reasons (70% of all journeys), included in the calculation of the emissions, from their use for personal reasons, excluded from the calculation of Group emissions (30% of total journeys).*

https://www.generali.com/our-responsibilities/our-commitment-to-the-environment-and-climate/greenhouse-gas-emissions

Swiss Re

CO_2 emissions per employee (full-time equivalent, FTE), Swiss Re Group

		2013 kg/FTE	2018 kg/FTE	**2019 kg/FTE**	Change in % since 2018	Change in % since 2013
Scope 1	Heating	378	244	**210**	−13.8	−44.4
Scope 2	Power[1]	824	584	**472**	−19.1	−42.7
Scope 3	Business travel	3 713	3 892	**3 842**	−1.3	3.5
	Copy paper	40	16	**13**	−15.7	−66.3
	Waste	50	33	**28**	−13.7	−43.1
	Water	12	11	**8**	−23.7	−30.1
	Technical gases	27	6	**52**	764.3	92.1
	Commuting[2]	1 250	1 000	**1 000**	0.0	−20.0
Total		6 294	5 786	**5 627**	−2.7	−10.6

[1] Calculation based on a market-based approach taking into account the purchase of renewable energy instruments, with the exception of the UK, where the government requires companies to report an average grid factor.

[2] Commuting data are gathered biannually by means of a survey. The figures are rounded and fraught with considerable uncertainty.

https://reports.swissre.com/2019/financial-report/sustainability/climate-metrics-and-targets/scope-1-2-and-3.html

Storebrand ASA

Key performance indicators

For detailed KPI definitions, see page 222.

Key performance indicators	Result 2017	Result 2018	Result 2019	Goal 2020	Goal 2025
Environmentally-certified procurement[45]	38%	46%	57%	55%	60%
Total GHG emissions[46] (Scope 1-3) tCO2e / tCO2e per FTE	1484 / 0.9	1444 / 0.9	1519 / 0.92	0.8	0.6
Scope 1 emissions tCO2 / tCO2 per FTE	1.9 / 0	1.4 / 0	1.1 / 0	-	-
Scope 2 emissions tCO2 / tCO2 per FTE	320 / 0.19	201 / 0.13	179 / 0.11	-	-
Scope 3 emissions tCO2 / tCO2 per FTE	1162 / 0.71	1241 / 0.77	1339 / 0.81	-	-
tCO2e emissions per FTE from air travel[47]	0.64	0.69	0.74	-	-
Energy use, main offices (kWh per m2)	151	147	150	150	145
Water use[48], main offices (m3 per m2)	0.3	0.29	0.32	0.31	0.3
Total waste Headquarters (total tonnes / kg per FTE)	201 / 122	209 / 130	203 / 123	200 / 121	190 / 110
Amount of waste sorted for recycling, main offices (percentage total waste)	82%	72%	72%	79%	82%
Paper use, main offices (total kg / kg per FTE)	58952 / 50	41138 / 37	59199 / 36	35	30
CDP rating	B	A -	A -	A	A
E-learning[49] completed: ethics (total / percentage of FTE)	New	New	1518 / 88.9 %	100%	100%
E-learning completed: anti-corruption (total / percentage of FTE)	New	New	1479 / 86.6 %	100%	100%
E-learning completed: anti-money laundering and financial crime (total / percentage of FTE)	New	New	1523 / 89.2 %	100%	100%
Number of complaints handled by the Norwegian Financial Services Complaints Board	New	135	192	N/A	N/A

https://www.storebrand.no/en/sustainability/sustainability-library/_/attachment/inline/d0e9764c-1757-4fe1-a96b-c71c90a998a4:7cf55a6b7cc6fcd106f6bad885985c4c3608b11d/2019-annual-report-storebrand-asa.pdf (page 61)

MS&AD Insurance Group

Items	Coverage	Units	FY2016	FY2017	FY2018	Third-Party Assurance
CO2 emissions (Scope1,2,3)	Consolidated	t-CO2	514,833 (7.4%)	513,320 (▲0.3%)	529,913 (3.2%)	
CO2 emissions (Scope 1)	Group Domestic + Other	t-CO2	19,717 (▲3.4%)	18,389 (▲6.7%)	17,174 (▲6.6%)	✓
	Consolidated	t-CO2	26,315 (5.2%)	27,948 (6.2%)	25,508 (▲8.7%)	✓
CO2 emissions (Scope 2) *	Group Domestic + Other	t-CO2	81,629 (▲2.4%)	65,196 (▲20.1%)	62,196 (▲4.6%)	✓
	Consolidated	t-CO2	94,615 (▲0.3%)	76,721 (▲18.9%)	71,897 (▲6.3%)	✓
CO2 emissions (Scope 1 and Scope 2 combined)	Group Domestic + Other	t-CO2	101,346 (▲2.6%)	83,586 (▲17.5%)	79,370 (▲5.0%)	✓
	Consolidated	t-CO2	120,930 (0.8%)	104,669 (▲13.4%)	97,405 (▲6.9%)	✓
CO2 emissions (Scope 3) *	Consolidated	t-CO2	393,904 (9.5%)	408,652 (3.7%)	432,508 (5.8%)	

