# Welcome to your CDP Climate Change Questionnaire 2020

# C0. Introduction

## C0.1

### (C0.1) Give a general description and introduction to your organization.

Great-West Lifeco Inc. (hereinafter “Great-West Lifeco” or “the Corporation”) is an international financial services holding company with interests in life insurance, health insurance, retirement and investment services, asset management and reinsurance businesses.

When reporting for the Corporation, Great-West Lifeco covers its own activities as well as the activities of its subsidiaries, comprising Canada Life Assurance Company and the Great-West Lifeco U.S. LLC. Great-West Lifeco operates in Canada, the United States and Europe under the brands Canada Life, Empower Retirement, Putnam Investments and Irish Life. As of December 31, 2019, Great-West Lifeco and its companies had approximately 24,000 employees, 197,000 advisor relationships, and thousands of distribution partners – all serving more than 31 million customer relationships across these regions. Great-West Lifeco and its companies have approximately $1.6 trillion in consolidated assets under administration and are members of the Power Corporation of Canada group of companies.

Great-West Lifeco has long held responsible and ethical management as an intrinsic value, which we believe is essential to our long-term profitability and value creation for our stakeholders. As such, one of the Corporation’s values is “Committing ourselves to sustainability”. As part of its management philosophy, the Corporation and its subsidiaries are committed to respecting the environment and taking a balanced and environmentally sustainable approach, which includes understanding and proactively addressing the potential impacts that climate change may have on our business.

The following document presents Great-West Lifeco’s approach to identifying and addressing the impacts of climate change for its operating subsidiaries. for its operating subsidiaries.

## C0.2

### (C0.2) State the start and end date of the year for which you are reporting data.

| | Start date | End date | Indicate if you are providing emissions data for past reporting years |
|---|---|---|---|
| Reporting year | January 1, 2019 | December 31, 2019 | No |

## C0.3

**(C0.3) Select the countries/areas for which you will be supplying data.**

Canada
Ireland
United Kingdom of Great Britain and Northern Ireland
United States of America

## C0.4

**(C0.4) Select the currency used for all financial information disclosed throughout your response.**

CAD

## C0.5

**(C0.5) Select the option that describes the reporting boundary for which climate-related impacts on your business are being reported. Note that this option should align with your chosen approach for consolidating your GHG inventory.**

Financial control

## C-FS0.7

**(C-FS0.7) Which organizational activities does your organization undertake?**

Investing (Asset manager)
Investing (Asset owner)
Insurance underwriting (Insurance company)

# C1. Governance

## C1.1

**(C1.1) Is there board-level oversight of climate-related issues within your organization?**

Yes

## C1.1a

**(C1.1a) Identify the position(s) (do not include any names) of the individual(s) on the board with responsibility for climate-related issues.**

| Position of individual(s) | Please explain |
|---|---|
| Board-level committee | The Board of Directors is responsible for, among other things, providing the overall oversight of the Corporation with respect to all risks, including climate-related risks. |

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| | Oversight of climate-related risks is an important responsibility of the Board of Director's mandate, particularly given the uncertain nature of climate-related issues. The Board of Directors monitors and assesses risk mitigation and opportunistic strategies and approves the Enterprise Risk Management (ERM) Policy and the Risk Appetite Framework. The ERM policy outlines the guiding principles that lay the foundation for our ERM Framework. One of the guiding principles is sustainability (including climate change). The Risk Appetite Framework also incorporates sustainability risk, including climate-related risks. In 2019, the Board of Directors made the decision to approve the formal sustainability risk taxonomy and the Risk Appetite Framework reflecting sustainability risk, including climate-related risks. |
| Board-level committee | The Risk Committee of the Board of Directors is responsible for, among other things, providing risk oversight of the Corporation for all risks (including sustainability risk and more specifically climate change risk). Oversight of climate-related risks is an important responsibility of the Risk Committee's mandate, particularly given the uncertain nature of climate-related issues. Sustainability risk, including climate change, is explicitly reflected in the ERM Framework. The Risk Committee oversees the ERM framework, which includes financial risks (market, credit, and insurance) and non-financial risks (operational, conduct, and strategic). We recognize that climate change and sustainability risks are not a stand-alone risk type, but rather underlie all risk types. In 2019, the Risk Committee reviewed the results of a thematic review of climate change, including stress and scenario testing within our Own Risk and Solvency Assessment (ORSA) report of our asset portfolio. |
| Board-level committee | The Investment Committee of the Board of Directors is responsible for, among other things, climate change as part of the oversight it provides on global investment strategies, including climate-related transition risks and opportunities such as cleaner energy sectors that could impact our investment growth strategies. Oversight of climate-related impacts are an important part of the responsibility of the Investment Committee of the Board, enabling the Corporation to proactively identify and mitigate potential risks, while ensuring we maximize the opportunities within our investment portfolio. In 2019, the Investment Committee reviewed the results of the thematic review of climate change, including stress and scenario testing of our asset portfolio. |
| Board-level committee | The Audit Committee reviews and recommends to the Board of Directors for approval certain corporate disclosures of environmental related information (including climate-related topics) with respect to governance, risks, opportunities and performance on an annual basis. |
| Chief Executive Officer (CEO) | The Chief Executive Officer sits on the Investment Committee of the Board of Directors, among other committees. The CEO is also informed of CSR-related issues via a number of management reporting channels, including climate change-related matters, and provides updates to the Board Committees on issues impacting the business. The CEO has oversight over climate change-related matters to ensure the Corporation develops effective strategies to address risks |

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| | and opportunities and assigns appropriate resources and capabilities within the Corporation. Management of climate change is formally established at the executive level of the Corporation through the Sustainability Risk Working Group (chaired by the Chief Risk Officer) and the Sustainable Investment Council (chaired by the Chief Investment Officer). |

# C1.1b

**(C1.1b) Provide further details on the board's oversight of climate-related issues.**

| Frequency with which climate-related issues are a scheduled agenda item | Governance mechanisms into which climate-related issues are integrated | Scope of board-level oversight | Please explain |
|---|---|---|---|
| Scheduled – all meetings | Reviewing and guiding strategy<br>Other, please specify<br>Climate-related corporate disclosures | Climate-related risks and opportunities to our own operations<br>Climate-related risks and opportunities to our investment activities<br>Climate-related risks and opportunities to our insurance underwriting activities<br>Climate-related risks and opportunities to our other products and services we provide to our clients | The Great-West Lifeco Board-level committees, including the Risk Committee, Investment Committee, and the Audit Committee, meet at least quarterly.<br><br>The Risk Committee reviews the ERM Framework, including the Risk Appetite Framework. The Risk Committee provides oversight and monitors both current and emerging risks and opportunities facing the Corporation, including climate-related transition, physical, and liability risks. In 2019, the Risk Committee reviewed an assessment of the existing sustainability risk management processes and related recommendations. They also reviewed the results of a thematic review of climate change, including stress and scenario testing and a detailed review of our asset portfolio. In this respect, climate change is one of the stress and scenario tests within our ORSA report. The climate change scenarios incorporate all ERM Framework categories of risk, including transition, physical and liability risks.<br><br>The Investment Committee reviews risks and opportunities related to our investment activities, including specific physical and transition risks. The Investment Committee |

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| | | | also regularly monitors our investment strategies and performance against investment plans, including cleaner energy investments through our private debt placements in renewable energy projects. In 2019, the Investment Committee also reviewed the results of a thematic review of climate change, including stress and scenario testing and a detailed review of our asset portfolio.<br><br>The Audit Committee reviews and recommends to the Board of Directors for approval certain corporate disclosures of environmental related information (including climate-related topics) with respect to governance, risks, opportunities and performance on an annual basis. |

# C1.2

**(C1.2) Provide the highest management-level position(s) or committee(s) with responsibility for climate-related issues.**

| Name of the position(s) and/or committee(s) | Reporting line | Responsibility | Coverage of responsibility | Frequency of reporting to the board on climate-related issues |
|---|---|---|---|---|
| Chief Executive Officer (CEO) | Reports to the board directly | Both assessing and managing climate-related risks and opportunities | Risks and opportunities related to our investing activities<br>Risks and opportunities related to our insurance underwriting activities<br>Risks and opportunities related to our other products and services<br>Risks and opportunities | Quarterly |

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| | | | related to our own operations | |
| Chief Risks Officer (CRO) | CEO reporting line | Both assessing and managing climate-related risks and opportunities | Risks and opportunities related to our investing activities<br>Risks and opportunities related to our insurance underwriting activities<br>Risks and opportunities related to our other products and services<br>Risks and opportunities related to our own operations | Quarterly |
| Chief Investment Officer (CIO) | Other, please specify<br>● Other C-Suite Officer, please specify: President and Group Head of Strategy, Investments, Reinsurance, and Corporate Development. | Both assessing and managing climate-related risks and opportunities | Risks and opportunities related to our investing activities | Quarterly |
| Other, please specify<br>Deputy Chief Financial Officer | Finance - CFO reporting line | Both assessing and managing climate-related risks and opportunities | Risks and opportunities related to our own operations | Quarterly |
| Other, please specify<br>Executive Risk Management Committee | Risk - CRO reporting line | Both assessing and managing climate-related risks and opportunities | Risks and opportunities related to our investing activities<br>Risks and opportunities related to our insurance | Quarterly |

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|---|---|---|---|---|
| | | | underwriting activities<br>Risks and opportunities related to our other products and services<br>Risks and opportunities related to our own operations | |
| Other, please specify<br>Lifeco Strategic Operating Committee (LSOC) | Risk - CRO reporting line | Both assessing and managing climate-related risks and opportunities | Risks and opportunities related to our investing activities<br>Risks and opportunities related to our insurance underwriting activities<br>Risks and opportunities related to our other products and services<br>Risks and opportunities related to our own operations | Quarterly |
| Other, please specify<br>Lifeco Executive Management Committee (LEMC) | CEO reporting line | Both assessing and managing climate-related risks and opportunities | Risks and opportunities related to our bank lending activities<br>Risks and opportunities related to our investing activities<br>Risks and opportunities related to our insurance | More frequently than quarterly |

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|---|---|---|---|---|
| | | | underwriting activities<br>Risks and opportunities related to our other products and services | |
| Other, please specify<br>Sustainability Risk Working Group | Risk - CRO reporting line | Both assessing and managing climate-related risks and opportunities | Risks and opportunities related to our investing activities<br>Risks and opportunities related to our insurance underwriting activities<br>Risks and opportunities related to our other products and services<br>Risks and opportunities related to our own operations | More frequently than quarterly |
| Other, please specify<br>Sustainable Investment Committee | Investment - CIO reporting line | Both assessing and managing climate-related risks and opportunities | Risks and opportunities related to our investing activities | More frequently than quarterly |
| Other, please specify<br>CSR Committee | Finance - CFO reporting line | Both assessing and managing climate-related risks and opportunities | Risks and opportunities related to our own operations | Annually |

## C1.2a

**(C1.2a) Describe where in the organizational structure this/these position(s) and/or committees lie, what their associated responsibilities are, and how climate-related issues are monitored (do not include the names of individuals).**

The highest-level management positions with responsibility for climate-related issues sits within the executive team of Great-West Lifeco. Four executives have oversight for climate-

related issues: The Chief Executive Officer (CEO), the Chief Risk Officer (CRO), the Chief Investment Officer (CIO), and the Deputy Chief Financial Officer (CFO). The CEO is responsible for developing the overall strategies for the Corporation reflecting and addressing the risk environment and relevant factors, including climate-related matters, subject to the Board's review and oversight. The CEO ensures the Corporation builds resilience against disruptive risks such as climate change and the broader sustainability risk from both defensive and offensive perspectives. This ensures the Corporation takes a broad and consistent view of how climate-related matters are addressed, including with respect to governance, strategy, risks, opportunities, and performance. The CEO reports directly to the Board of Directors on a regular basis.

The Chief Risk Officer (CRO) has oversight responsibility for ensuring climate-related risks are identified, assessed and mitigated as appropriate. This responsibility lies with our CRO as part of the broader mandate of the position to identify and assess current and emerging risks and opportunities facing the Corporation. The CRO is supported by the Sustainability Risk Working Group, whose mandate it is to ensure identification, measurement, management, monitoring and reporting processes consistent with the ERM Framework are in place related to the management of climate-related risk. The CRO chairs the Sustainability Risk Working Group and provides regular reports to the Executive Risk Management Committee of Great-West Lifeco and the Risk Committee of the Great-West Lifeco Board of Directors.

The Chief Investment Officer (CIO) has oversight responsibility for ensuring climate-related risks and opportunities are considered in our investment processes, including investment risks, underwriting policies, and products and services. This responsibility lies with our CIO given the broader mandate of this position to ensure material risks, opportunities in our investments are well-managed and effective mitigation measures, and strategies are in place. In 2019, the Great-West Lifeco Sustainable Investments Council was established to harmonize sustainable investment policies and integration practices across the Corporation, including matters related to climate change. The CIO chairs the Sustainable Investment Council and provides regular reports to the Investment Committee of the Great-West Lifeco Board of Directors.

Furthermore, the Sustainability Risk Working Group continues to build out our formal climate risk management including 3 high-level themes, global alignment of principles, sustainability communication strategy and sustainability risk integration into investment decisions. In 2019, climate scenario and stress testing and an assessment of the potential impact to Great-West Lifeco was conducted – covering market, investments, operational and insurance risks and opportunities. The Sustainability Risk Working Group is chaired by the Great-West Lifeco CRO.

The Deputy Chief Financial Officer for Great-West Lifeco is the appointed Corporate Social Responsibility (CSR) lead. The CSR Lead is supported by the Global Great-West Lifeco CSR Committee with multi-functional representation from Great-West Lifeco's operating companies, including those in North America and Europe. The CSR Committee meets regularly to share best practices, monitor trends and review CSR performance, including progress towards greenhouse gas (GHG) emissions reduction targets, CSR-related reporting activities, as well as the management of climate change-related risks and opportunities (e.g., potential climate

change-related regulatory or transition risks). On an annual basis, the Deputy Chief Financial Officer reports to the CEO, who in turn reports to the Board of Directors.

# C1.3

**(C1.3) Do you provide incentives for the management of climate-related issues, including the attainment of targets?**

| | Provide incentives for the management of climate-related issues | Comment |
|---|---|---|
| Row 1 | Yes | Incentives for climate-related issues is provided at the various functions and business lines of the Great-West Lifeco business. Specifically, incentives related to climate-related issues, include integration into the business, targets and strategies, performance and reporting expectations. |

# C1.3a

**(C1.3a) Provide further details on the incentives provided for the management of climate-related issues (do not include the names of individuals).**

| Entitled to incentive | Type of incentive | Activity inventivized | Comment |
|---|---|---|---|
| Other C-Suite Officer | Non-monetary reward | Emissions reduction target | The Deputy Chief Financial Officer's annual objectives include oversight on the Corporation's corporate social responsibility initiatives, including activities being undertaken to achieve our carbon reduction target. |
| Chief Risk Officer (CRO) | Monetary reward | Other (please specify)<br>Climate change-related risk management | The Great-West Lifeco Chief Risk Officer is compensated based on the effectiveness of the risk management oversight function, which includes providing independent risk oversight of all risk-taking activities and embedding a disciplined risk management culture across Lifeco. The CRO conducts an annual risk culture assessment of Lifeco leaders as part of the annual compensation process and reports the results to the Compensation Committee of the Board. The assessment includes a component of compliance with our ERM Framework which incorporates sustainability risk including climate change risk. |
| Other, please specify | Non-monetary reward | Emissions reduction target | The CSR committee members' annual objectives include executing on the Corporation's corporate social responsibility |

| | | | |
|---|---|---|---|
| CSR Committee | | | initiatives, including activities being undertaken to achieve our carbon reduction target. |
| Other, please specify<br>VP, Corporate Properties | Monetary reward | Emissions reduction target | The Vice President, Corporate Properties variable compensation bonus structure includes executing on initiatives to achieve our carbon reduction target. |
| Other, please specify<br>Property Catastrophe Team | Monetary reward | Other (please specify)<br>Risk management | The Great-West Lifeco leadership property catastrophe team is compensated for identifying optimal property catastrophe cover retrocession reinsurance opportunities within defined criteria and considering exposure to property risks, including physical climate parameters. |
| Facilities manager | Monetary reward | Emissions reduction target | The corporate property managers at GWL Realty Advisors Inc. that manage Great-West Lifeco's corporate head office and investment properties are rewarded through the company's annual bonus structure for progress on achieving BOMA BEST® certifications, which aligns with our energy and carbon reduction objectives and includes sustainable procurement considerations. Various property managers of Great-West Lifeco are also incentivized through their annual bonus structures for progress being made towards energy reduction targets at buildings and contributions to emissions inventories and reporting. |
| Chief Investment Officer (CIO) | Monetary reward | Other (please specify)<br>Sustainable investment opportunities (including climate change-related) | The Great-West Lifeco Chief Investment Officer is compensated based on the value created through our investment portfolios. Ensuring environmental criteria, including climate-related risks and opportunities are considered in our investment decision-making related to acquisitions or divestments in part of this mandate, which could have an impact on value creation in our investments. |
| Portfolio/Fund manager | Monetary reward | Portfolio/fund alignment to climate-related objectives | The portfolio fund managers in our Irish Life Investment Managers affiliate have performance incentives tied to ensuring the investment fund portfolio is 30% more carbon efficient per asset class than the benchmark. |

| | | | |
|---|---|---|---|
| Dedicated Responsible Investment staff | Monetary reward | Portfolio/fund alignment to climate-related objectives | The sustainable investing team works with the broader equity research and portfolio management team to incorporate ESG, including climate change, into the investment process. The objectives of this mandate are linked to performance objectives and incentives. |

