



CLIMATE TRANSPARENCY REPORT

2019

Manulife Asset Management

About the Climate-related Disclosure Indicators

Climate has been identified as a top priority for PRI signatories, with over 70% of asset owners reporting this as the most important long-term trend they are acting on.

The FSB Task Force's guidance on climate-related financial disclosure aim to create a single framework for disclosure on assessment and management of climate-related risk. The recommendations, supported by investors representing US\$22 trillion, identify four main disclosures, Governance, Strategy, Risk Management, Metrics and Targets, and include specific guidance for asset owners and managers.

As a result, the PRI introduced climate-related disclosure indicators that can be used to align with the TCFD recommendations in the 2019 PRI Reporting Framework.

About this report

This report is an export of only the climate-related indicators from the 2019 Reporting Framework response. The full Public Transparency Report is available here (https://reporting.unpri.org/surveys/PRI-reporting-framework-2019/-17B2FE1E-130C-4275-B100-0F6EFEB1F07C/00000000-0000-0000-0000-000000000000/doc/2/-%7C%7C*complete*%7C*public*/Merged/). It shows the responses to all the completed climate indicators, even those you chose to keep private. It is designed for your internal review or – if you wish - to share with your stakeholders.

The PRI will not publish this report on its website if you have designated your 2019 climate reporting as “private”. Otherwise, you will be able to access the Climate Transparency Report of your organisation and that of other signatories on the [PRI website](#) and on the [Data Portal](#).

To easily locate information, there is a **Recommendation index** which summarises the indicators that signatories complete and disclose. The report presents information exactly as it was reported as per signatory preference. Where an indicator offers a response option that is multiple-choice, all options that were available to the signatory are presented in this report.

TCFD Recommendations Index

| Strategy and Governance - CC | | | TCFD Recommendation | | | |
|------------------------------|----------|------------|---------------------|----------|-----------------|-------------------|
| Indicator | Reported | Disclosure | Governance | Strategy | Risk Management | Metrics & Targets |
| SG 01.1 | ✓ | Public | | | | |
| SG 01.2 | ✓ | Public | | | | |
| SG 01.3 | ✓ | Public | | | | |
| SG 01.4 | ✓ | Public | | | | |
| SG 01.5 | ✓ | Public | | | | |
| SG 01.6 CC | ✓ | Public | | | | |
| SG 01.7 CC | ✓ | Public | | | | |
| SG 01.8 CC | ✓ | Public | | | | |
| SG 01.9 CC | ✓ | Public | | | | |
| SG 01.10 CC | ✓ | Public | | | | |
| SG 01.11 CC | - | Public | | | | |
| SG 01.12 CC | ✓ | Public | | | | |
| SG 02.2 | ✓ | Public | | | | |
| SG 07.5 CC | ✓ | Public | | | | |
| SG 07.6 CC | - | Public | | | | |
| SG 07.7 CC | ✓ | Public | | | | |
| SG 07.8 CC | - | Public | | | | |
| SG 13.1 | ✓ | Public | | | | |
| SG 13.2 | ✓ | Public | | | | |
| SG 13.4 CC | ✓ | Public | | | | |
| SG 13.5 CC | ✓ | Public | | | | |
| SG 13.6 CC | ✓ | Public | | | | |
| SG 13.7 CC | ✓ | Public | | | | |
| SG 13.8 CC | ✓ | Public | | | | |
| SG 14.1 | ✓ | Public | | | | |
| SG 14.2 | ✓ | Public | | | | |
| SG 14.3 | ✓ | Public | | | | |
| SG 14.4 | - | Public | | | | |
| SG 14.5 | - | Public | | | | |
| SG 14.6 CC | - | Public | | | | |
| SG 14.7 CC | - | Public | | | | |
| SG 14.8 CC | ✓ | Public | | | | |
| SG 14.9 CC | ✓ | Public | | | | |
| SG 15.1 | ✓ | Public | | | | |
| SG 15.2 | ✓ | Public | | | | |
| SG 15.3 | ✓ | Public | | | | |

| Symbol | Status |
|--|---|
| ✓ | The signatory has completed this sub-indicator |
| - | The signatory did not complete this sub-indicator. |
| | This indicator is relevant to the named TCFD recommendation |
| Within the first column "Indicator", indicators marked in blue are mandatory to complete. Indicators marked in grey are voluntary to complete. | |

ORGANISATIONAL OVERVIEW

This section provides an overview of your organisation. These characteristics are used to define your peer groups.