(*) From FY2017 onwards, we report CO2 emissions associated with energy used by the tenants of MS&AD-owned buildings as Scope 3 emissions.

https://www.ms-ad-hd.com/en/csr/report/main/05/teaserItems1/0/linkList/0/link/csr_report2019_default.pdf
(page 118)

Cathay Financial Holdings

Item	Unit of measurement	2017	2018	2019
Scope 1 Emission	metric tons/CO_2e	2096.34	2,174.89	2,348.84
Scope 2 Emission	metric tons/CO_2e	34,221.62	31,758.58	30,658.92
Scope 1+2 Emission	Metric tons/CO_2e	36,317.96	33,933.47	33,007.76
Scope 1+2 Emission intensity	Metric ton/Person	1.16	1.06	0.99
Total energy consumption	GJ	225,524.45	216,944.19	211,211.68
Energy consumption per capita	GJ/person	7.20	6.78	6.36
Scope 3 (Business travel)	Metric tons/CO_2e	154.12	703.38	395.02

Note 1: We used ISO 14064-1: 2006 in 2017; We began using ISO 14064-1: 2018 for the GHG inventory in 2018 and 2019. We commissioned BSI to conduct the inspection in 2019.
Note 2: The Bureau of Energy adjusted the electricity emission factor for Category 2 Electricity Emissions, so the calculation uses the updated factor, which is 0.554 (2017), 0.533(2018, 2019)kg CO_2e/kWh.
Note 3: The number of employees at locations in the scope of inventory was 31,309 (2017), 32,014 (2018), and 33,209(2019).
Note 4: Business travel emissions are emissions from THSR rides and flights taken by employees. Emissions from flights are calculated according to data from the ICAO and Taiwan High Speed Rail (34 g CO_2e/person-km).

https://patron.cathaylife.com.tw/ODAB/Path/DTPDAB17/20200721130706595_國泰人壽2019CSR_英文_web.pdf (page 58)

Assicurazioni Generali Spa

We calculate our greenhouse gas emissions using the WRI GHG Protocol, applying both location-based and market-based methods. The first method, location-based, involves accounting for emissions from the purchase of electricity, applying national average emission factors for the different countries in which we purchase electricity. Instead, the market-based method determines GHG emissions from the purchase of electricity by considering the specific emission factors reported by our suppliers. For the purchase of electricity from renewable energy sources, a zero-emission factor is attributed for the scope 2.

https://www.generali.com/our-responsibilities/our-commitment-to-the-environment-and-climate/greenhouse-gas-emissions

Manulife Financial Corporation

GHG Scope 1, 2 and 3 emissions disclosed from 2017-2019 (3 years) with breakdown of scope 3 emissions by business travel, purchased goods and services, waste, data centres, leased properties and contractor fuel use, calculated in accordance with GHG Protocol.

	2019[5]	2018	2017
Our environment[2]			
GHG Scope 1 emissions (tonnes CO_2e)	**714,636**	705,994[6]	464,258
GHG Scope 2 emissions (location based) (tonnes CO_2e)	**331,677**	338,196	293,348
GHG Scope 2 emissions (market based) (tonnes Co_2e)	**320,941**	324,046	280,909
GHG Scope 3 emissions (tonnes CO_2e)			
Business travel (tonnes CO_2e)	**25,835**	27,396	23,139
Purchased goods & services (tonnes CO_2e)	**7,360**	9,434	13,632
Waste (tonnes CO_2e)	**2,782**	2,479	2,684
Data centres (tonnes CO_2e)	**3,456**	4,029	N/A
Leased properties[3] (tonnes CO_2e)	**239,093**	176,920	161,824
Contractor fuel use[3] (tonnes CO_2e)	**186,565**	150,029	157,583
Energy use (million eKWh/sq. ft.)	**2,599**	2,669	1,863
Waste to landfill – Corporate (tonnes)	**586**	690	709
Waste to landfill – Real Estate (tonnes)	**6,425**	5,736	6,248
Waste diversion rate – Corporate	**50%**	56%	65%
Waste diversion rate – Real Estate	**50%**	52%	52%
Water use (million m^3)	**2.0**	2.3	2.1
Paper use (metric tonnes)	**2,898**	3,713	5,365
Acres of sensitive lands protected[3] (thousand acres)	**471**	470	462
Trees planted[3] since 1985 (billions)	**1.16**	1.11	1.06
Carbon removals from Agriculture and Timber[4] (million $MtCO_2$)	**3.14**	5.96	8.20

2 Our emissions are computed in accordance with the GHG Protocol. For further information, please see our Third-party verification letter.

3 By Manulife Investment Management Agriculture and Timber businesses.

4 Combined Agriculture and Timber CO_2 removals – five-year trailing average. Annual CO_2 removals include annual increase in carbon stock within standing forest inventory (biogenic growth), plus carbon stored in wood products harvested during that year. Due to year-on-year variation introduced by forest inventory estimation methodologies as well as harvesting schedules, we report a five-year average of carbon removals.