## C-FS1.4

**(C-FS1.4) Does your organization offer its employees an employment-based retirement scheme that incorporates ESG principles, including climate change?**

| | We offer an employment-based retirement scheme that incorporates ESG principles, including climate change. | Comment |
|---|---|---|
| Row 1 | Yes, as an investment option for some plans offered | Great-West Lifeco incorporates ESG principles into self-directed defined contribution employment-based retirement schemes through the responsible investment options offered to employees by select subsidiary investment management companies. For example, funds managed with an ESG integration approach, socially responsible investment (SRI) funds, and/or a brokerage window to select sustainable investment options are provided. These options, or a subset of them, are available for employees at Canada Life, Empower Retirement and at Putnam Investments (as part of investment options for employees' 401(k) plans in the USA). |

# C2. Risks and opportunities

## C2.1

**(C2.1) Does your organization have a process for identifying, assessing, and responding to climate-related risks and opportunities?**

Yes

## C2.1a

**(C2.1a) How does your organization define short-, medium- and long-term time horizons?**

| | From (years) | To (years) | Comment |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Short-term | 0 | 2 | The definition of short-term will vary depending on the process, initiative or objective. With respect to the classification of current and emerging risks, we generally consider the short term to be 1–2 years. Our strategy development function does not formally define time horizons however they generally consider short-term to be 1-2 years |
| Medium-term | 2 | 5 | The definition of medium-term will vary depending on the process, initiative or objective. Our strategy development function does not formally define time horizons however; they generally consider medium-term to be 3-5 years. |
| Long-term | 5 | 25 | The definition of long-term will vary depending on the process, initiative or objective. Our strategy development function does not formally define time horizons however; they generally consider the long-term to be beyond 5 years. |

# C2.1b

**(C2.1b) How does your organization define substantive financial or strategic impact on your business?**

We define substantive financial or strategic impacts on our business based on our Enterprise Risk Management (ERM) framework based on a consideration of the velocity, probability and impact of a risk on our business. A substantive financial impact occurs where the following conditions occur: high velocity (immediate adverse impact on business operations and market valuation and the speed of onset of impact is less than 6 months); high impact (greater than $1 billion impact on earnings or capital) and high probability (plausible scenario but still unlikely greater than 25%).

# C2.2

**(C2.2) Describe your process(es) for identifying, assessing and responding to climate-related risks and opportunities.**

### Value chain stage(s) covered

Direct operations

### Risk management process

Integrated into multi-disciplinary company-wide risk management process

### Frequency of assessment

More than once a year

### Time horizon(s) covered

Short-term
Medium-term
Long-term

### Description of process

Description of Process to determine which risks could have a substantive impact:
Sustainability risks, including climate change, are integrated into the ERM Framework, which provides the foundation to enable effective risk management and oversight. We recognize that climate change and sustainability risk impacts both financial risks (market, credit, insurance) as well as non-financial risks (operational, conduct, strategic). Sustainability risk is not a stand-alone risk type, but underlies all risk types (e.g. credit, market, insurance, operational and strategic risk). As a result, the processes for managing sustainability risk are embedded in the processes for managing each risk type.

A key component of the ERM framework is the ongoing assessment of current and emerging risks. Through this process, the materiality of risks is assessed based on velocity, probability and impact. Where material issues are identified, policies and risk management programs, and controls are established to ensure the risks and opportunities are being addressed through consistent guidelines and standards. For example, for our P&C reinsurance business, we identify and assess climate-related impacts and monitor the potential impacts opposite our risk limits.

Case study of process related to physical risks and/or opportunities:
Great-West Lifeco climate-related operational risk assessments covering its offices and data centres provide a good case study of the process for assessing physical risk within our direct operations. As part of quarterly and annual operational risk assessments, we review the impacts of extreme weather events on our business operations, including office locations and data centres, and to determine business continuity planning efforts. For example, in 2019, we ran a climate scenario analysis of one of our head office campuses in Winnipeg to stress test our exposure to extreme weather events such as floods. Based on the risk assessment, we determine that the financial impact would not be substantive based on the probability and impact on our business, representing less than 1% of capital and operating expenditures. Furthermore, climate-related physical risks are further minimized given the inherent diversification of our business offices, data centres and business continuity centres, in Canada, the U.S., and Europe.

Case study of a process related to transition risks and/or opportunities:
Great-West Lifeco's assessments of reputational impacts associated with climate change provides a good case study of the process for assessing transition opportunities from stakeholders that support climate transitions to a low carbon economy, including customers, governments, investors, NGOs, among others. As part of the green scenario, we assessed the increasing public and investor concerns over climate change, and that the lack of disclosure on how we identify and manage climate-related risks could expose us to potential reputational risk. For example, over the past few years, there has been an increase in investor interest on environmental, social and governance factors, which includes responding to and mitigating climate risks. As a result, we have been strengthening the transparency and credibility of the information we publish publicly. In 2019, we strengthened our climate-related disclosures through the CDP submission, 2019 Annual Report, ESG Scorecard, Public Accountability Statement and

the Sustainability Reports of Canada Life, UK and Irish Life. However, when considered generally in the context of our overall business and other types of reputational risks, climate-related reputational risks were not considered to have a substantive impact on our business, revenues or expenditures.

### Value chain stage(s) covered

Upstream

### Risk management process

Integrated into multi-disciplinary company-wide risk management process

### Frequency of assessment

More than once a year

### Time horizon(s) covered

Short-term
Medium-term
Long-term

### Description of process

Description of Process to determine which risks could have a substantive impact: Sustainability risks, including climate change, are integrated into the ERM Framework, which provides the foundation to enable effective risk management and oversight. We recognize that climate change and sustainability risk impacts both financial risks (market, credit, insurance) as well as non-financial risks (operational, conduct, strategic). Sustainability risk is not a stand-alone risk type, but underlies all risk types (e.g. credit, market, insurance, operational and strategic risk). As a result, the processes for managing sustainability risk are embedded in the processes for managing each risk type.

A key component of the ERM framework is the ongoing assessment of current and emerging risks. Through this process, the materiality of risks is assessed based on velocity, probability and impact. Where material issues are identified, policies and risk management programs, and controls are established to ensure the risks and opportunities are being addressed through consistent guidelines and standards.

Case study of a process related to transition and physical risks and/or opportunities: From a transition and physical risk perspective, Great-West Lifeco through its subsidiary GWL Realty Advisors is committed to reducing the environmental impacts that could occur from the services and products procured from third-party contractors and suppliers. The company's Supplier Risk Management Policy includes 'Sustainability' as one of the specific risk principles, which covers climate-related issues. The company assessed the potential costs associated with sourcing cleaner, renewable energy sources and sustainable materials to ensure the efficiency and climate resilience of its assets under management. While important, these expenditures are not substantive to

its overall business, given that fee income and related expenses represent less than 1% of Great-West Lifeco's total fee income.

### Value chain stage(s) covered

Downstream

### Risk management process

Integrated into multi-disciplinary company-wide risk management process

### Frequency of assessment

More than once a year

### Time horizon(s) covered

Short-term
Medium-term
Long-term

### Description of process

Description of Process to determine which risks could have a substantive impact:
Sustainability risks, including climate change, are integrated into the Enterprise Risk Management Framework, which provides the foundation to enable effective risk management and oversight. We recognize that climate change and sustainability risk impacts both financial risks (market, credit, insurance) as well as non-financial risks (operational, conduct, strategic). Sustainability risk is not a stand-alone risk type, but underlies all risk types (e.g. credit, market, insurance, operational and strategic risk). As a result, the processes for managing sustainability risk are embedded in the processes for managing each risk type.

To assess the potential impact of climate change on Great-West Lifeco's downstream value chain, we undertook stress and scenario testing. In order to assess the potential range of outcomes, we developed three scenarios: green scenario with orderly transition, green scenario with disorderly transition, and a brown scenario. These were conducted over short, medium and long-term time horizons. These assessments were conducted both from a top-down as well as a bottom up perspective. The top-down perspective considered risks and opportunities in the context of all risk types (market, credit, insurance, operational). The bottom-up perspective assessed the impact of climate change on our general account asset portfolio, taking into account asset class as well as idiosyncratic risks. We also conducted climate stress testing at various subsidiaries, including Canada Life UK, in response to the Prudential Regulatory Authority (PRA) requirements.

Case study of a process related to physical risks and/or opportunities:
The climate scenario stress test of our general account provides a good case study of the process for assessing physical risks downstream in the value chain. As part of the annual ERM assessment, we tested three scenarios, including a brown climate scenario that assumes an increase in the frequency and magnitude of severe weather-related

events. Based on the review of the asset portfolio, we identified potential areas of vulnerability representing 4% of Great-West Lifeco's assets. However, when viewed in the context of our ERM assessment framework, taking into consideration risk volatility, probability and impact, our climate-related vulnerabilities were determined not to be substantive, given the inherent diversification of our assets from a geographic sector concentration, and relatively shorter duration of these holdings. It was concluded that the balance sheet remains strong and resilient with respect to climate change scenarios.

Case study of a process related to transition risks and/or opportunities:
The climate change-related stress and scenario testing provides a good case study of the process for assessing the transition risks downstream in the value chain. As part of the annual ERM assessment, we tested two green scenarios (one within orderly transition driven by government intervention and one with disorderly transition driven by grass root sentiment but without strong government intervention, towards a lower carbon economy. We highlighted climate-related opportunities already underway to invest in clean energy as well as ESG-related products and services. As at year-end 2019, the general account has over $3.87 billion invested in renewable energy through its private placements, and its asset management affiliates manage more than CA$17 billion across a number of ESG-related strategies. In 2019, the fee income from responsible investment options represented less than 1% of our total fee income. While important, these opportunities are not deemed substantive to the business.

# C2.2a

**(C2.2a) Which risk types are considered in your organization's climate-related risk assessments?**

| | Relevance & inclusion | Please explain |
|---|---|---|
| Current regulation | Relevant, always included | Through our climate-related risk assessments, we take into consideration possible compliance risks against current climate-related regulations, including climate financial risk management requirements, GHG regulations, carbon pricing, and building energy requirements. For example, in Canada, through our subsidiary GWL Realty Advisors, we quantify the GHG emissions footprint and assess climate-related compliance risk exposure of our global owner-occupied offices, as well as our corporate and regional offices and third-party investment management properties. Based on the relatively small carbon footprint of the real estate portfolio, we determined these properties are not subject to GHG reporting regulatory thresholds. Furthermore, with respect to carbon pricing, our sensitivity analysis revealed marginal risk related to increased operating costs. In Europe, we assessed compliance risk exposure related to the PRA's Supervisory Statement SS3/19 that came into force in April 2019, requiring UK insurers and reinsurance firms to have an approach to manage the financial risk from climate change. The risk of non-compliance is low given the |

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|---|---|---|
| | | preliminary climate change stress and scenario analysis of our general account investments and the formal integration of climate change in our Enterprise Risk Management Framework and within ORSA. |
| Emerging regulation | Relevant, always included | Through our climate-related risk assessments, we assess relevant emerging climate-related regulatory requirements and the possible compliance risks. For example, in Canada, we considered the Expert Panel recommendations on Sustainable Finance, the OSFI guidance that could affect P&C and Life and health insurers to consider risks related to underwriting and investments, as well as the Canadian Securities Administrator's guidance on the importance of materiality in climate disclosures. In the U.S., we reviewed the Trump administration roll back of environmental protections while individual states increased local efforts to address climate change. In Europe, we continued to monitor the European Insurance and Occupational Pensions Authority consultations on integrating sustainability risks and disclosures, focused on property insurance. In the UK, we continued to monitor the activities of the PRA as well as the Green Finance Strategy commitments to work with regulators to clarify roles and explore mandatory reporting. In Ireland, the Central Bank of Ireland has a lead role in ensuring that financial firms incorporate climate change into strategic and financial plans, while ensuring that consumers have sufficient information. In addition, in Germany we monitor the Federal Financial Supervisory Authority and its intention to release a consultation on sustainability risk management. In assessing the possible emerging climate-related regulations, we determined that the level of exposure to non-compliance remains low given the strengthening of our policies and processes and the results from the climate scenario testing over the past few years. |
| Technology | Relevant, always included | Through our climate risk assessments, we assess the impacts of technology developments, including costs associated with transitioning to lower emission and smarter technologies, potential reduced demands for services, capital investments into technology developments, and costs to deploy new practices and processes. For example, within our property management services carried out by our subsidiary GWL Realty Advisors, we have been assessing costs and capital investments to transition towards smarter more efficient buildings that optimize energy efficiency and take advantage of big data and technological innovations. While important, these costs are not expected to generate a substantive change to our business operations given that GWL Realty Advisor's real estate management services represent less than 0.1% of our overall revenue.<br><br>As part of the 2019 climate scenario testing, we considered risks and opportunities related to transition risks associated with technology and the potential impact on our general account investment portfolio. In this |

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| | | case, we considered sectors that could be exposed to increased costs due to investments in cleaner technologies as well as the potential depreciation of assets or assets classes from emerging disruptive technologies.<br><br>For example, 95% of utility investments in the U.S have mandated green energy requirements, which we consider when making investments in the energy and utilities sectors. In certain circumstances, we will not invest in a utility where they are not technologically advanced to meet high renewable energy standards. In addition, in certain instances, we will not participate in fossil fuel-based, long-term corporate debt placements (e.g., long-term debt for coal-powered energy generation) due to the regulatory and technological risks from a stranded asset perspective. |
| Legal | Relevant, sometimes included | Through our climate risk assessments, we assess the impacts of exposure to climate-related litigation on our business operations and investment portfolio. For example, in 2019, we continued to monitor litigation lawsuits against oil and gas and energy companies brought to the courts on climate change impacts. While important, the impacts of possible litigation in our investments are limited given the diversification of our asset allocation, geographies and sectors. Specifically, in 2019, no individual sector accounted for more than 10% of our invested assets and the percentage of assets in the energy sector that could be highly exposed to litigation lawsuits amounted to less than 5% of invested assets in bonds or equities. |
| Market | Relevant, always included | Through our risk assessments, we consider the impact of climate-related events on the market demand for our products and services. For example, we have assessed fluctuating socio-economic conditions from society's exposure to weather-related losses and the potential impact from lapse rates. Through our assessment, we concluded that lapse rates from extreme weather events, such as Hurricane Katrina, were not severe and had limited impact on insurance affordability and customer retention rates. We also consider the potential for stranded assets that may arise from climate-related market trends. For example, we reviewed the extent to which some of our investments may be impacted by the increasing demand for electric vehicles. Given the diversification of our investment strategy, the potential for stranded assets was not deemed substantive to our overall business. |
| Reputation | Relevant, always included | Through our climate-related risk assessments, we consider the reputation of Great-West Lifeco on climate-related impacts from our stakeholders, including customers, governments, and investors, NGOs, among others. We recognize that with increasing public and investor concerns over climate change, a lack of disclosure on how we identify and manage climate change risks could expose us to potential reputational risk. For example, over the past few years, there has been |