MAIN CHARACTERISTICS

| | |
|---|----------------------------------|
| Name | Manulife Asset Management |
| Signatory Category | Fund Management - Majority |
| Signatory Type | Investment Manager |
| Size | US\$ > 50 billion AUM |
| Main Asset Class | Multi-Asset |
| Signed PRI Initiative | 2015 |
| Region | North America |
| Country | Canada |
| Disclosure of Voluntary Indicators | 74% from 38 Voluntary indicators |

Manulife Asset Management

Reported Information

Public version

Strategy and Governance

PRI disclaimer

This document presents information reported directly by signatories. This information has not been audited by the PRI Secretariat or any other party acting on their behalf. While this information is believed to be reliable, no representations or warranties are made as to the accuracy of the information presented, and no responsibility or liability can be accepted for any error or omission.

Investment policy

SG 01

Mandatory

Public

Core Assessed

General

New selection options have been added to this indicator. Please review your prefilled responses carefully.

SG 01.1

Indicate if you have an investment policy that covers your responsible investment approach.

Yes

SG 01.2

Indicate the components/types and coverage of your policy.

Select all that apply

| Policy components/types | Coverage by AUM |
|---|--|
| <input checked="" type="checkbox"/> Policy setting out your overall approach <input type="checkbox"/> Formalised guidelines on environmental factors <input type="checkbox"/> Formalised guidelines on social factors <input checked="" type="checkbox"/> Formalised guidelines on corporate governance factors <input type="checkbox"/> Fiduciary (or equivalent) duties <input checked="" type="checkbox"/> Asset class-specific RI guidelines <input type="checkbox"/> Sector specific RI guidelines <input checked="" type="checkbox"/> Screening / exclusions policy <input checked="" type="checkbox"/> Engagement policy <input checked="" type="checkbox"/> (Proxy) voting policy <input type="checkbox"/> Other, specify (1) <input type="checkbox"/> Other, specify(2) | <input type="radio"/> Applicable policies cover all AUM <input checked="" type="radio"/> Applicable policies cover a majority of AUM <input type="radio"/> Applicable policies cover a minority of AUM |

SG 01.3

Indicate if the investment policy covers any of the following

- Your organisation's definition of ESG and/or responsible investment and it's relation to investments
- Your investment objectives that take ESG factors/real economy influence into account
- Time horizon of your investment
- Governance structure of organisational ESG responsibilities
- ESG incorporation approaches
- Active ownership approaches
- Reporting
- Climate change
- Understanding and incorporating client / beneficiary sustainability preferences
- Other RI considerations, specify (1)
- Other RI considerations, specify (2)

SG 01.4

Describe your organisation's investment principles and overall investment strategy, interpretation of fiduciary (or equivalent) duties, and how they consider ESG factors and real economy impact.

There are three key motivations for practicing RI/ESG investing and/or integrating ESG research and analysis into our investment teams' processes:

- Evaluation of ESG factors is a natural extension of our fundamental research and investment processes, and supports strong investment decision making as the world is changing. Indeed, prior to becoming a signatory to the UNPRI, Manulife's investment teams already incorporated ESG factors into many of their investment decisions, and have been applying sustainable investment strategies to timber and farmland management for some time.
- Like many institutional investors, Manulife AM is large and diversified enough across our holdings to be affected by the performance of the global economy as a whole, more so than by the performance of any one holding. RI/ESG investing attunes our key decision makers and investment staff to major economic shifts that are driven by ESG factors, e.g. climate change and the shift to a low carbon economy.
- Manulife AM is a steward of capital on behalf of our clients, and incorporating ESG/RI research and analysis into our firm's investment processes enhances our ability to demonstrate to our clients how their need for long-term investment solutions are being met by our investment solutions.

SG 01.5

Provide a brief description of the key elements, any variations or exceptions to your investment policy that covers your responsible investment approach. [Optional]

Manulife Asset Management and our affiliates provide comprehensive asset management solutions for investors. This investment expertise extends across a broad range of public and private asset classes, as well as asset allocation solutions.

Our capabilities include global, international, emerging markets, regional and single country equity and fixed income strategies in addition to a variety of balanced and multi-asset class strategies and solutions offered in multiple markets. Specialized private asset teams manage real estate, timberland, farmland, commercial mortgages, private equity and private credit, private placement debt, infrastructure equity as well as oil and gas.