5 In 2019, 95% of our total Scope 1 and 2 GHG emissions of 1,046,313 $MtCO_2$ are associated with our owned and operated businesses that manage assets for third-party clients and our General Account, and are included in our Scope 1 & 2 emissions, as we use an operational control definition to determine our boundaries.

6 The increase from 2017 to 2018 is due to a major acquisition by NAL Resources which was completed in the last quarter of 2017.

Manulife has a GHG Accounting Guidance to establish clear, repeatable annual emission accounting practices and outline roles and responsibilities for implementing the procedures. This includes third-party verification of our GHG data. The GHG Accounting Guidance is reviewed on an annual basis.

https://www.manulife.com/content/dam/corporate/global/en/documents/pas/MFC_SR_PAS_2019.pdf (page 10)

Third Party Assurance Letter for GHG Emissions:
https://www.manulife.com/content/dam/corporate/global/en/documents/pas/MFC_Assurance_Statement_2019_EN.pdf

Cathay Financial Holdings

• The basic goal for carbon reduction is 4% using 2016 as the baseline year, the ideal goal is 8% reduction
• Using 2017's amount of paper reduction as baseline year, annual paper reduction raise 30% due to e/M operation.
• Complete waste inventories for all rented buildings as well as representative buildings owned by Cathay Life

• Obtain green or renewable energy certificates
• Increase the installed capacity of solar power in Cathay-owned buildings to 200kW

https://patron.cathaylife.com.tw/ODAB/Path/DTPDAB17/20200721130706595_國泰人壽2019CSR_英文_web.pdf (page 68)

Legal and General

As a firm we are going through a process of defining a target carbon intensity trajectory for each of our core businesses. The intention is that the Group aggregate of those trajectories is consistent with delivering 'Paris', interpreted as a 1.5 degree outcome.

Setting Science Based Targets (SBT) for commercial properties: Having successfully met the target (set in 2012) to cut carbon emissions from Real Asset commercial property by 20% compared to 2010 levels, work was started during 2019 to develop new targets for the next ten years and beyond.
L&G has committed to adopting a 'sciencebased' approach to target setting which links targets to the aim of limiting global warming to 1.5 degrees. The Real Assets team has been working with a specialist consultancy during 2019 to arrive at a target and this will be confirmed in Q1 2020. It is intended that this will establish milestones reduction targets to 2030, helping to plot our course to net zero carbon.

Group Operational Targets: We have set a target for our operational footprint (occupied offices and business travel) to operate with net zero carbon emissions from 2030. This is supported by the targets stated earlier in this report, i.e. that from 2030 we will create homes that can be operated at net zero carbon emissions, we will set Science Based Targets in our Real Assets business and we will seek to understand, monitor and report the embodied carbon associated with the construction of our homes. All of this together will enable us to move towards operational net zero carbon.

https://www.legalandgeneralgroup.com/media/17720/lg_tcfd_100320-finalpdf-with-link-2-pdf-with-link.pdf (page 24)

MetLife, Inc.

[CDP Climate Change 2019 C4.1]

- Time frames For Scope 1+2 (location-based) +3 (upstream): 2015 - 2020
  For Energy Usage: 2016 - 2020
  For Engagement with suppliers: 2015 - 2020

- Base year For Scope and Energy Usage: 2012
  For Engagement with Supplier: 2015

- Key performance indicators used to assess progress against targets

For Engagement with Supplier: Number of Suppliers engaged were used to measure the success and their progress towards the target of engaging 100 top suppliers by 2020. In 2018, MetLife engaged over 96 suppliers in our supply chain sustainability program. Of these 96 suppliers, 78 reported scope 1 greenhouse gas emissions and 79 reported emissions reduction activities.

MetLife, Inc's response to the CDP questionnaire 2019 – available for download at https://www.cdp.net/en

Glossary

ABN AMRO	ABN AMRO Bank N.V.
AIA	AIA Group Limited
Allianz	Allianz SE
Aviva	Aviva plc
Barclays	Barclays Bank PLC
BMO	BMO Global Asset Management
BNP	BNP Paribas
BNY	BNY Mellon – Newton
Cathay	Cathay Financial Holdings
Citi	Citigroup Inc.
First Financial	First Financial Holding Co., Ltd.
Generali	Assicurazioni Generali Spa
Goldman Sachs	Goldman Sachs Group, Inc.
Great Eastern	Great Eastern Life Assurance
HFML	Federated Hermes International
HSBC	HSBC Holdings PLC
ING	ING Group
JP Morgan	JP Morgan Chase & Co.
KB	KB Financial Group
Legal & General	Legal & General Group plc
Manulife	Manulife Financial Corporation
Metlife	MetLife, Inc.
MS&AD	MS & AD Insurance Group
NAB	National Australia Bank
NN Group	NN Group N.V.
Nomura	Nomura Asset Management
Nordea	Nordea Bank Danmark A/S
Orix	ORIX – Robeco
RBS	Royal Bank of Scotland
SEB	Skandinaviska Enskilda Banken AB

Shinhan	Shinhan Financial Group
SocGen	Societe Generale
Storebrand	Storebrand ASA
Swiss Re	Swiss Reinsurance Company Ltd
UBS	UBS Group AG
UOI	United Overseas Insurance