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| | | an increase in investor interest on environmental, social and governance factors, which includes responding to and mitigating climate risks. As a result, we have been strengthening the transparency and credibility of the information we publish publicly on climate-related issues, including with respect to governance, risks, opportunities and performance. In 2019, we strengthened our climate-related disclosures through the CDP submission, 2019 Annual Report, ESG Scorecard, Public Accountability Statement and the Sustainability Reports of Canada Life, UK and Irish Life. However, when considered generally in the context of our overall business and other types of reputational risks we do not consider climate-related reputational risks to have a substantive impact on our business, revenues or expenditures. |
| Acute physical | Relevant, always included | Through our climate-related risk assessments, we consider exposure to increased severity of extreme weather events, such as cyclones, hurricanes and floods in our reinsurance business and the general account investment portfolio. For example, in our reinsurance business we based our assessments on worst-case scenarios (peak peril modeling) which have indicated these events would not result in a substantive impact to our business For example, claims related to losses from hurricanes Harvey, Irma, and Maria combined resulted in established reserves of $175 million, which were not considered to be substantive on our overall business. Furthermore, it is important to note that reinsurance is designed to attach for very significant claim events for the underlying cedants, and there are contractual limits, which cap exposure on the portfolio. We license the latest modeling from an industry-leading provider to help us calculate loss probabilities for our portfolios by geographic region. Furthermore, reinsurance contracts are renegotiated annually, which allows an opportunity to revisit risk exposures and limits on an ongoing basis. Therefore, any impacts from acute weather-related events would not have a substantive impact on our business operations, revenue or expenditures over the long-term. We also have a maximum claim amount for all such contracts, limiting our risk exposure.<br><br>In our general account investment portfolio, we assessed acute physical risks as part of the brown climate scenario stress test, where we assumed a limited corrective transition response and fallout from extreme weather events that could lead to high mortality rates, property damage, decline in property values, business disruption and a pandemic event. |
| Chronic physical | Relevant, always included | Through our climate-related risk assessments, we consider exposure to changes in chronic physical impacts, including changes in precipitation patterns, extreme variability in weather patterns, rising |

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| | | mean temperatures, and rising sea levels. For example, in our general account investment portfolio we assessed chronic physical risks as part of the brown climate scenario test, which assumed a limited corrective transition response and fallout from weather events. In particular, potential areas of vulnerability of our investment portfolio were reviewed in our bonds and conventional mortgages on properties and real estate holdings in coastal areas. These risk exposures are inherently limited by our mortgage portfolio limits, which currently does not exceed 8% for any region, thereby decreasing our risk arising from any one location.<br><br>In terms of our life and health insurance businesses, we diversify our morbidity and mortality risks limiting concentrations in any one specific region or geography. Furthermore, research and analysis are done regularly to provide the basis for establishing pricing and valuation assumptions that properly reflect the insurance market, including potential climate-related health impacts. At Great-West Lifeco, over the past few years, we have not experienced notable changes in insurance claims as a result of climate-related impacts. We have not identified substantive risks from changes in physical climate parameters and health impacts on our morbidity and mortality business and note that we have good portfolio diversification between mortality and longevity business. |

# C-FS2.2b

**(C-FS2.2b) Do you assess your portfolio's exposure to climate-related risks and opportunities?**

| | We assess the portfolio's exposure | Please explain |
|---|---|---|
| Investing (Asset manager) | Yes | As an asset manager, Great-West Lifeco assesses exposure to climate-related risks and opportunities as it relates to its investment portfolios, covering the insurance General Account (on balance sheet investments for Great-West Lifeco) as well as investments of third party clients mainly managed through Great-West Lifeco's asset management affiliates. Great-West Lifeco's third party client asset management affiliates include GWL Realty Advisors, Irish Life Investment Managers (ILIM), Putnam Investments (Putnam), GLC Asset Management (GLC), and PanAgora Asset Management (PanAgora).<br><br>We assess the exposure of the investment portfolio on a broad range of climate-related risks and opportunities, including climate vulnerable sector exposure, clean energy low carbon finance |

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| | | exposure, climate-related investment product exposure as well as carbon emission intensity. The exposure assessments are generally undertaken when it is investment relevant and financially material, and when there is sufficient data. As an example, our subsidiary, ILIM assesses exposure to transition risks by measuring the carbon footprint of its investment portfolio and managing the carbon intensity to a percentage lower than relative indices or benchmarks. |
| Investing (Asset owner) | Yes | As an asset owner, Great-West Lifeco assesses exposure to climate-related risks and opportunities of its owned assets within the General Account as well as its physical assets and operations, including office buildings and data centres. For example, in the General Account, Great-West Lifeco assesses the physical and transition climate-related risks and opportunities of assets covering bonds, mortgages, real estate, and equities. The assessment is based on three climate scenarios: “green” orderly and disorderly scenarios to a well below 2-degree warming scenario; and, a “brown” scenario to a 4.5 degree warming scenario. The assessment is conducted to determine the balance sheet impacts and to inform mitigation measures and strategies. See question 3.1b for details of these scenarios.<br><br>From an operational perspective, Great-West Lifeco assesses the number of climate-related events on our operations and our performance relating to these events, through a Business Continuity Management Framework that focuses on emergency response, incident management, disaster recovery and business recovery. |
| Insurance underwriting (Insurance company) | Yes | As an insurance company, Great-West Lifeco assesses the exposure to climate-related risks and opportunities in both the health/life insurance business and the property catastrophe reinsurance business. With respect to our property catastrophe coverages, an annual scenario modelling on climate-related events and the impact on our reinsurance business is conducted. Using robust weather models, we model peak perils at the worst locations to assess the likelihood, severity and velocity of extreme weather events, including windstorms, hurricanes and cyclones. The information from these scenario models enables us to assess how much of a loss we will take, which in turn informs our pricing models. We identify and assess climate change related risk impacts, to determine whether the risk limits would be impacted. With respect to the property catastrophe reinsurance business, we monitor the number and severity of extreme weather events, such as cyclones, hurricanes and floods in our reinsurance business as well as the value of claims related to such losses. For |

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| | | example, Great-West Lifeco included property catastrophe reinsurance losses of $175 million after-tax relating to estimated claims resulting from the impact of Hurricanes Harvey, Irma and Maria. With respect to the health/life insurance business, Great-West Lifeco runs longevity models taking into consideration various factors that could result in health impacts and exposure to morbidity and mortality risks. Furthermore, research and analysis are done regularly to provide the basis for establishing pricing and valuation assumptions that properly reflect the insurance market, including potential climate-related health impacts. |
| Other products and services, please specify | Not applicable | |

## C-FS2.2c

**(C-FS2.2c) Describe how you assess your portfolio's exposure to climate-related risks and opportunities.**

| | Portfolio coverage | Assessment type | Description |
|---|---|---|---|
| Investing (Asset manager) | Majority of the portfolio | Qualitative and quantitative | How portfolio coverage is defined:<br>As an asset manager, Great-West Lifeco assesses exposure to climate-related risks and opportunities as it relates to its investment portfolios, covering the insurance General Account (on balance sheet investments for Great-West Lifeco) as well as certain investments of third party clients mainly managed through Great-West Lifeco's asset management affiliates. Great-West Lifeco's third party client asset management affiliates include GWL Realty Advisors, Irish Life Investment Managers (ILIM), Putnam Investments (Putnam), GLC Asset Management (GLC), and PanAgora. We assess the exposure of the investment portfolio on a broad range of climate-related risks and opportunities, including climate vulnerable sector exposure, clean energy low carbon finance exposure, climate-related investment product exposure as well as carbon emission intensity. The exposure assessments are generally undertaken when it is investment relevant and financially material, and when there is sufficient data.<br><br>Tools used to assess the portfolio's exposure to climate-related risks and opportunities:<br>The climate-related risks and opportunities of certain |

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| | | | of the subsidiary asset management affiliates portfolios are assessed based on various tools, including in depth fundamental analysis of the sector specific exposure, 2-degree alignment using tools such as PACTA, as well as carbon intensity exposure of the portfolio using both primary and secondary data analysis. |
| Investing (Asset owner) | Majority of the portfolio | Qualitative and quantitative | How portfolio coverage is defined:<br>As an asset owner, Great-West Lifeco assesses exposure to climate-related risks and opportunities of its owned assets within the General Account as well as its physical assets and operations, including office buildings and data centres. For example, in the General Account, Great-West Lifeco assesses the physical and transition climate-related risks and opportunities of its owned assets covering bonds, mortgages, real estate, and equities<br><br>Tools used to assess the portfolio's exposure to climate-related risks and opportunities:<br>Within the insurance general account, we use a climate scenario and stress test tool that considers both green and brown scenarios. The assessment is based on a “green” orderly and disorderly scenario aligned to a well below 2-degree warming scenario; and, a “brown” scenario aligned to a 4.5-degree warming scenario. The assessment is conducted to determine the balance sheet impacts. See question 3.1b for details of these scenarios.<br><br>We also applied the PACTA Tool to the general account to assess the exposure of the portfolio to economic activities affected by the transition to a low-carbon economy; the extent to which the portfolio increases or decreases its alignment to a Sustainable Development Scenario over the next five years, and the expected future exposure to high- and low-carbon economic activities based on the current and revealed production and investment plans of the companies in the portfolio. |
| Insurance underwriting (Insurance company) | Majority of the portfolio | Qualitative and quantitative | How portfolio coverage is defined:<br>As an insurance company, Great-West Lifeco assesses the exposure to climate-related risks and opportunities in both the health/life insurance business and the property catastrophe reinsurance business. |

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| | | | With respect to the property catastrophe reinsurance business, we monitor the number and severity of extreme weather events, such as cyclones, hurricanes and floods in our reinsurance business as well as the value of claims related to such losses.<br><br>Tools used to assess the portfolio's exposure to climate-related risks and opportunities:<br>With respect to the reinsurance business, we use robust weather models. We model peak perils at the worst locations to assess the likelihood, severity and velocity of extreme weather events, including windstorms, hurricanes and cyclones. The information from these scenario models enables us to assess how much of a loss we will take, which in turn informs our pricing models.<br>With respect to the health/life insurance business, Great-West Lifeco runs longevity models taking into consideration various factors that could result in health impacts and exposure to morbidity and mortality risks. Furthermore, research and analysis is done regularly to provide the basis for establishing pricing and valuation assumptions that properly reflect the insurance market, including potential climate-related health impacts. |

# C-FS2.2d

**(C-FS2.2d) Do you assess your portfolio's exposure to water-related risks and opportunities?**

| | We assess the portfolio's exposure | Portfolio coverage | Please explain |
|---|---|---|---|
| Investing (Asset manager) | Yes | Minority of the portfolio | Water risks and opportunities are assessed in some parts of the investment portfolio's exposure analysis, mainly through Great-West Lifeco's asset management affiliates GWL Realty Advisors and Putnam Investments. Specifically, at Putnam Investments, we conduct water risk sector analysis to inform our engagement with investee companies where possible based on data availability, and on a company and sector specific basis. |

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| | | | Meanwhile, GWL Realty Advisors monitors and measures water consumption data from the real estate investment portfolio under management to inform resource efficiency strategies. |
| Investing (Asset owner) | Yes | Minority of the portfolio | As part of the management of the owned real estate assets, Great-West Lifeco, through its subsidiary GWL Realty Advisors, assessed water-related risks and opportunities through the Sustainability and Conservation Benchmarking Program (SCBP) for the office portfolio. As part of the SCBP, water consumption is assessed, and risk and opportunities are identified in the context of corporate-wide water reduction targets. In 2019, by minimizing risks and maximizing the opportunities in the office portfolio, Great-West Lifeco achieved an 8% reduction in overall water consumption. |
| Insurance underwriting (Insurance company) | Not applicable | | Water risks are not relevant to our life and health insurance underwriting business line; hence we do not assess our exposure to water-related risks. |
| Other products and services, please specify | Not applicable | | |

# C-FS2.2e

**(C-FS2.2e) Do you assess your portfolio's exposure to forests-related risks and opportunities?**

| | We assess the portfolio's exposure | Please explain |
|---|---|---|
| Investing (Asset manager) | No, but we plan to do so in the next two years | Great-West Lifeco exposure to forestry related assets and investments is limited. In the next two years, we will explore the possibility to assess the equity holdings exposure to potential forestry risks and opportunities. |
| Investing (Asset owner) | No, but we plan to do so in the next two years | As part of the Great-West Lifeco general account, forestry-related risks are not assessed. In the next two years, we will explore the possibility to assess the exposure to potential forestry risks and opportunities. |
| Insurance underwriting (Insurance company) | Not applicable | Forestry risks are not relevant to our life and health insurance business line. As such, we do not assess our exposure to forestry-related risks and opportunities. |

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| Other products and services, please specify | Not applicable | |

## C-FS2.2f

**(C-FS2.2f) Do you request climate-related information from your clients/investees as part of your due diligence and/or risk assessment practices?**

| | We request climate-related information | Please explain |
|---|---|---|
| Investing (Asset manager) | Yes | As an asset manager, Great-West Lifeco requests climate-related information from clients/investees through the investments made in the insurance General Account (on balance sheet investments for Great-West Lifeco) as well as investments of third- party clients mainly managed through Great-West Lifeco's asset management affiliates. Great-West Lifeco's third party client asset management affiliates include GWL Realty Advisors, Irish Life Investment Managers (ILIM), Putnam Investments (Putnam), GLC Asset Management (GLC), and PanAgora.<br><br>For example, both Irish Life and Putnam Investments request climate-related information from investees through their proxy voting and engagement processes as part of their research and risk assessment practices when the information is deemed to be material and additive to the investment process. GLC requests climate-related information for risk investment purposes through its involvement in CA100+, and its third-party ESG and proxy providers request climate-related information for the purpose of risk assessments and to inform voting decisions. Meanwhile, GWL Realty Advisors request<br>climate-related information from its clients and the real estate investment properties under management as part of its risk management practices to inform emission reduction and efficiency improvements. |
| Investing (Asset owner) | Yes | As an asset owner, Great-West Lifeco's investment analysis process for the general account includes robust due diligence assessments of potential acquisitions, holdings and divestments, which include climate-related information. For example, in the management of the Canadian Segregated Fund, we request climate-related information from investees and/or clients, including with respect to carbon emission data, carbon management and performance. The information is used to |

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| | | identify and assess performance related to climate-related risks and opportunities. |
| Insurance underwriting (Insurance company) | Yes | As an insurance provider, Great-West Lifeco will request climate-related information from clients as part of the due diligence decision-making process for reinsurance underwriting. Information requested could include physical climate risk exposure ratings related to property and casualty insurance. |
| Other products and services, please specify | Not applicable | |

## C2.3

**(C2.3) Have you identified any inherent climate-related risks with the potential to have a substantive financial or strategic impact on your business?**

No

## C2.3b

**(C2.3b) Why do you not consider your organization to be exposed to climate-related risks with the potential to have a substantive financial or strategic impact on your business?**

| | Primary reason | Please explain |
|---|---|---|
| Row 1 | Risks exist, but none with potential to have a substantive financial or strategic impact on business | We assessed climate risks through our enterprise risk management process, within our market, credit, insurance and operational risk processes.<br><br>Within our operations, offices, data centres and business continuity locations are inherently diversified across geographies in Canada, U.S. and Europe, which inherently limits exposure to potential risks of climate-related events. A climate scenario stress test at one of our head office campuses in Winnipeg last year determined the financial impact would not be substantive representing less than 1% of capital and operating expenditures.<br><br>Within the general accounts (comprising $188.5 billion), we assessed our asset portfolio against “green” and “brown” climate scenarios and identified 4% of potential areas of vulnerability mainly within bonds, conventional mortgages, real estate holdings and equity sectors. However, the inherent diversification of these investments limits our exposure to such vulnerabilities. For example, within bond holdings in potentially vulnerable sectors, we inherently maintain high quality holdings that are of shorter duration (less than 10 years) than the rest of the portfolio limiting our concentration risk |

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| | | to vulnerable sectors. Finally, within equity holdings, vulnerable sectors such as metals and mining, power generation, oil and gas, and chemicals, comprise less than 1% of the total asset portfolio. Based on the assessment, we concluded the balance sheet remains strong and resilient.<br><br>Within the reinsurance business, we model peak perils at the worst locations to assess the likelihood, severity and velocity of extreme weather, including windstorms, hurricanes and cyclones, which in turn informs pricing models. We have established risk limits to cap the maximum exposure through the property catastrophe coverage in accordance with the company's risk appetite and risk preference.<br><br>For life/health insurance, we have a diversified portfolio with diversification between mortality and longevity risk. In addition, we diversify our morbidity and mortality risks, by limiting concentrations in any one specific region or geography. Ongoing research and analysis are done to provide the basis for establishing pricing assumptions that properly reflect the insurance market, including climate-related impacts. No substantive impacts related to climate change were identified. |

# C2.4

**(C2.4) Have you identified any climate-related opportunities with the potential to have a substantive financial or strategic impact on your business?**

No

# C2.4b

**(C2.4b) Why do you not consider your organization to have climate-related opportunities?**

| | Primary reason | Please explain |
|---|---|---|
| Row 1 | Opportunities exist, but none with potential to have a substantive financial or strategic impact on business | We assessed climate-related opportunities as part of the ERM. This includes products and services, investments in clean energy, and sustainable real estate investment opportunities.<br><br>With respect to products and services, our asset management affiliates, GLC Asset Management, Putnam Investments, and Irish Life Investment Managers (who are signatories to the UNPRI), manage responsible investment funds comprising more than $17 billion across a number of ESG related strategies. This includes Putnam's Sustainable Leaders Fund and Sustainable Futures Fund; GLC Asset Management's SRI Canadian Equity Fund and SRI Canadian Bond Fund; and, Irish Life's NNIP Sustainable |

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| | | Global Equities Indices, MSCI World Ex. Fossil Fuels Index Fund, Customer ESG Indices, and Standard ESG Indices. While these products are important, the benefits are not considered substantive given our diversified businesses and extensive distribution reach. For example, in 2019, the income from responsible investment options represented less than 1% of our total fee income.<br><br>Within the clean energy market, we currently have investments over $3.87 billion in wind, solar, and other renewable energy project investments in Canada, through our Private Debt Investment Group, and our European and US Investment teams in the General Account. While important, investments in low carbon/renewable energy projects/markets are not substantive representing less than 2% of our invested assets.<br><br>We also considered the opportunities presented by sustainable real estate assets managed by our subsidiaries, GWL Realty Advisors, Canada Life UK, and Irish Life Investment Managers (ILIM). Notably, through their investment processes and management practices, we have reduced the GHG emissions of our global owner-occupied properties and Canadian investment portfolio by 8% (4,064 tonnes CO2e).. While important, when considered in the context of the overall business, these real estate carbon efficiency opportunities are not substantive given that the fee income represents less than 1% of our total fee income. We also considered possible opportunities from green energy government incentives but determined these would have limited impact; given our utility spend represents less than 1% of overall expenditures. As a result, the sustainable real estate investment opportunities were not considered substantive to the business. |

# C3. Business Strategy

## C3.1

### (C3.1) Have climate-related risks and opportunities influenced your organization's strategy and/or financial planning?