Manulife Asset Management's ESG policy outlines our belief that ESG factors contribute to the overall profile of an investment and that strong management of ESG risks and opportunities can lead to long-term sustainable returns. We are committed to integrating ESG analysis into our existing fundamental research processes and see ESG as a natural complement to our strengths as a boutique active investment manager. As our investment teams operate in a boutique environment, each team bears the ultimate responsibility for the evaluation of ESG factors throughout the due-diligence and decision-making

processes in the pursuit of risk-adjusted returns and capital preservation. Our ESG Research and Integration Team (five dedicated members) supports investment analysts and portfolio managers to better identify relevant ESG factors in making investment decisions, and to identify investee companies suitable for our ESG engagement program.

We believe that well-managed companies will create long-term shareholder value and, therefore, it is important for a company to have quality management with appropriate supervision through effective governance structures.

ESG is integrated for both equity and fixed income in three broad stages of the investment process:

1. **ESG Due Diligence:** Investment teams consider ESG factors which may be material to their investment view of a company during initial and ongoing due diligence, leveraging third party ESG research data and the expertise of our ESG Research and Integration Team.

2. **ESG Risk Monitoring:** ESG data is leveraged in daily and periodic risk processes, including:

- Daily risk reports that highlight positions with low ESG scores
- Periodic meetings between the investment team and an ESG analyst to discuss specific portfolio-level ESG exposures or company-level ESG issues in more detail

3. **Active Ownership:** Through the above two processes, we identify companies as targets for engagement. Either the investment team or the ESG team may initiate engagement. Engagement can give the investment team greater insights into the quality of ESG management and performance, and we use a milestone system to track company responses to engagement over time. In the case of equities, engagement informs the investment team's approach to proxy voting.

Our investment teams are not prohibited from investing in any given company or sector due only to ESG factors. Rather, we generally seek to engage with such companies to better understand their ESG strategy and, through constructive engagement, to improve their ESG performance metrics over time. In addition, we are committed to implementing client-specific requirements for ESG/values-based exclusions or screens in the context of a separate account.

No

I confirm I have read and understood the Accountability tab for SG 01

I confirm I have read and understood the Accountability tab for SG 01

| SG 01 CC | Voluntary | Public | Descriptive | General |
|----------|-----------|--------|-------------|---------|
|----------|-----------|--------|-------------|---------|

| | |
|-----------------------|---|
| SG 01.6 CC | Indicate the climate-related risks and opportunities that have been identified and factored into the investment strategies and products, within the organisation's investment time horizon. |
|-----------------------|---|

We believe that climate change presents a complex set of investment considerations that may impact corporate profitability. Companies in all sectors face transition risk and physical hazard risk dimensions of climate change, and these risks can materialize in different and dynamic ways. Manulife Asset Management believes that those companies who are most proactive about mitigating these risks are most likely to become the most resilient. Regardless of the strategy adopted, establishing greater resiliency to climate risk will be a significant task for company executives and boards of directors. This means that climate change scenarios (i.e. analysis using different warming assumptions) can have a dramatic impact on company valuation.

Consequently, we believe that the evaluation of climate risk in our portfolios will become increasingly important over time. At Manulife Asset Management, we aspire to integrate the evaluation of ESG factors, including carbon emissions and climate change impacts, throughout our due-diligence and investment decision-making processes. Evidence shows that some industries will be more exposed to either climate transition risk and/or physical hazard risk. In alignment with this conclusion, we structure our engagement with companies to deepen our understanding of their climate mitigation strategies and to encourage greater climate risk resiliency. At the same time, we seek to identify opportunities for growth among companies that are positioning themselves for industry disruption and the promotion of a smoother transition to lower-carbon-emission business models. Finally, we support engagement activities through company dialogue and collaborative engagement initiatives, and seek to support proxy items that are intended to mitigate climate risks or support company adaptation to climate change, whether through management proposals or shareholder resolutions.

Manulife Asset Management is participating in a pilot program organized by UNEP FI on implementing the Task Force on Climate-Related Financial Disclosures (TCFD) recommendations for investors. The pilot is developing

scenarios, models and metrics for climate scenario analysis. Carbon Delta was selected as the climate science and data analytic partner to support the pilot program's development of a portfolio reporting tool. Manulife Asset Management has had the opportunity to run investment portfolios through the climate risk tool developed by Carbon Delta.