Yes, and we have developed a low-carbon transition plan

## C3.1a

### (C3.1a) Does your organization use climate-related scenario analysis to inform its strategy?

Yes, qualitative and quantitative

# C3.1b

**(C3.1b) Provide details of your organization's use of climate-related scenario analysis.**

| Climate-related scenarios and models applied | Details |
|---|---|
| Other, please specify<br><br>Modelling is used for the Property & Catastrophe portfolio in the Reinsurance department. | Great-West Lifeco climate scenario testing incorporates top-down analysis to assess the future potential exposure of the balance sheet to climate risks and opportunities; and, bottom up analysis to identify potential areas of vulnerability in the asset portfolio of the general account, including bonds, mortgages, real estate and stocks. It involves a structured multi-dimensional approach and considers disruptive themes that could present risk downside and upside opportunities, as well as resilience themes.<br><br>In order to assess the potential impact of a range of outcomes, three scenarios were developed:<br>a) Green scenario (2 C) with orderly transition: Government policies facilitate the transition to a low carbon environment in an orderly manner, in line with the Paris Accord, and becoming GHG-neutral by 2050. In this scenario, the transition takes place gradually.<br>Assumptions: government intervention to ensure the transition occurs in an orderly manner; asset defaults and downgrades on sectors with transition risk exposure; stock markets experience moderate shock; growth stagnates in later years due to poor performance from "at risk" sectors.<br>b) Green scenario (2 C) with disorderly transition: While the green environment is still achieved, in the absence of government intervention, it is driven by grassroots movements. The transition occurs quickly, limiting the ability to adapt and there is an increasing financial market volatility. Assumptions: asset defaults and downgrades on sectors with transition risk exposure; stock markets for "at risk" sectors experience severe stress in the first few years and growth stagnates in later years; and opportunities arise for low carbon related sectors.<br>c) Brown scenarios (4 C): Limited corrective transition response in a business as usual scenario. The fall out from natural disasters and litigious environment leads to volatile financial markets. The impact of climate change includes high mortality rates, property damage, decline in property values, business disruption and a pandemic environment. Assumptions: Physical and liability risks emerge; equity and property prices decline, especially coastal and low-lying areas. Reputational damage and consumer activism lead to credit downgrades and defaults; weather associated event and business disruption; deterioration in the mortality improvement assumption; and consumer groups become more litigious. |

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| | We extended the time horizon to a 50-year period, with the emergence of transition impacts ahead of physical impacts.For the top-down stress and scenario testing, we assessed all risks (market, credit, insurance, and operational risk). In the bottom-up testing, we assessed Great-West Lifeco's invested assets in the general account.<br><br>The results indicate that Great-West Lifeco is well-positioned for known risks of climate change. Bond exposure in vulnerable industries primarily represents high-quality holdings and shorter average durations. The main exposure to transition risk in the bond portfolio is through the energy sector, which is well-positioned, and we continue to review opportunities with respect to renewable energy financing. The balance sheet remains strong and resilient with respect to the climate change scenarios.<br><br>The scenario analysis reinforced our existing business objectives and strategies to limit exposures in vulnerable mortgage/property investments and continue opportunities to invest in clean energy growth and ESG related strategies and clean energy markets. As a case example, $3.87 billion+ is invested in renewable energy investments in the General Account, and CA$17 billion managed across several ESG related strategies within Great-West Lifeco's Asset Management affiliates as at year-end 2019.<br><br>The results have directly informed strategies to consider selectively trimming exposure in longer maturities, and limits related to vulnerable industries. |

# C3.1d

**(C3.1d) Describe where and how climate-related risks and opportunities have influenced your strategy.**

| | Have climate-related risks and opportunities influenced your strategy in this area? | Description of influence |
|---|---|---|
| Products and services | Yes | Climate-related risks and opportunities have influenced our product and service strategies. Specifically, we have various strategies within our investment affiliates to increase the integration of climate-related considerations into investment products over the next 1-3 years. This includes low carbon finance, sustainable fund options as well as integration into mainstream investment decisions by applying an ESG lens. |

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| | | In 2019, the most substantive decision has been twofold. First, we have increased investments into sustainable funds that include climate-related considerations. In 2019, our asset management affiliates managed CA$17 billion across a number of ESG related strategies, including climate change.<br><br>Second, we also made decisions to increase investments in the cleaner energy market to support the transition to a low carbon economy, which in 2019 amounted to over $3.87 billion in wind, solar, and hydro renewable energy projects, as well as purchases of Ontario and Quebec's green bonds. While important, these investments are not substantive given that less than 1% of invested assets are tied to investments in low carbon renewable energy markets and green bonds.<br><br>Furthermore, economic growth driving the number of houses in areas prone to single events (e.g. hurricanes), changes in industry modeled location, occurrence and severity of windstorms, and availability of capital to support these risks have influenced the growth of our property and casualty re-insurance business. As a result, an important growth strategy is to increase our property and casualty reinsurance business over the next 3 years. |
| Supply chain and/or value chain | Yes | Climate-related risks and opportunities have strengthened our approach to third party services providers, who conduct investments on our behalf, to ensure we integrate climate-related information into decision-making processes over the next three years. For example, one of the substantive decisions we have made was to integrate climate-related information into our third-party service providers selection process to ensure they aligned with our expectations to have climate change topics embedded into their investee proxy voting and engagement process. For example, Irish Life's third parties have specific requirements to integrate climate-related information into their proxy voting and engagement processes as part of their risk assessment practices. |
| Investment in R&D | No | Given the nature of our business as a financial services insurance company, we do not typically invest in research and development. While we do conduct research into various emerging trends and the impacts on health and life insurance, including climate change, changing demographics and market conditions, we do not, however |

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| | | target any strategic investments in research and development related to our products and services broadly. |
| Operations | Yes | Within our operations, climate-related risks and opportunities have influenced our strategy with respect to our carbon emissions as well as our corporate reporting and disclosures. With respect to our carbon footprint, we identified opportunities to reduce our carbon emissions and have now set emission reduction targets over a short (2025) and longer term (2036) timeframe. Our focus is on increasing investments in more energy efficient initiatives in our corporate investment properties. For example, as part of this strategy, we set a Scope 1 and 2 GHG emissions target for the Canadian properties to achieve a 27.3% reduction by 2025 and 50.4% reduction by 2036, based on a 2013 baseline. As a specific case study, we have started to strengthen our strategy towards even greater energy efficiency to achieve this target, including with respect to building equipment retrofits, data centre optimization and green building certifications such as BOMA BEST® and/or LEED®.<br><br>Additionally, increasing public and investor concerns over climate change, have influenced our reporting strategies on climate-related information. Specifically, we have strengthened our reporting strategies on climate change focusing on more informed and decision-useful information related to climate governance, risks, opportunities and performance. In 2019, the most substantial decision we made was to formally endorse the Taskforce on Climate-related Disclosures (TCFD) recommendations and strengthen our understanding of climate-related risks and opportunities by undertaking an in-depth analysis of climate-related physical and transition risks as it relates to the General Account. |

# C3.1e

**(C3.1e) Describe where and how climate-related risks and opportunities have influenced your financial planning.**

| | Financial planning elements that have been influenced | Description of influence |
|---|---|---|
| Row 1 | Revenues<br>Direct costs | Revenues: While climate-related events do not pose any inherent risks or opportunity from a revenue standpoint that could be substantive to our business, we do consider potential revenue losses in our financial |

| | | |
|---|---|---|
| | Capital expenditures<br>Acquisitions and divestments<br>Access to capital<br>Assets<br>Liabilities | planning process in the context of our reinsurance business. Using robust weather models, we model peak perils at the worst locations to assess the likelihood, severity and velocity of extreme weather events, including windstorms, hurricanes and cyclones. The information enables us to assess how much of a loss we will take, which in turn informs our pricing models. Based on this modelling of two worst-case scenarios, we determined it would not result in a substantive impact on our business. For example, Great-West Lifeco established reserves of $175 million for claims relating to losses from hurricanes Harvey, Irma and Maria did not result in a substantive impact to the business. Notably, these extreme weather events resulted in no significant losses in our other lines of business, including our other US operations, products, and services. Furthermore, we place contractual limits, which cap exposure on the portfolio. We also renegotiate our reinsurance contracts annually, which enables us to revisit risk exposures and limits on an ongoing basis. For more information, please refer to the risks and opportunities section of this questionnaire.<br><br>Direct costs: While climate-related events do not pose any inherent risk or opportunity on our operating costs that could be substantive to our business, we do factor energy costs as part of our financial planning process. For example, we have increased investments into more energy efficiency programs in our corporate and investment properties, including building equipment retrofits, data centre optimization and green buildings, which align well with our Scope 1+2 GHG targets for Canadian properties to achieve a 27.3% GHG reduction by 2025 and a 50.4% reduction by 2036, based on a 2013 baseline year. As at year-end 2019, 92% of GWLRA's eligible portfolio by floor area had green certifications (BOMA BEST® and/or LEED®). While these are important efficiency improvements, our energy spend is less than 1% of Great-West Lifeco's overall expenditures, and therefore these are not noticeable increases in our operating costs. For more information, please see the risks and opportunities section of this questionnaire for more information.<br><br>Capital expenditures: We have not identified any inherent climate-related risks and opportunities that could be substantive to our business, and therefore have not had to factor them into capital expenditures as part of our financial planning process. We have resilience built into our owned corporate properties, many of which are located in areas that have relatively lower exposure to climate-related extreme weather patterns. For more information, please see the risks and opportunities section of this questionnaire for more information.<br><br>Acquisitions and divestments: We have not identified any inherent climate-related risks or opportunities that could be substantive to our |

| | | |
|---|---|---|
| | | business, and therefore have not had to factor them into acquisitions and divestments as part of our financial planning process.<br><br>Access to capital: We have not identified any inherent climate-related risks or opportunities that could be substantive to our business, and therefore have not had to factor them into access to capital considerations as part of our financial planning process. Please see the risks and opportunities section of this questionnaire for more information. It is important to note that Great-West Lifeco engages with various organizations on climate-related requests and has been ranked highly for carbon management by independent third parties. Specifically, Great-West Lifeco has attained leadership status on its CDP submissions for the past two years, scored in the top quartile among our global industry peers on MSCI's "Climate Change Vulnerability Performance" ranking on its ESG Scorecard assessment, and our real estate subsidiary GWL Realty Advisors, which manages our corporate head offices and investment assets in Canada, has consecutively attained the highest, 'Green Star', ranking on the Global Real Estate Sustainability Benchmark (GRESB), for the past three years. We believe this performance has enhanced our positioning from a reputational standpoint and possibly indirectly strengthened investor confidence.<br><br>Assets: While climate-related events do not pose any inherent risk or opportunity on our assets that could be substantive to our business, we may sometimes factor climate-related opportunities into our investment of assets under management as part of our financial planning process through a consideration of investments into cleaner energy. For example, in 2019, GWL's Private Debt Investments group in Canada invested over $3.87 billion in renewable energy projects, which included wind, solar, and hydro energy projects. However, with less than 1% of our overall asset value tied to investments in the clean energy markets, the growth opportunities are currently not considered substantive to the financial or strategy impact on the business.<br><br>Liabilities: We have not identified any inherent climate-related risks or opportunities that could be substantive to our business, and therefore have not had to factor in potential climate-related liabilities into our financial planning process. |

## C3.1f

**(C3.1f) Provide any additional information on how climate-related risks and opportunities have influenced your strategy and financial planning (optional).**

N/A.

# C-FS3.2

### (C-FS3.2) Are climate-related issues considered in the policy framework of your organization?

Yes, climate-related issues are integrated into our general policy framework that relates to our financing activities

# C-FS3.2a

### (C-FS3.2a) In which policies are climate-related issues integrated?

| | Type of policy | Portfolio coverage of policy | Description |
|---|---|---|---|
| Investing (Asset manager) | Sustainable/Responsible Investment Policy<br>Proxy voting policy | Majority of the portfolio | Sustainable/Responsible Investment Policy: Great-West Lifeco's major investment affiliates, including GLC Asset Management ("GLC"), Irish Life Investment Managers ("ILIM"), and Putnam Investments Ltd ("Putnam"), have integrated climate-related issues into their sustainable / responsible investment policies. Their signatory status with the United Nations Principles for Responsible Investment (UN PRI) supports their respective policies towards ESG considerations, including with respect to climate change, in their investment processes. The determination of the portfolio coverage of the policy is based on the fact that these policies cover all Great-West Lifeco's major investment affiliates. Given that these major investment affiliates represent the majority of the portfolio, it was determined that the UNPRI covered the majority of the portfolio.<br><br>Proxy VOting Policy: Great-West Lifeco's subsidiaries, including GLC Asset Management ("GLC"), Irish Life Investment Managers ("ILIM"), and Putnam Investments Ltd ("Putnam"), have integrated sustainability climate-related considerations as part of their proxy voting policies administered through third party service providers. These policies include climate disclosure engagement related to risks and opportunities, |

| | | | |
|---|---|---|---|
| | | | governance, transition plans and performance. Great-West Lifeco's sustainable investment solutions represent less than 1% of its investment revenues. |
| Investing (Asset owner) | Sustainable/Responsible Investment Policy<br>Proxy voting policy | All of the portfolio | Sustainable/Responsible Investment Policy: In 2019, Great-West Lifeco formalized its Sustainable Investment Policy Statement, which expresses the principles and commitments relevant to the incorporation of Environmental, Social and Governance (ESG) considerations into its investment processes, decision-making, and ownership practices, including with respect to climate change factors. The coverage of the policy has been identified in the Policy Statement, which indicates it applies to all Lifeco subsidiary operating companies and investment management affiliates, and to the investment processes for both direct investments by the Lifeco and investment products.<br><br>Risk Policy: Great-West Lifeco formalized sustainability and specifically climate change risks into the Enterprise Risk Management (ERM) Framework, which applies to the entire portfolio. In doing so, the policies, processes and controls now explicitly incorporate climate change risk considerations across all risk types. |
| Insurance underwriting (Insurance company) | Insurance underwriting policy | Majority of the portfolio | Great-West Lifeco has integrated climate-related considerations into the insurance underwriting policies, which includes requirements to conduct scenario modelling on climate-related events and the impact on our entire reinsurance business. These insurance-underwriting policies require us to model peak perils at the worst locations to assess the likelihood, severity and velocity of extreme weather events, including windstorms, hurricanes and cyclones. The information from these scenario models enables us to assess how much of a loss we will take, which in turn informs our pricing models. |

| | | | |
|---|---|---|---|
| Other products and services, please specify | | | |

## C-FS3.3

**(C-FS3.3) Are climate-related issues factored into your external asset manager selection process?**

Yes, for some assets managed externally

## C-FS3.3a

**(C-FS3.3a) How are climate-related issues factored into your external asset manager selection process?**

| | Process for factoring climate-related issues into external asset management selection | Comment |
|---|---|---|
| Row 1 | Review asset manager's climate-related policies<br>Assessment of asset manager's climate-related performance (e.g. active ownership, proxy voting records, under-weighting in high impact activities) | Great-West Lifeco includes climate-related considerations as part of the selection process for external managers. Specifically, external managers are encouraged to have clear policies that align with Great-West Lifeco ESG principles, including with respect to climate change.<br><br>In addition, through Great-West Lifeco's major investment affiliates, including GLC Asset Management ("GLC"), Irish Life Investment Managers ("ILIM"), and PanAgora Investments, external manager selection is undertaken through detailed due diligence assessments that cover ESG factors broadly, including specific climate-related criteria. |

# C4. Targets and performance

## C4.1

**(C4.1) Did you have an emissions target that was active in the reporting year?**

Absolute target

## C4.1a

**(C4.1a) Provide details of your absolute emissions target(s) and progress made against those targets.**

**Target reference number**

Abs 1

**Year target was set**

2014

**Target coverage**

Country/region

**Scope(s) (or Scope 3 category)**

Scope 1+2 (location-based)

**Base year**

2013

**Covered emissions in base year (metric tons CO2e)**

22,312.04

**Covered emissions in base year as % of total base year emissions in selected Scope(s) (or Scope 3 category)**

37.89

**Target year**

2025

**Targeted reduction from base year (%)**

27.3

**Covered emissions in target year (metric tons CO2e) [auto-calculated]**

16,220.85308

**Covered emissions in reporting year (metric tons CO2e)**

19,478.02

**% of target achieved [auto-calculated]**

46.526564317

**Target status in reporting year**

Underway

**Is this a science-based target?**

No, but we anticipate setting one in the next 2 years

**Please explain (including target coverage)**

This target (2013-2025) applies to Scope 1 and 2 emissions for Great-West Lifeco's owner-occupied and investment properties in Canada. The target excludes Scope 1 + 2 GHG emissions associated with corporate jet fuel use, backup generator diesel fuel use, and refrigerants. The target includes emissions associated with our property-level electricity, natural gas, and steam consumption at our corporate head office and investment properties. The reductions achieved to-date (46.5% towards target completion) are in part due to emissions reduction activities (e.g. energy efficiency

focused retrofits and behavioral changes) at our corporate head office and investment properties in scope for this target.

**Target reference number**

Abs 2

**Year target was set**

2014

**Target coverage**

Country/region

**Scope(s) (or Scope 3 category)**

Scope 1+2 (location-based)

**Base year**

2013

**Covered emissions in base year (metric tons CO2e)**

22,312.04

**Covered emissions in base year as % of total base year emissions in selected Scope(s) (or Scope 3 category)**

37.89

**Target year**

2036

**Targeted reduction from base year (%)**

50.4

**Covered emissions in target year (metric tons CO2e) [auto-calculated]**

11,066.77184

**Covered emissions in reporting year (metric tons CO2e)**

19,478.02

**% of target achieved [auto-calculated]**

25.201889005

**Target status in reporting year**

Underway

**Is this a science-based target?**

No, but we anticipate setting one in the next 2 years

**Please explain (including target coverage)**

This target (2013-2036) applies to Scope 1 and 2 emissions for Great-West Lifeco's owner-occupied and investment properties in Canada. The target excludes Scope 1 + 2

GHG emissions associated with corporate jet fuel use, backup generator diesel fuel use, and refrigerants. The target includes emissions associated with our property-level electricity, natural gas, and steam consumption at our corporate head office and investment properties. The reductions achieved to-date (25.2% towards target completion) are in part due to emissions reduction activities (e.g. energy efficiency focused retrofits and behavioral changes) at our corporate head office and investment properties in scope for this target.

# C4.2

**(C4.2) Did you have any other climate-related targets that were active in the reporting year?**

No other climate-related targets

# C4.3

**(C4.3) Did you have emissions reduction initiatives that were active within the reporting year? Note that this can include those in the planning and/or implementation phases.**

Yes

# C4.3a

**(C4.3a) Identify the total number of initiatives at each stage of development, and for those in the implementation stages, the estimated CO2e savings.**

| | Number of initiatives | Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *) |
|---|---|---|
| Under investigation | 37 | |
| To be implemented* | 10 | 73 |
| Implementation commenced* | 2 | 87 |
| Implemented* | 5 | 129 |
| Not to be implemented | 2 | |

# C4.3b

**(C4.3b) Provide details on the initiatives implemented in the reporting year in the table below.**

**Initiative category & Initiative type**

Energy efficiency in buildings

Lighting

**Estimated annual CO2e savings (metric tonnes CO2e)**
23

**Scope(s)**
Scope 2 (location-based)

**Voluntary/Mandatory**
Voluntary

**Annual monetary savings (unit currency – as specified in C0.4)**
102,000

**Investment required (unit currency – as specified in C0.4)**
365,000

**Payback period**
4-10 years

**Estimated lifetime of the initiative**
6-10 years

**Comment**
Lighting retrofit to LED for base building .

**Initiative category & Initiative type**
Energy efficiency in buildings
Heating, Ventilation and Air Conditioning (HVAC)

**Estimated annual CO2e savings (metric tonnes CO2e)**
50

**Scope(s)**
Scope 1
Scope 2 (location-based)

**Voluntary/Mandatory**
Voluntary

**Annual monetary savings (unit currency – as specified in C0.4)**
0

**Investment required (unit currency – as specified in C0.4)**
1,424,255

**Payback period**
No payback

**Estimated lifetime of the initiative**
11-15 years

### Comment

In-suite heat pump replacements, hot water tank retrofit, and lighting retrofits at multi-residential properties. Payback period not determinable.

### Initiative category & Initiative type

Energy efficiency in buildings
Heating, Ventilation and Air Conditioning (HVAC)

### Estimated annual CO2e savings (metric tonnes CO2e)

56

### Scope(s)

Scope 1
Scope 2 (location-based)

### Voluntary/Mandatory

Voluntary

### Annual monetary savings (unit currency – as specified in C0.4)

43,300

### Investment required (unit currency – as specified in C0.4)

48,900

### Payback period

1-3 years

### Estimated lifetime of the initiative

3-5 years

### Comment

Modify operation of HVAC supply fan.

## C4.3c

### (C4.3c) What methods do you use to drive investment in emissions reduction activities?

| Method | Comment |
|---|---|
| Dedicated budget for energy efficiency | At Great-West Lifeco we have a dedicated budget for energy efficiency projects. Each year, an investigation is made into possible energy efficiency projects. The dedicated budget will vary based on the type of projects, return on investment, and overall positive sustainability impact (e.g. GHG emissions reduction potential). In 2019, we dedicated over $10+ Million (CAD) to energy efficiency-focused projects within the international owner-occupied and investment property portfolio. While significant investments were made in energy efficiency-related |

| | |
|---|---|
| | projects, only some of these projects had emission reductions accounted for and reported. |
| Financial optimization calculations | Financial optimization calculations are conducted on a project-by-project basis by asset management and property management teams for major capital expenditures at Lifeco corporately-owned properties as well as all investment (segregated fund) properties managed by GWL Realty Advisors. |
| Employee engagement | Employee engagement is a core component of Great-West Lifeco's sustainability strategy. In 2019, we continued to expand the mandate of the Corporate Properties Sustainability Working Group (CPSWG) and included teams from international owner-occupied properties. The Working Group, consisting of experienced property management and building operations employees, helps to direct sustainability initiatives with a particular focus on greenhouse gas (GHG) reductions at our corporate properties. So far, they have concentrated on retrofits focusing on energy, water and waste reduction, and the sharing of best practices and strategies among our facilities. The Working Group also helps co-ordinate environment-themed employee engagement activities, such as our participation in the longstanding Earth Day and Earth Hour events. Additionally, sustainability initiatives that can lead to emission reductions at the corporate level are run throughout the year as well, including energy awareness programs, waste reduction initiatives (e.g. paper use reduction), and the promotion of sustainable commuting strategies. |

# C4.5

**(C4.5) Do you classify any of your existing goods and/or services as low-carbon products or do they enable a third party to avoid GHG emissions?**

Yes

# C4.5a

**(C4.5a) Provide details of your products and/or services that you classify as low-carbon products or that enable a third party to avoid GHG emissions.**

**Level of aggregation**

Group of products

**Description of product/Group of products**

Property management services through our subsidiary GWL Realty Advisors.

**Are these low-carbon product(s) or do they enable avoided emissions?**

Low-carbon product

**Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions**

Other, please specify

Green buildings (e.g., LEED/BOMA BEST)

### % revenue from low carbon product(s) in the reporting year

1

### % of total portfolio value

1

### Asset classes/ product types

### Comment

Through GWL Realty Advisors Inc., we have certified select assets under management as green buildings under LEED and / or BOMA BEST certifications. Furthermore, we are working with building owners and tenants in our office and multi-residential portfolio to minimize the carbon footprint of these assets by prudently managing their overall environmental impact.

---

### Level of aggregation

Group of products

### Description of product/Group of products

Putnam Investments – Sustainable Investing Funds:
1) Sustainable Future Fund
2) Sustainable Leaders Fund

### Are these low-carbon product(s) or do they enable avoided emissions?

Low-carbon product

### Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions

Other, please specify

Putnam offers two sustainable focused equity funds.

### % revenue from low carbon product(s) in the reporting year

1

### % of total portfolio value

1

### Asset classes/ product types

Investing
Listed Equity

### Comment

Putnam offers two sustainability focused equity funds, with a focus on environmental, social and governance performance of which climate change is a component. Putnam

Sustainable Leaders Fund invests in companies with a dedication to leadership in financially material sustainable business practices, including their environmental impact and overall climate risk and opportunities. Putnam Sustainable Future Fund invests in solutions-oriented companies dedicated to solving our biggest global sustainability challenges, including climate risk and opportunities. The ESG issues Putnam looks at are based on those issues that are material and relevant to the specific sector, geography, asset class, and company. Putnam considers ESG issues with a common sense, investment-relevant, forward-looking focus.

When Putnam's Sustainable Investing Team assesses potential investments in carbon-intensive sectors, one element of the analysis is measuring carbon intensity, the ratio of carbon emissions (Scope 1 and 2) to revenues, which normalizes for company size. However, we do not explicitly screen out or exclude energy or utility companies which often have a higher carbon intensity. When we assess potential investments in carbon-intensive sectors, a key consideration is our
analysis for the future rate of change in those metrics and the magnitude of improvement that we expect given individual company strategies.

# C5. Emissions methodology

## C5.1

### (C5.1) Provide your base year and base year emissions (Scopes 1 and 2).

#### Scope 1

**Base year start**
January 1, 2013

**Base year end**
December 31, 2013

**Base year emissions (metric tons CO2e)**
17,601.89

**Comment**

#### Scope 2 (location-based)

**Base year start**
January 1, 2013

**Base year end**
December 31, 2013

**Base year emissions (metric tons CO2e)**
41,284.98

**Comment**

### Scope 2 (market-based)

**Base year start**
January 1, 2013

**Base year end**
December 31, 2013

**Base year emissions (metric tons CO2e)**
41,284.98

**Comment**

## C5.2

**(C5.2) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate emissions.**
The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)

# C6. Emissions data

## C6.1

**(C6.1) What were your organization's gross global Scope 1 emissions in metric tons CO2e?**

### Reporting year

**Gross global Scope 1 emissions (metric tons CO2e)**
19,386.75

**Comment**

## C6.2

**(C6.2) Describe your organization's approach to reporting Scope 2 emissions.**

### Row 1

**Scope 2, location-based**
We are reporting a Scope 2, location-based figure

**Scope 2, market-based**

We have operations where we are able to access electricity supplier emission factors or residual emissions factors, but are unable to report a Scope 2, market-based figure

### Comment

We have no operations where we are able to access electricity supplier-specific emission factors or residual emission factors and are unable to report a Scope 2, market-based figure.

## C6.3

### (C6.3) What were your organization's gross global Scope 2 emissions in metric tons CO2e?

#### Reporting year

#### Scope 2, location-based

31,104.05

#### Comment

Great-West Lifeco does not purchase market based contractual instruments.

## C6.4

### (C6.4) Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure?

No

## C6.5

### (C6.5) Account for your organization's gross global Scope 3 emissions, disclosing and explaining any exclusions.

#### Purchased goods and services

#### Evaluation status

Not relevant, calculated

#### Metric tonnes CO2e

2,538.5

#### Emissions calculation methodology

Weight of paper purchased was multiplied by appropriate emissions factor based on % post-consumer content provided by the manufacturer. All
paper sources that were not explicitly identified as having Post Consumer Content were assumed to have 0% Post Consumer Content (8.98 tCO2e/tonne).
GWPs: Carbon dioxide (tCO2/unit): 1; Methane (tCH4/unit): 25; Nitrous Oxide (tN2O/unit): 298.
Emissions factors based upon US average carbon intensity for selected recycled post-

consumer waste content levels of uncoated freesheet
paper (0% post-consumer recycled content). All paper consumed is assumed to be recycled or otherwise accounted for in submitted waste stream data.
Source: Environmental Paper Network, version 3.2.1, http://c.environmentalpaper.org
Assuming Uncoated Freesheet
Segregated by % Post-Consumer Waste - For Misc. values, 0% is assumed.

### Percentage of emissions calculated using data obtained from suppliers or value chain partners

100

### Please explain

The emissions relate to the procurement of office paper for Great-West Lifeco (Canada) properties. Emissions are associated with the production and of paper products used by employees. When considered in the context of the scope 3 emissions from our investments, these emissions are considered to be immaterial.

## Capital goods

### Evaluation status

Not relevant, explanation provided

### Please explain

These emissions are from the production of our office buildings assets and infrastructure. When considered in the context of the scope 3 emissions from our investments, these emissions are considered to be immaterial.

## Fuel-and-energy-related activities (not included in Scope 1 or 2)

### Evaluation status

Not relevant, explanation provided

### Please explain

These emissions are from the production of our buildings, assets and infrastructure. When considered in the context of the scope 3 emissions from our investments, these emissions are considered to be immaterial.

## Upstream transportation and distribution

### Evaluation status

Not relevant, calculated

### Metric tonnes CO2e

244.17

### Emissions calculation methodology

The water consumption for each property was multiplied by country or region-specific emissions factors.
GWPs: Carbon dioxide (tCO2unit): 1; Methane (tCH4/unit): 25; Nitrous Oxide (tN2O/unit): 298.

Uses electricity intensity factor of 1.276 kWh/m3 of water.
Maas, Carol. Greenhouse Gas and Energy Co-Benefits of Water Conservation. POLIS Project on Ecological Governance, University of Victoria. November 2008.
Canada: Environment Canada. Greenhouse Gas Division, National Inventory Report 1990–2017 Part 3: Greenhouse Gas Sources and Sinks in Canada. (Ottawa: Environment Canada, 2019.), 60-72.
United States: Source: eGRID 2016, released Feb 2018 from epa.gov/energy/egrid
United Kingdom/Ireland: Source: Source: Department of Energy and Climate Change, UK Government GHG Conversion Factors for Company Reporting, https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2019

### Percentage of emissions calculated using data obtained from suppliers or value chain partners

80

### Please explain

The emissions relate to the transport and distribution of products that we purchase for our offices. The emissions we have calculated relate to the distribution of water for consumption in our international corporate owner-occupied properties and Canadian investment properties. When considered in the context of the scope 3 emissions from our investments, these emissions are considered to be immaterial.