Manulife Asset Management also serves on the Steering Committee of the Climate Action 100+, a five-year initiative led by investors to engage systemically important greenhouse gas emitters and other companies across the global economy that have significant opportunities to drive the clean energy transition and help achieve the goals of the Paris Agreement. Investors are calling on companies to improve governance on climate change, curb emissions, and strengthen climate-related financial disclosures. Refer to: <http://www.climateaction100.org/>.

**SG 01.7
CC**

Indicate whether the organisation has assessed the likelihood and impact of these climate risks?

Yes

**SG 01.8
CC**

Indicate the associated timescales linked to these risks and opportunities.

The climate risk tool used in our scenario analysis uses a 15-year timeframe to assess the risks and opportunities associated with climate change.

No

**SG 01.9
CC**

Indicate whether the organisation publicly supports the TCFD?

Yes

No

**SG 01.10
CC**

Indicate whether there is an organisation-wide strategy in place to identify and manage material climate-related risks and opportunities.

Yes

Describe

Manulife Asset Management has a climate position statement under development that we intend to publicly disclose at some point over the course of 2019.

No

**SG 1.12
CC**

Indicate the documents and/or communications the organisation uses to publish TCFD disclosures.

Public PRI Climate Transparency Report

Annual financial filings

Regular client reporting

Member communications

Other

specify

We will have a separate TCFD report.

| | | | | |
|-------|-----------|--------|---------------|-------|
| SG 02 | Mandatory | Public | Core Assessed | PRI 6 |
|-------|-----------|--------|---------------|-------|

New selection options have been added to this indicator. Please review your prefilled responses carefully.

| | |
|---------|--|
| SG 02.1 | Indicate which of your investment policy documents (if any) are publicly available. Provide a URL and an attachment of the document. |
|---------|--|

Policy setting out your overall approach

| | |
|--|----------------|
| | URL/Attachment |
|--|----------------|

URL

| | |
|--|-----|
| | URL |
|--|-----|

{hyperlink:https://www.manulifeam.com/About-Us/Manulife-ESG-Policy/}

Attachment (will be made public)

Formalised guidelines on corporate governance factors

| | |
|--|----------------|
| | URL/Attachment |
|--|----------------|

URL

| | |
|--|-----|
| | URL |
|--|-----|

{hyperlink:https://www.manulifeam.com/About-Us/Manulife-ESG-Policy/}

Attachment (will be made public)

Asset class-specific RI guidelines

Screening / exclusions policy

| | |
|--|----------------|
| | URL/Attachment |
|--|----------------|

URL

| | |
|--|-----|
| | URL |
|--|-----|

{hyperlink:https://www.manulife.com/en/about/corporate-citizenship.html}

Attachment (will be made public)

Engagement policy

| | |
|--|----------------|
| | URL/Attachment |
|--|----------------|

URL

URL

{hyperlink:https://www.manulifeam.com/About-Us/Engagement/}

Attachment (will be made public)

(Proxy) voting policy

URL/Attachment

URL

URL

{hyperlink:https://www.manulifeam.com/About-Us/Manulife-ESG-Policy/}

Attachment (will be made public)

We do not publicly disclose our investment policy documents

SG 02.2 Indicate if any of your investment policy components are publicly available. Provide URL and an attachment of the document.

Your organisation's definition of ESG and/or responsible investment and it's relation to investments

URL/Attachment

URL

URL

{hyperlink:https://www.manulifeam.com/responsible-investment}

Attachment

Your investment objectives that take ESG factors/real economy influence into account

URL/Attachment

URL

URL

{hyperlink:https://www.manulifeam.com/responsible-investment}

Attachment

Governance structure of organisational ESG responsibilities

URL/Attachment

URL

URL

{hyperlink:https://www.manulifeam.com/About-Us/Engagement-Report/}

Attachment

ESG incorporation approaches

URL/Attachment

URL

URL

{hyperlink:https://www.manulifeam.com/responsible-investment}

Attachment

Active ownership approaches

URL/Attachment

URL

URL

{hyperlink:https://www.manulifeam.com/About-Us/Engagement/}

Attachment

Reporting

URL/Attachment

URL

URL

{hyperlink:https://www.manulifeam.com/About-Us/Manulife-ESG-Policy/}

Attachment

We do not publicly disclose any investment policy components

SG 02.3 Additional information [Optional].