## Waste generated in operations

### Evaluation status

Not relevant, calculated

### Metric tonnes CO2e

4,882.01

### Emissions calculation methodology

Weight of landfill waste was multiplied by country specific emissions factors. Waste to energy was multiplied by plant specific or country specific emissions factors. Waste to energy and landfill waste emissions were combined.
GWPs: Carbon dioxide (tCO2unit): 1; Methane (tCH4/unit): 25; Nitrous Oxide (tN2O/unit): 298.
Canada: Source: Environment Canada. Greenhouse Gas Division, National Inventory Report 1990–2015 Part 2: Greenhouse Gas Sources and Sinks in Canada. (Ottawa: Environment Canada, 2017.), 195. . From 2017 NIR as no update provided in 2018 NIR, nor 2019 NIR for L0 numbers. K numbers updated for 2019. Based on 500 year emissions with following equation: Emission Factor = (CH4 GWP)*Lo*(1-EXP(-500*k))/1000) (as per EPL in Jan 2016). Note: In a survey of Canadian landfills in 2014, approximately 34% of the CH4 generated in Canadian MSW landflls was captured and combusted. Waste figure includes transport to landfill, equipment use at landfill and landfill methane.
United States: Waste (2.008 tCo2e/tonnw. Waste to energy (0.430 tCO2e/tonne). Source: https://www.epa.gov/sites/production/files/2019-

10/documents/warm_v15_management_practices_updated_10-08-2019.pdf
Source: https://www.epa.gov/sites/production/files/2019-10/documents/warm_v15_management_practices_updated_10-08-2019.pdf
UK/Ireland: Source: Department of Energy and Climate Change, UK Government GHG Conversion Factors for Company Reporting, https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2019

### Percentage of emissions calculated using data obtained from suppliers or value chain partners

77

### Please explain

This includes emissions related to the waste we generate at our international corporate owner-occupied properties and Canadian investment properties that is sent to landfill or waste-to-energy plants. When considered in the context of the scope 3 emissions from our investments, these emissions are considered to be immaterial.

## Business travel

### Evaluation status

Relevant, calculated

### Metric tonnes CO2e

12,462.18

### Emissions calculation methodology

Distance traveled and/or litres of fuel used were multiplied by country-specific emissions factors.
GWPs: Carbon dioxide (tCO2unit): 1; Methane (tCH4/unit): 25; Nitrous Oxide (tN2O/unit): 298.
Corporate Air Travel (UK/Ireland) - Source: Department of Energy and Climate Change, UK Government GHG Conversion Factors for Company Reporting, https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2018
Corporate Air Travel (USA/Canada) - Source: Emissions Factors for Greenhouse Gas Inventories (March 2018): https://www.epa.gov/sites/production/files/2018-03/documents/emission-factors_mar_2018_0.pdf
Reimbursed Mileage (Gasoline, Canada) - Source: Environment Canada. Greenhouse Gas Division, National Inventory Report 1990–2016:
Greenhouse Gas Sources and Sinks in Canada Part 2. (Ottawa: Environment Canada, 2018.), 212, 216.
Reimbursed Mileage (Canada) – Source: Based on average of fuel efficiencies for mid-size, automatic transmission, 6 cylinder, regular gasoline
vehicles from Fuel Consumption Ratings Search Tool (NRCan).
Rail Travel – Source: Emissions Factors for Greenhouse Gas Inventories (March 2018): https://www.epa.gov/sites/production/files/2018-

03/documents/emission-factors_mar_2018_0.pdf - Fuel consumption data and passenger-miles data for rail are from Tables A.14 to A.16 and
9.10 to 9.12 of the Transportation Energy Data Book: Edition 32. Fuel consumption was converted to emissions by using fuel and electricity
emission factors presented in the tables above.
Corporate Ground Travel (USA) - Source: EPA, Optional Emissions from Commuting, Business Travel and Product Transport Emissions
Factors for Greenhouse Gas Inventories (March 2018):
https://www.epa.gov/sites/production/files/2018-03/documents/emissionfactors_mar_2018_0.pdf
Vehicle Gasoline (Ireland) – Source: Source: CH4 and N2O from Department of Energy and Climate Change, UK Government GHG
Conversion Factors for Company Reporting, Department of Energy and Climate Change, UK Government GHG Conversion Factors for
Company Reporting, https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2018

### Percentage of emissions calculated using data obtained from suppliers or value chain partners

99

### Please explain

This includes emissions generated from both air and ground business travel. When considered in the context of the scope 3 emissions from our investments, these emissions are considered to be immaterial. However there is potential for emissions reductions that could be undertaken or influenced by the company for this source, so the emissions have been deemed relevant.

## Employee commuting

### Evaluation status

Not relevant, explanation provided

### Please explain

This includes travel by our employees, such as bus, rail and automobile. When considered in the context of the scope 3 emissions from our investments, these emissions are considered to be immaterial.

## Upstream leased assets

### Evaluation status

Not relevant, calculated

### Metric tonnes CO2e

4,470.36

### Emissions calculation methodology

Energy, water and waste data collected from leased properties was multiplied by appropriate emissions factors.

GWPs: Carbon dioxide (tCO2unit): 1; Methane (tCH4/unit): 25; Nitrous Oxide (tN2O/unit): 298
Electricity - Source: Environment Canada. Greenhouse Gas Division, National Inventory Report 1990–2017 Part 3: Greenhouse Gas Sources and Sinks in Canada. (Ottawa: Environment Canada, 2019.), 60-72Natural Gas - Source: Environment Canada. Greenhouse Gas Division, National Inventory Report 1990–2017 Part 2: Greenhouse Gas Sources and Sinks in Canada. (Ottawa: Environment Canada, 2019.), 220.
Waste – Source: Source: Environment Canada. Greenhouse Gas Division, National Inventory Report 1990–2015 Part 2: Greenhouse Gas Sources and Sinks in Canada. (Ottawa: Environment Canada, 2017.), 195. From 2017 NIR as no update provided in 2018 NIR, nor 2019 NIR for L0 numbers. K numbers updated for 2019. Based on 500 year emissions with following equation: Emission Factor = (CH4 GWP)*Lo*(1-EXP(-500*k))/1000) (as per EPL in Jan 2016). Note: In a survey of Canadian landfills in 2014, approximately 34% of the CH4 generated in Canadian MSW landflls was captured and combusted. Waste figure includes transport to landfill, equipment use at landfill and landfill methane.

Water – Maas, Carol. Greenhouse Gas and Energy Co-Benefits of Water Conservation. POLIS Project on Ecological Governance, University of Victoria. November 2008. Canada: Environment Canada. Greenhouse Gas Division, National Inventory Report 1990–2017 Part 3: Greenhouse Gas Sources and Sinks in Canada. (Ottawa: Environment Canada, 2019.), 60-72.

### Percentage of emissions calculated using data obtained from suppliers or value chain partners

78

### Please explain

Upstream leased assets are outside of our financial and operational control. These emissions are associated with Great-West Lifeco external (third-party managed) field offices and other leased sites for Canada Life employees in Canada.

## Downstream transportation and distribution

### Evaluation status

Not relevant, explanation provided

### Please explain

We do not produce a product that results in downstream emissions from transportation and distribution.

## Processing of sold products

### Evaluation status

Not relevant, explanation provided

### Please explain

We do not sell products that result in GHG emissions from the processing of sold products.

## Use of sold products

### Evaluation status

Not relevant, explanation provided

### Please explain

We do not sell products in our business where the use of the product is relevant in the context of GHG emissions.

## End of life treatment of sold products

### Evaluation status

Not relevant, explanation provided

### Please explain

We do not sell products in our business where GHG emissions associated with end of life treatment of sold products would be relevant.

## Downstream leased assets

### Evaluation status

Not relevant, explanation provided

### Please explain

The operation of assets that are owned by Great-West Lifeco (acting as lessor) and leased to other entities in the reporting year are already included in scope 1 or scope 2 GHG emissions reporting.

## Franchises

### Evaluation status

Not relevant, explanation provided

### Please explain

Great-West Lifeco does not own any franchises.

## Other (upstream)

### Evaluation status

Not relevant, explanation provided

### Please explain

No other upstream emissions are considered material.

## Other (downstream)

### Evaluation status

Not relevant, explanation provided

**Please explain**

No other downstream emissions are considered material.

## C6.10

**(C6.10) Describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tons CO2e per unit currency total revenue and provide any additional intensity metrics that are appropriate to your business operations.**

**Intensity figure**

0.00000113

**Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)**

50,490.8

**Metric denominator**

unit total revenue

**Metric denominator: Unit total**

44,698,000,000

**Scope 2 figure used**

Location-based

**% change from previous year**

7.58

**Direction of change**

Increased

**Reason for change**

Revenue increased by 1.5% and year-over-year GHG emissions increased by 9.2% due to a combined increase in natural gas, refrigerant and jet fuel emissions of 2,755 tCO2e and a combined increase in electricity and steam emissions of 1,614 tCO2e.

**Intensity figure**

2.08

**Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)**

50,490.8

**Metric denominator**

full time equivalent (FTE) employee

**Metric denominator: Unit total**

24,286

**Scope 2 figure used**

Location-based

**% change from previous year**

8.82

**Direction of change**

Increased

**Reason for change**

Employee count increased by 0.4% and year-over-year GHG emissions increased by 9.2% due to a combined increase in natural gas, refrigerant and jet fuel emissions of 2,755 tCO2e and a combined increase in electricity and steam emissions of 1,614 tCO2e.

---

**Intensity figure**

0.00508

**Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)**

50,490.8

**Metric denominator**

square foot

**Metric denominator: Unit total**

9,942,093

**Scope 2 figure used**

Location-based

**% change from previous year**

8.2

**Direction of change**

Increased

**Reason for change**

Area increased by 0.9% and year-over-year and GHG emissions increased by 9.2% due to a combined increase in natural gas, refrigerant and jet fuel emissions of 2,755 tCO2e and a combined increase in electricity and steam emissions of 1,614 tCO2e.

# C7. Emissions breakdowns

## C7.9

**(C7.9) How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to those of the previous reporting year?**

Increased

## C7.9a

**(C7.9a) Identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined), and for each of them specify how your emissions compare to the previous year.**

| | Change in emissions (metric tons CO2e) | Direction of change | Emissions value (percentage) | Please explain calculation |
|---|---|---|---|---|
| Change in renewable energy consumption | 0 | No change | 0 | No change. |
| Other emissions reduction activities | 46.64 | Decreased | 0.1 | This reduction was primarily due to decreased business travel by car, by Irish Life employees in 2019 (reduction of 48 tCO2e or 16195 litres.) Calculation is as follows: (-47 tCO2e/46,235 tCO2e)*100 = -0.10% |
| Divestment | 0 | No change | 0 | No change. |
| Acquisitions | 0 | No change | 0 | No change. |
| Mergers | 0 | No change | 0 | No change. |
| Change in output | 553.49 | Increased | 1.2 | The corporate jet used 214,376 more liters in 2019 for corporate travel, than in 2018, due to increased business needs. Calculation is as follows: (553 tCO2e/46,235 tCO2e)*100 = 1.20% |
| Change in methodology | 91.97 | Decreased | 0.02 | Changes in emissions factors resulted in a net decrease in emissions of 92 tCO2e. Although the Canadian steam emissions increased by 68 as a result of emissions factors changes, this was offset by a decrease of 2 tCO2e resulting |

| | | | | |
|---|---|---|---|---|
| | | | | from changes in Ireland's electricity emissions factors and a decrease of 158 tCO2e resulting from changes in the UK's electricity emissions factors. Calculation is as follows: (-92 tCO2e/46,235 tCO2e)*100 = -0.20% |
| Change in boundary | 0 | No change | 0 | No change. |
| Change in physical operating conditions | 328.18 | Increased | 0.71 | Weather and occupancy changes in the Canadian corporate buildings resulted in a net increase in emissions of 328 tCO2e. Electricity and natural gas showed a combined increase of 328 tCO2e. Calculation was as follows: (328/46,235)*100 = 0.71% |
| Unidentified | 2,414.13 | Increased | 5.22 | Once all other possible analyses had been completed, the remaining change, that cannot be accounted for was 2414 tCO2e. It is possible this may be due to additional weather and occupancy changes, or exceptional circumstances such as renovations, however this analyses cannot be completed at this time. Calculation was as follows: (2414/46,235)*100 = 5.22% |
| Other | 1,098.35 | Increased | 2.38 | This increase is primarily the result of a large refrigerant top up at one Canadian Corporate property of 1260 tCO2e, combined with an overall decrease in back up fuels from the Canadian Corporate, Irish Life and Empower Retirement properties of 67 tCO2e. Overall Calculation was as follows: ((1165+-67)/46,235 tCO2e)*100 = 2.38% |

# C7.9b

**(C7.9b) Are your emissions performance calculations in C7.9 and C7.9a based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?**

Location-based

# C8. Energy

## C8.1

### (C8.1) What percentage of your total operational spend in the reporting year was on energy?

More than 0% but less than or equal to 5%

## C8.2

### (C8.2) Select which energy-related activities your organization has undertaken.

| | Indicate whether your organization undertook this energy-related activity in the reporting year |
|---|---|
| Consumption of fuel (excluding feedstocks) | Yes |
| Consumption of purchased or acquired electricity | Yes |
| Consumption of purchased or acquired heat | Yes |
| Consumption of purchased or acquired steam | Yes |
| Consumption of purchased or acquired cooling | No |
| Generation of electricity, heat, steam, or cooling | No |

## C8.2a

### (C8.2a) Report your organization's energy consumption totals (excluding feedstocks) in MWh.

| | Heating value | MWh from renewable sources | MWh from non-renewable sources | Total (renewable and non-renewable) MWh |
|---|---|---|---|---|
| Consumption of fuel (excluding feedstock) | HHV (higher heating value) | 0 | 91,010.11 | 91,010.11 |
| Consumption of purchased or acquired electricity | | 0 | 158,070.5 | 158,070.5 |

| | | | | |
|---|---|---|---|---|
| Consumption of purchased or acquired heat | | 0 | 0 | 0 |
| Consumption of purchased or acquired steam | | 0 | 10,685.69 | 10,685.69 |
| Total energy consumption | | 0 | 259,766.3 | 259,766.3 |

# C9. Additional metrics

## C9.1

**(C9.1) Provide any additional climate-related metrics relevant to your business.**

**Description**

Waste

**Metric value**

4,825.27

**Metric numerator**

tCO2e

**Metric denominator (intensity metric only)**

**% change from previous year**

51.9

**Direction of change**

Increased

**Please explain**

Landfill waste from the Canadian Corporate and International properties increased from 2018 to 2019 by 1650 tCO2e.

**Description**

Other, please specify

Seg Fund Investment Properties GHGs

**Metric value**

89,774.81

**Metric numerator**

tCO2e

**Metric denominator (intensity metric only)**

**% change from previous year**

1.5

**Direction of change**

Increased

**Please explain**

Emissions from the Canadian Segregated Fund properties increased by 1,293 tCO2e. This was due to large increases in natural gas usage (296 tCO2e), landfill waste (1045 tCO2e) and steam (63 tCO2e). These increases occurred despite a combined reduction of 112 tCO2e from electricity, water and waste to energy.

**Description**

Other, please specify

Lifeco Leased Properties (Canada)

**Metric value**

4,470.36

**Metric numerator**

tCO2e

**Metric denominator (intensity metric only)**

**% change from previous year**

6.2

**Direction of change**

Decreased

**Please explain**

Emissions from Canadian Leased properties decreased by 297 tCO2e, due to significant decreases in natural gas and electricity emissions (893 tCO2e), while landfill waste, steam and water showed a combined increase of 595 tCO2e.

**Description**

Other, please specify

Water Consumption GHG Emissions

**Metric value**

244.17

**Metric numerator**

tCO2e

**Metric denominator (intensity metric only)**

**% change from previous year**

4.5

**Direction of change**

Increased

**Please explain**

Water emissions in Canadian Corporate and International properties has increased by 11 tCO2e.

---

**Description**

Other, please specify

Business Travel GHG Emissions

**Metric value**

12,462.18

**Metric numerator**

tCO2e

**Metric denominator (intensity metric only)**

**% change from previous year**

9.1

**Direction of change**

Decreased

**Please explain**

Business Travel emissions were reduced by 1243 tCO2e, mostly due to decreases in air travel (730 tCO2e) and reimbursed mileage (487 tCO2e).

---

**Description**

Other, please specify

Paper Use GHG Emissions

**Metric value**

2,538.5

**Metric numerator**

tCO2e

**Metric denominator (intensity metric only)**

**% change from previous year**

52.7

**Direction of change**

Decreased

**Please explain**

Paper emissions were reduced by 2823 tCO2e due to a decrease in paper usage at Canadian Corporate offices.

**Description**

Energy usage

**Metric value**

259,766,299.87

**Metric numerator**

kWh

**Metric denominator (intensity metric only)**

**% change from previous year**

3.4

**Direction of change**

Increased

**Please explain**

Absolute energy usage in the corporate properties increased by 8,506 MWH. This was largely due to increases in natural gas usage of 5,654 MWH, steam of 1,497 MWH, and jet fuel of 2,066 MWH.

**Description**

Energy usage

**Metric value**

26.13

**Metric numerator**

kWh

**Metric denominator (intensity metric only)**

ft2

**% change from previous year**

2.4

**Direction of change**

Increased

**Please explain**

As a result of increases in natural gas and steam usage (primarily), energy intensity in the Corporate properties increased by 2.4% or 0.62 kWh/ft2.

**Description**

Other, please specify

Water Use

**Metric value**

654,964.51

**Metric numerator**

m3

**Metric denominator (intensity metric only)**

**% change from previous year**

6.5

**Direction of change**

Increased

**Please explain**

Water consumption increased by 39,942 m3 as a result of a 7.6% increase in Empower Retirement/Putnam consumption, a 6.6% increase in Canadian Corporate consumption, a 22.9% increase in EverWest consumption, a 1.4% increase in Canada Life UK consumption, and a 3.9% increase in Irish Life's water usage.

**Description**

Other, please specify

Water Use Intensity

**Metric value**

0.07

**Metric numerator**

m3

**Metric denominator (intensity metric only)**

ft2

**% change from previous year**

5.5

**Direction of change**

Increased

**Please explain**

Water Use Intensity increased by 0.003 m3/ft due to an increase in overall area of 0.9 % and an increase in consumption across all portfolios.

**Description**

Waste

**Metric value**

2,356.9

**Metric numerator**

metric tonnes

**Metric denominator (intensity metric only)**

**% change from previous year**

52.2

**Direction of change**

Increased

**Please explain**

Landfill waste generation increased by 809 metric tonnes, due primarily to increases from the Canadian Corporate Properties of 548.3 tonnes and the Empower Retirement/Putnam properties of 238.8 tonnes.

**Description**

Waste

**Metric value**

59

**Metric numerator**

%

**Metric denominator (intensity metric only)**

### % change from previous year

0.3

### Direction of change

Decreased

### Please explain

The waste diversion rate decreased slightly due to an increase in overall recycling of 717 tonnes and a decrease in total waste of 522 tonnes.

---

### Description

Other, please specify

Waste to Energy (GHG Emissions)

### Metric value

56.75

### Metric numerator

tCO2e

### Metric denominator (intensity metric only)

### % change from previous year

82.7

### Direction of change

Decreased

### Please explain

Waste to Energy generation from the Canadian Corporate and International properties decreased from 2018 to 2019 by 271 tCO2e.

---

### Description

Other, please specify

Waste to Energy (tonnes)

### Metric value

286.8

### Metric numerator

### Metric denominator (intensity metric only)

### % change from previous year

50

**Direction of change**

Decreased

**Please explain**

Waste to Energy generation decreased by 286 metric tonnes, due to a decrease from the Canadian Corporate Properties of 238.9 tonnes and a combined reduction from the UK and Ireland properties of 47.4 tonnes.

# C10. Verification

## C10.1

**(C10.1) Indicate the verification/assurance status that applies to your reported emissions.**

| | Verification/assurance status |
|---|---|
| Scope 1 | Third-party verification or assurance process in place |
| Scope 2 (location-based or market-based) | Third-party verification or assurance process in place |
| Scope 3 | Third-party verification or assurance process in place |

## C10.1a

**(C10.1a) Provide further details of the verification/assurance undertaken for your Scope 1 emissions, and attach the relevant statements.**

**Verification or assurance cycle in place**

Annual process

**Status in the current reporting year**

Complete

**Type of verification or assurance**

Limited assurance

**Attach the statement**

GWL_PwC Report on GHG Statement FY19_Final.pdf

**Page/ section reference**

Please see pages 3-5 for representation letter and limited level assurance statement from PwC.

**Relevant standard**

ISAE 3410

### Proportion of reported emissions verified (%)

100

## C10.1b

**(C10.1b) Provide further details of the verification/assurance undertaken for your Scope 2 emissions and attach the relevant statements.**

### Scope 2 approach

Scope 2 location-based

### Verification or assurance cycle in place

Annual process

### Status in the current reporting year

Complete

### Type of verification or assurance

Limited assurance

### Attach the statement

GWL_PwC Report on GHG Statement FY19_Final.pdf

### Page/ section reference

Please see pages 3-5 for representation letter and limited level assurance statement from PwC.

### Relevant standard

ISAE 3410

### Proportion of reported emissions verified (%)

100

## C10.1c

**(C10.1c) Provide further details of the verification/assurance undertaken for your Scope 3 emissions and attach the relevant statements.**

### Scope 3 category

Scope 3: Investments

### Verification or assurance cycle in place

Annual process

### Status in the current reporting year

Complete

**Type of verification or assurance**

Limited assurance

**Attach the statement**

GWL_PwC Report on GHG Statement FY19_Final.pdf

**Page/section reference**

Please see pages 3-5 for representation letter and limited level assurance statement from PwC.

**Relevant standard**

ISAE 3410

**Proportion of reported emissions verified (%)**

100

---

**Scope 3 category**

Scope 3: Upstream transportation and distribution

**Verification or assurance cycle in place**

Annual process

**Status in the current reporting year**

Complete

**Type of verification or assurance**

Limited assurance

**Attach the statement**

GWL_PwC Report on GHG Statement FY19_Final.pdf

**Page/section reference**

Please see pages 3-5 for representation letter and limited level assurance statement from PwC.

**Relevant standard**

ISAE 3410

**Proportion of reported emissions verified (%)**

100

---

**Scope 3 category**

Scope 3: Waste generated in operations

### Verification or assurance cycle in place

Annual process

### Status in the current reporting year

Complete

### Type of verification or assurance

Limited assurance

### Attach the statement

GWL_PwC Report on GHG Statement FY19_Final.pdf

### Page/section reference

Please see pages 3-5 for representation letter and limited level assurance statement from PwC.

### Relevant standard

ISAE 3410

### Proportion of reported emissions verified (%)

100

---

### Scope 3 category

Scope 3: Business travel

### Verification or assurance cycle in place

Annual process

### Status in the current reporting year

Complete

### Type of verification or assurance

Limited assurance

### Attach the statement

GWL_PwC Report on GHG Statement FY19_Final.pdf

### Page/section reference

Please see pages 3-5 for representation letter and limited level assurance statement from PwC.

### Relevant standard

ISAE 3410

### Proportion of reported emissions verified (%)

100

## C10.2

**(C10.2) Do you verify any climate-related information reported in your CDP disclosure other than the emissions figures reported in C6.1, C6.3, and C6.5?**

Yes

## C10.2a

**(C10.2a) Which data points within your CDP disclosure have been verified, and which verification standards were used?**

| Disclosure module verification relates to | Data verified | Verification standard | Please explain |
|---|---|---|---|
| C6. Emissions data | Year on year change in emissions (Scope 1) | ISAE 3410 | PwC verified the year on year change in emissions for Scope 1, Scope 2, Scopes 1 and 2, and Scope 3. See attached PwC Assurance Statement (pg.4). 1 |
| C6. Emissions data | Year on year change in emissions (Scope 2) | ISAE 3410 | PwC verified the year on year change in emissions for Scope 1, Scope 2, Scopes 1 and 2, and Scope 3. See attached PwC Assurance Statement (pg.4). 1 |
| C6. Emissions data | Year on year change in emissions (Scope 1 and 2) | ISAE 3410 | PwC verified the year on year change in emissions for Scope 1, Scope 2, Scopes 1 and 2, and Scope 3. See attached PwC Assurance Statement (pg.4). 1 |
| C6. Emissions data | Year on year change in emissions (Scope 3) | ISAE 3410 | PwC verified the year on year change in emissions for Scope 1, Scope 2, Scopes 1 and 2, and Scope 3. See attached PwC Assurance Statement (pg.4). 1 |

[1]GWL_PwC Report on GHG Statement FY19_Final.pdf

# C11. Carbon pricing

## C11.2

**(C11.2) Has your organization originated or purchased any project-based carbon credits within the reporting period?**

No

# C11.3

## (C11.3) Does your organization use an internal price on carbon?

Yes

# C11.3a

## (C11.3a) Provide details of how your organization uses an internal price on carbon.

### Objective for implementing an internal carbon price

Navigate GHG regulations
Stakeholder expectations

### GHG Scope

Scope 1
Scope 2

### Application

The price is applied to all owner-occupied and investment properties in Canada by our subsidiary GWLRA.

### Actual price(s) used (Currency /metric ton)

20

### Variance of price(s) used

Prices used vary from $20/tonne CO2e to a high-end (hypothetical scenario) of $210/tonne CO2e.

The GHG emissions inventory report for the GWLRA, includes forward-looking carbon pricing assessments based on the government of Canada's commitment to carbon pricing (Bill C-74, or the Greenhouse Gas Pollution Pricing Act). The assessment includes analysis of forward-looking carbon pricing in Canada, which begins at $20 per tonne CO2e in 2019 and will rise by $10 per tonne to $50 per tonne of CO2e by 2022. More specifically, Carbon tax/pricing implications on utility costs: Expected 2021 carbon costs of $40/tonne CO2e, Expected 2022 carbon costs of $50/tonne of CO2e, and Carbon tax/pricing implications on utility costs.

Additionally, the forward-looking carbon pricing analysis (transition risk assessment) includes a scenario of pricing at $210/tonne CO2e by 2030, which Canada’s Ecofiscal Commission has recommended for the emissions and energy targets to be achieved.

### Type of internal carbon price

Shadow price
Implicit price

### Impact & implication

GWL Realty Advisors, a wholly-owned asset management subsidiary of Great-West Lifeco, uses carbon prices for informational purposes – to determine potential future operating cost increases (e.g., utility expenditure) at properties within its Canadian managed portfolio. These prices are assessed under different pricing scenarios, reflecting carbon prices that are considered necessary to achieve various carbon reduction and carbon neutrality targets set forth by the Government of Canada. Together, these shadow price scenarios provide insight into possible future operating expenses and associated operational and financial risks across the real estate portfolio. On an ad hoc basis, GWL Realty Advisors considers implicit carbon prices during capital budgeting and expenditure on energy retrofits for Great-West Lifeco's owner-occupied and investment properties. These prices help determine the true financial payback, and point to the efficacy of conservation initiatives and retrofits, that span more than 1-2 years. Overall, the use of shadow and implicit carbon prices (and different carbon pricing scenarios) by GWL Realty Advisors has not significantly impacted Great-West Lifeco's business decisions. This is due to operating costs from utilities expenditures (at Lifeco's Canadian owner-occupied and investment properties) accounting for <1% of total operating costs under all assessed carbon prices.

### Objective for implementing an internal carbon price

Navigate GHG regulations
Stakeholder expectations

### GHG Scope

Scope 1
Scope 2

### Application

The price is applied to all owner-occupied and investment properties in Canada by our subsidiary GWLRA.

### Actual price(s) used (Currency /metric ton)

30

### Variance of price(s) used

Prices used vary from $20/tonne CO2e to a high-end (hypothetical scenario) of $210/tonne CO2e.

The GHG emissions inventory report for the GWLRA, includes forward-looking carbon pricing assessments based on the government of Canada's commitment to carbon pricing (Bill C-74, or the Greenhouse Gas Pollution Pricing Act). The assessment includes analysis of forward-looking carbon pricing in Canada, which begins at $20 per tonne CO2e in 2019 and will rise by $10 per tonne to $50 per tonne of CO2e by 2022. More specifically, Carbon tax/pricing implications on utility costs: Expected 2021 carbon costs of $40/tonne CO2e, Expected 2022 carbon costs of $50/tonne of CO2e, and Carbon tax/pricing implications on utility costs.

Additionally, the forward-looking carbon pricing analysis (transition risk assessment) includes a scenario of pricing at $210/tonne CO2e by 2030, which Canada's Ecofiscal Commission has recommended for the emissions and energy targets to be achieved.

### Type of internal carbon price

Shadow price
Implicit price

### Impact & implication

GWL Realty Advisors, a wholly-owned asset management subsidiary of Great-West Lifeco, uses carbon prices for informational purposes – to determine potential future operating cost increases (e.g., utility expenditure) at properties within its Canadian managed portfolio. These prices are assessed under different pricing scenarios, reflecting carbon prices that are considered necessary to achieve various carbon reduction and carbon neutrality targets set forth by the Government of Canada. Together, these shadow price scenarios provide insight into possible future operating expenses and associated operational and financial risks across the real estate portfolio. On an ad hoc basis, GWL Realty Advisors considers implicit carbon prices during capital budgeting and expenditure on energy retrofits for Great-West Lifeco's owner-occupied and investment properties. These prices help determine the true financial payback, and point to the efficacy of conservation initiatives and retrofits, that span more than 1-2 years. Overall, the use of shadow and implicit carbon prices (and different carbon pricing scenarios) by GWL Realty Advisors has not significantly impacted Great-West Lifeco's business decisions. This is due to operating costs from utilities expenditures (at Lifeco's Canadian owner-occupied and investment properties) accounting for <1% of total operating costs under all assessed carbon prices.

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### Objective for implementing an internal carbon price

Navigate GHG regulations
Stakeholder expectations

### GHG Scope

Scope 1
Scope 2

### Application

The price is applied to all owner-occupied and investment properties in Canada by our subsidiary GWLRA.

### Actual price(s) used (Currency /metric ton)

40

### Variance of price(s) used

Prices used vary from $20/tonne CO2e to a high-end (hypothetical scenario) of $210/tonne CO2e.

The GHG emissions inventory report for the GWLRA, includes forward-looking carbon pricing assessments based on the government of Canada's commitment to carbon pricing (Bill C-74, or the Greenhouse Gas Pollution Pricing Act). The assessment includes analysis of forward-looking carbon pricing in Canada, which begins at $20 per tonne CO2e in 2019 and will rise by $10 per tonne to $50 per tonne of CO2e by 2022. More specifically, Carbon tax/pricing implications on utility costs: Expected 2021 carbon costs of $40/tonne CO2e, Expected 2022 carbon costs of $50/tonne of CO2e, and Carbon tax/pricing implications on utility costs.

Additionally, the forward-looking carbon pricing analysis (transition risk assessment) includes a scenario of pricing at $210/tonne CO2e by 2030, which Canada's Ecofiscal Commission has recommended for the emissions and energy targets to be achieved.

### Type of internal carbon price

Shadow price
Implicit price

### Impact & implication

GWL Realty Advisors, a wholly-owned asset management subsidiary of Great-West Lifeco, uses carbon prices for informational purposes – to determine potential future operating cost increases (e.g., utility expenditure) at properties within its Canadian managed portfolio. These prices are assessed under different pricing scenarios, reflecting carbon prices that are considered necessary to achieve various carbon reduction and carbon neutrality targets set forth by the Government of Canada. Together, these shadow price scenarios provide insight into possible future operating expenses and associated operational and financial risks across the real estate portfolio. On an ad hoc basis, GWL Realty Advisors considers implicit carbon prices during capital budgeting and expenditure on energy retrofits for Great-West Lifeco's owner-occupied and investment properties. These prices help determine the true financial payback, and point to the efficacy of conservation initiatives and retrofits, that span more than 1-2 years. Overall, the use of shadow and implicit carbon prices (and different carbon pricing scenarios) by GWL Realty Advisors has not significantly impacted Great-West Lifeco's business decisions. This is due to operating costs from utilities expenditures (at Lifeco's Canadian owner-occupied and investment properties) accounting for <1% of total operating costs under all assessed carbon prices.

### Objective for implementing an internal carbon price

Navigate GHG regulations
Stakeholder expectations

### GHG Scope

Scope 1
Scope 2

### Application

The price is applied to all owner-occupied and investment properties in Canada by our subsidiary GWLRA.

### Actual price(s) used (Currency /metric ton)

45

### Variance of price(s) used

Prices used vary from $20/tonne CO2e to a high-end (hypothetical scenario) of $210/tonne CO2e.

The GHG emissions inventory report for the GWLRA, includes forward-looking carbon pricing assessments based on the government of Canada's commitment to carbon pricing (Bill C-74, or the Greenhouse Gas Pollution Pricing Act). The assessment includes analysis of forward-looking carbon pricing in Canada, which begins at $20 per tonne CO2e in 2019 and will rise by $10 per tonne to $50 per tonne of CO2e by 2022. More specifically, Carbon tax/pricing implications on utility costs: Expected 2021 carbon costs of $40/tonne CO2e, Expected 2022 carbon costs of $50/tonne of CO2e, and Carbon tax/pricing implications on utility costs.

Additionally, the forward-looking carbon pricing analysis (transition risk assessment) includes a scenario of pricing at $210/tonne CO2e by 2030, which Canada’s Ecofiscal Commission has recommended for the emissions and energy targets to be achieved.