Manulife Asset Management's ESG policy framework and policy documents will be updated in 2019. Our ESG policy applies to Manulife Asset Management's wholly-owned entities and their businesses. The policy is managed by Manulife Asset Management's Responsible Investment Committee, which reports to the firm's Operating Committee. The policy is approved by a policy sponsor, the CEO of Public Markets, on the advice from the Head of Investment Risk Management, and is reviewed on an annual basis.

Governance and human resources

| | | | | |
|-----------------|------------------|---------------|--------------------|----------------|
| SG 07 CC | Voluntary | Public | Descriptive | General |
|-----------------|------------------|---------------|--------------------|----------------|

SG 07.5 CC Indicate the roles in the organisation that have oversight, accountability and/or management responsibilities for climate-related issues.

Chief Executive Officer (CEO), Chief Investment Officer (CIO), Chief Risk Officer (CRO), Investment Committee

- Oversight/accountability for climate-related issues
- Assessment and management of climate-related issues
- No responsibility for climate-related issues

Portfolio managers

- Oversight/accountability for climate-related issues
- Assessment and management of climate-related issues
- No responsibility for climate-related issues

Investment analysts

- Oversight/accountability for climate-related issues
- Assessment and management of climate-related issues
- No responsibility for climate-related issues

Dedicated responsible investment staff

- Oversight/accountability for climate-related issues
- Assessment and management of climate-related issues
- No responsibility for climate-related issues

SG 07.7 CC For the management-level roles that assess and manage climate-related issues, provide further information on the structure and process involved.

Manulife Asset Management is participating in a pilot program organized by UNEP FI on implementing the Task Force on Climate-Related Financial Disclosures (TCFD) recommendations for investors. The purpose of the pilot program is to develop scenarios, models and metrics for climate scenario analysis. The investors involved in the pilot program selected Carbon Delta as the data analytic firm to develop the analytical tool to be used for investment portfolios. Manulife Asset Management has had the opportunity to run portfolios through the climate risk tool developed by Carbon Delta.

From this pilot program, we plan to use the data to monitor our portfolios to report to the CIOs and CEO on investment risks and opportunities related to climate change. This information will further be integrated into our regular ESG risk review process with individual portfolio managers.

We believe that climate change presents a complex set of investment considerations that may impact corporate profitability. Companies in all sectors face transition risk and physical hazard risk dimensions of climate change, and these risks can materialize in different and dynamic ways. Manulife Asset Management believes that those companies who are most proactive about mitigating these risks are most likely to be the most resilient to adverse climate impacts. Regardless of the strategy adopted, establishing greater resiliency to climate risk will be a significant task for executives and boards of directors of companies.

Consequently, we believe that the evaluation of climate risk in our portfolios will become increasingly important over time. The incorporation of scenario analysis using different warming assumptions can have a dramatic impact on valuation. At Manulife Asset Management, we aspire to integrate the evaluation of ESG factors, including carbon emissions and climate change impacts, throughout our due-diligence and investment decision-making processes. Evidence shows that some industries will be more exposed to either climate transition risk and/or physical hazard risk. In alignment with this conclusion, we structure our engagement with companies to

deepen our understanding of their climate mitigation strategies and to encourage greater climate risk resiliency. At the same time, we seek to identify opportunities for growth among companies that are positioning themselves for industry disruption and the promotion of smoother transition to lower-carbon-emission models. Finally, we support engagement activities through company dialogue and collaborative engagement initiatives, and seek to support proxy items that are intended to mitigate climate risks or support company adaptation to climate change, whether through management proposals or shareholder resolutions.

Manulife Asset Management serves on the Steering Committee of the Climate Action 100+, a five-year initiative led by investors to engage systemically important greenhouse gas emitters and other companies across the global economy that have significant opportunities to drive the clean energy transition and help achieve the goals of the Paris Agreement. Investors are calling on companies to improve governance on climate change, curb emissions and strengthen climate-related financial disclosures. Refer to: <http://www.climateaction100.org/>.

ESG issues in asset allocation

| | | | | |
|-------|-----------|--------|-------------|-------|
| SG 13 | Mandatory | Public | Descriptive | PRI 1 |
|-------|-----------|--------|-------------|-------|

SG 13.1 Indicate whether the organisation undertakes scenario analysis and/or modelling and provide a description of the scenario analysis (by asset class, sector, strategic asset allocation, etc.).

- Yes, to assess future ESG factors
- Yes, to assess future climate-related risks and opportunities

Describe

Manulife Asset Management is a member of the pilot working group on climate scenario analysis organized through the UNEP FI.

- No, not to assess future ESG/climate-related issues

SG 13.2 Indicate if your organisation considers ESG issues in strategic asset allocation and/or allocation of assets between sectors or geographic markets.

We do the following

- Allocation between asset classes
- Determining fixed income duration
- Allocation of assets between geographic markets
- Sector weightings
- Other, specify
- We do not consider ESG issues in strategic asset allocation

SG 13.3 Additional information. [OPTIONAL]

The models available for climate scenario analysis are still being developed and, as such, the output and analysis will take time to vet and attain a satisfactory level of confidence. In the meantime, we are pursuing several discussions with internal stakeholders to create feedback loops to improve and hone the scenario analysis, and explore ways to meaningfully integrate ESG factors into asset allocation work.

| | | | | |
|----------|-----------|--------|-------------|---------|
| SG 13 CC | Voluntary | Public | Descriptive | General |
|----------|-----------|--------|-------------|---------|

**SG 13.4
CC**

Describe how the organisation is using scenario analysis to manage climate-related risks and opportunities, including how the analysis has been interpreted, the results and any future plans.

- Initial assessment
- Incorporation into investment analysis

Describe

Manulife Asset Management has extensive experience with investing in public markets asset classes globally. On the basis of this experience, we conducted a comparison of geographically distinct equity portfolios to help evaluate the potential difference in impact of climate risk on different regions, with implications for asset allocation. Accordingly, we analyzed the impact of climate risk on companies in two existing investment portfolios from different geographic regions. We looked at three climate scenarios. The analysis also identified the physical hazards of climate change that carry the highest potential negative impact at the portfolio level and the industries in each portfolio that are potentially most exposed to these risks. The output allowed for an analysis at the company level, to help determine those companies may have greater exposures to climate risk. This analytical work exemplifies how Manulife Asset Management currently seeks to integrate the evaluation of climate risk in its investment processes.

We believe that the scenario analysis will continue to improve over time and become more meaningful in terms of the output provided. Our current analysis is limited to Scope 1 carbon emissions of the underlying companies, which measures direct carbon emissions from operations. Scope 2, which includes indirect emissions from the consumption of energy-e.g., electricity-is not included in the analysis. Future analyses may be developed to incorporate Scope 2 and Scope 3 carbon emissions.

According to the scenario analysis methodology used by our service provider, climate transition risk-or the general cost associated with moving from a current business-as-usual scenario in the direction of a more carbon-neutral future-represents the greatest portfolio risk. This is followed in magnitude by physical hazard risk-or the cost impact associated with extreme weather events, which we identify in our initial analysis as extreme heat, coastal flooding, and tropical cyclones. Both climate transition and physical hazard risks may be partially offset by low-carbon technology innovation such as carbon extraction or sequestration-particularly for those companies that have invested in research and development geared toward objectives of sustainability.

- Inform active ownership

Describe

We seek to identify opportunities for growth among companies that are positioning themselves for industry disruption and the promotion of smoother transition to lower-carbon-emission models. We also support engagement activities through company dialogue and collaborative engagement initiatives, and seek to support proxy items that are intended to mitigate climate risks or support company adaptation to climate change, whether through management proposals or shareholder resolutions.

Manulife Asset Management serves on the Steering Committee of the Climate Action 100+, a five-year initiative led by investors to engage systemically important greenhouse gas emitters and other companies across the global economy that have significant opportunities to drive the clean energy transition and help achieve the goals of the Paris Agreement. Investors are calling on companies to improve governance on climate change, curb emissions and strengthen climate-related financial disclosures. Refer to: <http://www.climateaction100.org/>.

Our involvement in company engagement groups via the Climate Action 100+ is being recorded and insights shared internally to inform our investment processes for the impact investment teams.

- Other

**SG 13.5
CC**

Indicate who uses this analysis.

- Board members, trustees, C-level roles, Investment Committee
- Portfolio managers
- Dedicated responsible investment staff
- External managers
- Investment consultants/actuaries
- Other

**SG 13.6
CC**

Indicate whether the organisation has evaluated the impacts of climate-related risk, beyond the investment time-horizon, on the organisations investment strategy.

- Yes

Describe

This is under way for Manulife Asset Management, and has been supported by our participation in the UNEP FI TCFD pilot program for investors.

- No

**SG 13.7
CC**

Indicate whether a range of climate scenarios is used.

- Yes, including analysis based on a 2°C or lower scenario
- Yes, not including analysis based on a 2°C or lower scenario
- No, a range is not used

**SG 13.8
CC**

Indicate the climate scenarios the organisation uses.

| Provider | Scenario used |
|---------------------------------------|--|
| IEA | <input type="checkbox"/> Beyond 2 Degrees Scenario (B2DS) |
| IEA | <input type="checkbox"/> Energy Technology Perspectives (ETP) 2 Degrees scenario |
| IEA | <input checked="" type="checkbox"/> Sustainable Development Scenario (SDS) |
| IEA | <input checked="" type="checkbox"/> New Policy Scenario (NPS) |
| IEA | <input checked="" type="checkbox"/> Current Policy Scenario (CPS) |
| IRENA | <input type="checkbox"/> RE Map |
| Greenpeace | <input type="checkbox"/> Advanced Energy [R]evolution |
| Institute for Sustainable Development | <input type="checkbox"/> Deep Decarbonisation Pathway Project (DDPP) |
| Bloomberg | <input type="checkbox"/> BNEF reference scenario |
| IPCC | <input type="checkbox"/> Representative Concentration Pathway (RCP) 8.5 |
| IPCC | <input type="checkbox"/> RPC 6 |
| IPCC | <input type="checkbox"/> RPC 4.5 |
| IPCC | <input type="checkbox"/> RPC 2.6 |
| Other | <input type="checkbox"/> Other (1) |
| Other | <input type="checkbox"/> Other (2) |
| Other | <input type="checkbox"/> Other (3) |

| | | | | |
|-------|---|--------|---------------------|-------|
| SG 14 | Mandatory to Report Voluntary to Disclose | Public | Additional Assessed | PRI 1 |
|-------|---|--------|---------------------|-------|

SG 14.1 Some investment risks and opportunities arise as a result of long term trends. Indicate which of the following are considered.

- Changing demographics
- Climate change
- Resource scarcity
- Technological developments
- Other, specify(1)

other description (1)

Cybersecurity

- Other, specify(2)
- None of the above

SG 14.2

Indicate which of the following activities you have undertaken to respond to climate change risk and opportunity

- Established a climate change sensitive or climate change integrated asset allocation strategy
- Targeted low carbon or climate resilient investments
- Phase out your investments in your fossil fuel holdings
- Reduced portfolio exposure to emissions intensive or fossil fuel holdings
- Used emissions data or analysis to inform investment decision making
- Sought climate change integration by companies
- Sought climate supportive policy from governments
- Other, specify

other description

Steering Committee member/lead engager of Climate Action 100+. Co-launched Investor Agenda on Climate Change at GCAS. MIT Joint Program sponsor on climate modelling.

- None of the above

SG 14.3

Indicate which of the following tools the organisation uses to manage climate-related risks and opportunities.

- Scenario analysis
- Disclosures on emissions risks to clients/trustees/management/beneficiaries
- Climate-related targets
- Encouraging internal and/or external portfolio managers to monitor emissions risks
- Emissions-risk monitoring and reporting are formalised into contracts when appointing managers
- Weighted average carbon intensity
- Carbon footprint (scope 1 and 2)
- Portfolio carbon footprint
- Total carbon emissions
- Carbon intensity
- Exposure to carbon-related assets
- Other emissions metrics
- Other, specify
- None of the above

SG 14 CC

Voluntary

Public

General

**SG 14.8
CC**

Indicate whether climate-related risks are integrated into overall risk management and explain the risks management processes for identifying, assessing, and managing climate-related risks.

- Process for climate-related risks is integrated into overall risk management

Please describe

Manulife Asset Management has extensive experience with investing in public markets asset classes globally. On the basis of this experience, we conducted a comparison of geographically distinct equity portfolios to help evaluate the potential difference in impact of climate risk on different regions, with implications for asset allocation. Accordingly, we analyzed the impact of climate risk on companies in two existing investment portfolios from different geographic regions. We looked at three climate scenarios. The analysis also identified the physical hazards of climate change that carry the highest potential negative impact at the portfolio level and the industries in each portfolio that are potentially most exposed to these risks. The output allowed for an analysis at the company level, to help determine those companies may have greater exposures to climate risk. This analytical work exemplifies how Manulife Asset Management currently seeks to integrate the evaluation of climate risk in its investment processes.

We believe that the scenario analysis will continue to improve over time and become more meaningful in terms of the output provided. Our current analysis is limited to Scope 1 carbon emissions of the underlying companies, which measures direct carbon emissions from operations. Scope 2, which includes indirect emissions from the consumption of energy-e.g., electricity-is not included in the analysis. Future analyses may be developed to incorporate Scope 2 and Scope 3 carbon emissions.

According to the scenario analysis methodology used by our service provider, climate transition risk-or the general cost associated with moving from a current business-as-usual scenario in the direction of a more carbon-neutral future-represents the greatest portfolio risk. This is followed in magnitude by physical hazard risk-or the cost impact associated with extreme weather events, which we identify in our initial analysis as extreme heat, coastal flooding, and tropical cyclones. Both climate transition and physical hazard risks may be partially offset by low-carbon technology innovation such as carbon extraction or sequestration-particularly for those companies that have invested in research and development geared toward objectives of sustainability.

In addition, we also consider regulatory developments as part of our approach to integrating climate-related risks into our overall risk management process. For example, we held an extensive internal consultation in order to respond to Canada's Expert Panel on Sustainable Finance, noting among other points, that clear policy signals are needed for investors.

- Process for climate-related risks is not integrated into our overall risk management

**SG 14.9
CC**

Indicate whether the organisation undertakes active ownership activities to encourage TCFD adoption.

- Yes

Please describe

We seek to identify opportunities for growth among companies that are positioning themselves for industry disruption and the promotion of smoother transition to lower-carbon-emission models. We also support engagement activities through company dialogue and collaborative engagement initiatives, and seek to support proxy items that are intended to mitigate climate risks or support company adaptation to climate change, whether through management proposals or shareholder resolutions.

Manulife Asset Management serves on the Steering Committee of the Climate Action 100+, a five-year initiative led by investors to engage systemically important greenhouse gas emitters and other companies across the global economy that have significant opportunities to drive the clean energy transition and help achieve the goals of the Paris Agreement. Investors are calling on companies to improve governance on climate change, curb emissions and strengthen climate-related financial disclosures. Refer to: <http://www.climateaction100.org/>.

- No, we do not engage

| | | | | |
|-------|---|--------|-------------|-------|
| SG 15 | Mandatory to Report Voluntary to Disclose | Public | Descriptive | PRI 1 |
|-------|---|--------|-------------|-------|

SG 15.1 Indicate if your organisation allocates assets to, or manages, funds based on specific environmental and social themed areas.

Yes

SG 15.2 Indicate the percentage of your total AUM invested in environmental and social themed areas.

%

1

SG 15.3 Specify which thematic area(s) you invest in, indicate the percentage of your AUM in the particular asset class and provide a brief description.

Area

- Energy efficiency / Clean technology
- Renewable energy
- Green buildings
- Sustainable forestry

Asset class invested

- Listed equity
- Fixed income - SSA
- Fixed income - Corporate (financial)
- Fixed income - Corporate (non-financial)
- Fixed income - Securitised
- Property
- Forestry

% of AUM

3

- Farmland

Brief description and measures of investment

Hancock Timber Resource Group (HTRG) is a division of Hancock Natural Resources Group, Inc. (HNRG), which is an indirect, wholly owned subsidiary of Manulife and part of the Manulife Asset Management group of companies. Established in 1985, HTRG develops and manages globally diversified timberland portfolios for institutional investors including pension funds, sovereign governments, corporations, foundations, endowments and family offices.

For more information, please visit <http://hancocknaturalresourcegroup.com/wp-content/uploads/2019/01/HNRG-SRI-Report-2018-final-web.pdf>

- Sustainable agriculture

Asset class invested

- Listed equity
- Fixed income - SSA
- Fixed income - Corporate (financial)
- Fixed income - Corporate (non-financial)
- Fixed income - Securitised
- Property
- Forestry
- Farmland

% of AUM

1

Brief description and measures of investment

Hancock Agricultural Investment Group (HAIG) is a division of Hancock Natural Resources Group, Inc. (HNRG), which is an indirect, wholly owned subsidiary of Manulife and part of the Manulife Asset Management group of companies. Established in 1990, HAIG creates and manages diversified agricultural portfolios comprised of a variety of annual and permanent crops on behalf of institutional investors.

- Microfinance
- SME financing
- Social enterprise / community investing
- Affordable housing
- Education
- Global health
- Water
- Other area, specify

No