### Type of internal carbon price

Shadow price
Implicit price

### Impact & implication

GWL Realty Advisors, a wholly-owned asset management subsidiary of Great-West Lifeco, uses carbon prices for informational purposes – to determine potential future operating cost increases (e.g., utility expenditure) at properties within its Canadian managed portfolio. These prices are assessed under different pricing scenarios, reflecting carbon prices that are considered necessary to achieve various carbon reduction and carbon neutrality targets set forth by the Government of Canada. Together, these shadow price scenarios provide insight into possible future operating expenses and associated operational and financial risks across the real estate portfolio. On an ad hoc basis, GWL Realty Advisors considers implicit carbon prices during capital budgeting and expenditure on energy retrofits for Great-West Lifeco’s owner-occupied and investment properties. These prices help determine the true financial payback, and point to the efficacy of conservation initiatives and retrofits, that span more than 1-2 years. Overall, the use of shadow and implicit carbon prices (and different carbon pricing scenarios) by GWL Realty Advisors has not significantly impacted Great-West Lifeco's business decisions. This is due to operating costs from utilities expenditures (at Lifeco's Canadian owner-occupied and investment properties) accounting for <1% of total operating costs under all assessed carbon prices.

### Objective for implementing an internal carbon price

Navigate GHG regulations
Stakeholder expectations

### GHG Scope

Scope 1
Scope 2

### Application

The price is applied to all owner-occupied and investment properties in Canada by our subsidiary GWLRA.

### Actual price(s) used (Currency /metric ton)

50

### Variance of price(s) used

Prices used vary from $20/tonne CO2e to a high-end (hypothetical scenario) of $210/tonne CO2e.

The GHG emissions inventory report for the GWLRA, includes forward-looking carbon pricing assessments based on the government of Canada's commitment to carbon pricing (Bill C-74, or the Greenhouse Gas Pollution Pricing Act). The assessment includes analysis of forward-looking carbon pricing in Canada, which begins at $20 per tonne CO2e in 2019 and will rise by $10 per tonne to $50 per tonne of CO2e by 2022. More specifically, Carbon tax/pricing implications on utility costs: Expected 2021 carbon costs of $40/tonne CO2e, Expected 2022 carbon costs of $50/tonne of CO2e, and Carbon tax/pricing implications on utility costs.

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### Type of internal carbon price

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Implicit price

### Impact & implication

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point to the efficacy of conservation initiatives and retrofits, that span more than 1-2 years. Overall, the use of shadow and implicit carbon prices (and different carbon pricing scenarios) by GWL Realty Advisors has not significantly impacted Great-West Lifeco's business decisions. This is due to operating costs from utilities expenditures (at Lifeco's Canadian owner-occupied and investment properties) accounting for <1% of total operating costs under all assessed carbon prices.

### Objective for implementing an internal carbon price

Navigate GHG regulations
Stakeholder expectations

### GHG Scope

Scope 1
Scope 2

### Application

The price is applied to all owner-occupied and investment properties in Canada by our subsidiary GWLRA.

### Actual price(s) used (Currency /metric ton)

210

### Variance of price(s) used

Prices used vary from $20/tonne CO2e to a high-end (hypothetical scenario) of $210/tonne CO2e.

The GHG emissions inventory report for the GWLRA, includes forward-looking carbon pricing assessments based on the government of Canada's commitment to carbon pricing (Bill C-74, or the Greenhouse Gas Pollution Pricing Act). The assessment includes analysis of forward-looking carbon pricing in Canada, which begins at $20 per tonne CO2e in 2019 and will rise by $10 per tonne to $50 per tonne of CO2e by 2022. More specifically, Carbon tax/pricing implications on utility costs: Expected 2021 carbon costs of $40/tonne CO2e, Expected 2022 carbon costs of $50/tonne of CO2e, and Carbon tax/pricing implications on utility costs.

Additionally, the forward-looking carbon pricing analysis (transition risk assessment) includes a scenario of pricing at $210/tonne CO2e by 2030, which Canada’s Ecofiscal Commission has recommended for the emissions and energy targets to be achieved.

### Type of internal carbon price

Shadow price
Implicit price

### Impact & implication

GWL Realty Advisors, a wholly-owned asset management subsidiary of Great-West Lifeco, uses carbon prices for informational purposes – to determine potential future operating cost increases (e.g., utility expenditure) at properties within its Canadian

managed portfolio. These prices are assessed under different pricing scenarios, reflecting carbon prices that are considered necessary to achieve various carbon reduction and carbon neutrality targets set forth by the Government of Canada. Together, these shadow price scenarios provide insight into possible future operating expenses and associated operational and financial risks across the real estate portfolio. On an ad hoc basis, GWL Realty Advisors considers implicit carbon prices during capital budgeting and expenditure on energy retrofits for Great-West Lifeco's owner-occupied and investment properties. These prices help determine the true financial payback, and point to the efficacy of conservation initiatives and retrofits, that span more than 1-2 years. Overall, the use of shadow and implicit carbon prices (and different carbon pricing scenarios) by GWL Realty Advisors has not significantly impacted Great-West Lifeco's business decisions. This is due to operating costs from utilities expenditures (at Lifeco's Canadian owner-occupied and investment properties) accounting for <1% of total operating costs under all assessed carbon prices.

# C12. Engagement

## C12.1

### (C12.1) Do you engage with your value chain on climate-related issues?

Yes, our suppliers
Yes, our customers
Yes, our investee companies
Yes, other partners in the value chain

## C12.1a

### (C12.1a) Provide details of your climate-related supplier engagement strategy.

**Type of engagement**

Information collection (understanding supplier behavior)

**Details of engagement**

Other, please specify

Included climate change in supplier selection / management mechanism

**% of suppliers by number**

22

**% total procurement spend (direct and indirect)**

28

**% of supplier-related Scope 3 emissions as reported in C6.5**

100

**Rationale for the coverage of your engagement**

We specifically engage our critical suppliers to understand the products and services that could reduce the environmental footprint of our buildings, operations, and processes. Supplier evaluation and our Supplier Risk Management Policy includes sustainability (including climate change) as one of its considerations. This includes suppliers that support us in improving the sustainability of our real estate assets, as well as other products and services that enable us to reduce energy, water, and material consumption (e.g. building equipment retrofits, utility providers, data centre optimization, LED lighting, paper, and building materials). By working collaboratively with these suppliers to encourage alternative and green products and services, it enables us to meet our green building certification targets as well as our GHG Scope 1+2 reduction target for Canadian properties to achieve a 27.3% GHG reduction by 2025 and a 50.4% reduction by 2036, based on a 2013 baseline year. Please note that the data provided for this question relates to our Canadian operations only.

### Impact of engagement, including measures of success

By engaging with our suppliers to provide products and services that reduce our environmental footprint, we have been able to achieve our green building certification targets for our corporate head offices and investment properties.

Furthermore, the use of more environmentally friendly products and services from our suppliers has contributed to our targeted GHG reductions for Canadian properties. Specifically, in 2019, Great-West Lifeco achieved a 14.3% reduction in the GHG scope 1 and 2 emissions when compared to its baseline year of 2013.

### Comment

Based on Great-West Lifeco's response to question 6.5, the Company engages with 100% of its Scope 3 suppliers, which include the waste management companies, water utilities, paper suppliers, and corporate travel suppliers who provide the necessary information for Great-West Lifeco to calculate the environmental impact (e.g., GHG emissions) of its operations.

## C12.1b

### (C12.1b) Give details of your climate-related engagement strategy with your customers.

### Type of engagement

Education/information sharing

### Details of engagement

Run an engagement campaign to education customers about your climate change performance and strategy

### % of customers by number

100

### % of customer - related Scope 3 emissions as reported in C6.5

100

### Portfolio coverage (total or outstanding)

Minority of the portfolio

### Please explain the rationale for selecting this group of customers and scope of engagement

Through our subsidiary, GWL Realty Advisors, we engage with the tenants, residents, and occupants of our downstream real estate assets under management, to better understand their changing needs, to enhance our services, and to endeavor to exceed their expectations, including with respect to energy management. For example, GWLRA engages to share information on sustainability-related metrics such as green building certification status, energy performance (e.g., energy reductions), water use efficiency, waste production and GHG emissions of the property.

GWLRA commercial and multi-residential property managers continue to engage and educate tenants on topics of interest, including sharing relevant climate change-related information, such as GHG emissions performance and programs in place to improve GHG emissions at the property-level, such as the Sustainability Benchmarking and Conservation Program for GWLRA managed office assets (establishing energy, water, waste, and GHG targets). GWLRA holds monthly tenant meetings, interact through green teams, workshops and education events, issue newsletters, and host building events to encourage tenant participation in activities, such as Earth Hour, Earth Day/Week, and National Waste Reduction Week. Please note these Scope 3 emissions are specifically associated with the categories “Waste generated in operations” and “Investments” listed in question 6.5

### Impact of engagement, including measures of success

On an ongoing basis, GWLRA conducts tenant and resident engagement (satisfaction) surveys to inform our continuous improvement efforts at both our commercial and multi-residential properties under management. Results from these satisfaction surveys are tied to the internal performance metrics of property management teams. Property and asset management teams, as required, address issues and follow-ups pertaining to the surveys. By engaging with the occupants of its buildings, GWLRA is able to contribute to the continuous improvement of the efficiency of its assets under management, for example, engagement by GWLRA staff can lead tenants to adopt and install higher efficiency equipment for their spaces. In 2019, GWLRA achieved a 19.6% GHG emissions across its office and multi-residential portfolio, compared to its 2013 baseline, in part due to the efforts of tenants and residents.

### Type of engagement

Education/information sharing

### Details of engagement

Run an engagement campaign to education customers about your climate change performance and strategy

**% of customers by number**

100

**% of customer - related Scope 3 emissions as reported in C6.5**

0

**Portfolio coverage (total or outstanding)**

Minority of the portfolio

**Please explain the rationale for selecting this group of customers and scope of engagement**

Through our asset management affiliate, GLC Asset Management, we engage with our clients to promote acceptance and better education for investors, financial advisors and investment consultants. In 2019, the engagement included developing a robust advisor training module, case studies, videos and interactive exercises; and, expanding the breadth and depth of the GLC Responsible Investing webpage, including the development of Podcasts, short videos, articles and RI policies.

**Impact of engagement, including measures of success**

The measure of success of the education and awareness campaign is tracked based on the number of unique clients engaged on responsible investing, including climate-related issues through the provision of training modules as well as the traffic and use of the GLC Asset Management Responsible Investing Webpage. Since inception in November 2019, the education and awareness campaign has been completed by 181 advisors, with a further 111 advisors having made progress on the module. The revamped GLC Asset Management Responsible Investing webpage debuted in February of 2020 has recorded a 3% increase in the number of unique visitors.

## C-FS12.1c

**(C-FS12.1c) Give details of your climate-related engagement strategy with your investee companies.**

**Type of engagement**

Engagement & incentivization (changing investee behavior)

**Details of engagement**

Other, please specify

Included climate change in investee selection/management mechanisms

**% of investees by number**

100

**% Scope 3 emissions as reported in C-FS14.1a/C-FS14.1b**

0

### Portfolio coverage

Minority of the portfolio

### Rationale for the coverage of your engagement

Through Great-West Lifeco's subsidiary, Irish Life Investment Managers (ILIM), we engage with investee companies on specific climate-related topics. In 2019, ILIM joined the non-disclosure campaign – a group of 88 investors who focus on companies that did not disclose last year and some of the biggest emitters on 20 of the largest exchanges across the world. They also conduct collaborative engagement through the Climate Action 100+ Group focusing on major industrial GHG emitters to ensure their transition plans align with the Paris Agreement.

### Impact of engagement, including measures of success

ILIM's engagement efforts last year have enabled indirect collaborative engagement with 752 companies, as part of the Non-Disclosure Campaign, promoting greater climate-related disclosure. Specifically, ILIM directly engaged with 18 companies on climate change-related issues. One engagement resulted in a company committing to improve its disclosure of greenhouse gas (GHG) emissions and climate change-related risks.

### Type of engagement

Information collection (Understanding investee behavior)

### Details of engagement

Collect climate change and carbon information at least annually from long-term investees

### % of investees by number

100

### % Scope 3 emissions as reported in C-FS14.1a/C-FS14.1b

0

### Portfolio coverage

Minority of the portfolio

### Rationale for the coverage of your engagement

Through our asset management affiliate, Putnam Investments, we engage with the companies held within the Putnam Sustainable Leaders Fund and the Putnam Sustainable Future Fund. For example, we send annual individually tailored letters to the CEOs of all the companies acknowledging efforts to date and encouraging future progress on key sustainability issues specific to each company, including on climate-related matters. This year, Putnam sent CEO letters to the firm's top equity holdings representing approximately 50% of equity assets under management.

### Impact of engagement, including measures of success

We assess our success by the number of companies engaged and the progress they have made in sustainability, including climate-related disclosures. This year, the ongoing dialogues with company management teams and board members included discussions of corporate strategy, board oversight, and external reporting. Several companies in our portfolio have published inaugural sustainability reports, increased excommunications on ESG metrics, including climate-related information, or made significant progress in identifying material sustainability issues after working with multiple stakeholders including our team.

# C12.1d

### (C12.1d) Give details of your climate-related engagement strategy with other partners in the value chain.

**Other Partners - Community Organizations**

Method of engagement: We interact with communities through ongoing dialogue and face-to-face meetings to explore opportunities to support community-based needs on a wide range of sustainability issues, including but not limited to climate change.

Strategy for prioritizing engagements: Engagements are prioritized based on the needs identified by the community organizations and our specific focus areas. Within our environment focus, we prioritize organizations that are supporting carbon mitigation and adaptation strategies.

Measures of Success: We measure our success by the number of community projects and their associated impacts in addressing climate change issues. For example, in 2019, we continued our support for the International Institute for Sustainable Development (IISD). As part of this partnership, last year we supported the IISD`s establishment of the climate services centre – a significant progression of Great-West Lifeco's initial support in establishing the Prairie Climate Centre at the University of Winnipeg. The new climate service centre will provide government, business and civil society decision makers access to the data, guidance, research, knowledge exchange, training and capacity building needed to reduce their vulnerability to climate variability and change and take advantage of emerging opportunities.

# C12.3

### (C12.3) Do you engage in activities that could either directly or indirectly influence public policy on climate-related issues through any of the following?

Trade associations
Funding research organizations
Other

# C12.3b

### (C12.3b) Are you on the board of any trade associations or do you provide funding beyond membership?

Yes

## C12.3c

**(C12.3c) Enter the details of those trade associations that are likely to take a position on climate change legislation.**

**Trade association**

Canadian Institute of Actuaries (CIA)

**Is your position on climate change consistent with theirs?**

Consistent

**Please explain the trade association's position**

The CIA supports the advancement of knowledge into better understanding the impact of climate change and has developed a Climate Change and Sustainability Committee. Part of the Institute's role is to raise awareness of climate change and environmental sustainability with both members and the public.

**How have you influenced, or are you attempting to influence their position?**

Through the membership of our employees on the CIA, we are engaging within the industry to better understand how climate change could impact insurance pricing and valuation models.

**Trade association**

American Academy of Actuaries

**Is your position on climate change consistent with theirs?**

Consistent

**Please explain the trade association's position**

The American Academy of Actuaries supports knowledge and raises awareness among policymakers and the public at large of the increasing risks from extreme weather events. It aims to evaluate and help manage exposure to these risks from an insurance perspective, by combining current climate science knowledge with actuarial experience.

**How have you influenced, or are you attempting to influence their position?**

As members of the American Academy of Actuaries, we support and are increasing our own knowledge of climate risks.

**Trade association**

Chartered Financial Analyst (CFA) Institute

**Is your position on climate change consistent with theirs?**

Consistent

**Please explain the trade association's position**

The mission of CFA Institute is served by generating value for core investment management professionals and engaging with the core investment management industry to advance ethics, market integrity, and professional standards of practice, which collectively contributes value to society. The CFA Institute provides knowledge on climate change risks, pricing and management.

**How have you influenced, or are you attempting to influence their position?**

As members of the CFA Institute, we support and are increasing our own knowledge of climate risks.

**Trade association**

REALPAC (Real Property Association of Canada)

**Is your position on climate change consistent with theirs?**

Consistent

**Please explain the trade association's position**

REALPAC recognizes the significant economic, environmental, social, governance (EESG) impact of Canada's commercial real estate sector, and the need for an industry-driven approach toward supporting national and provincial strategies on greenhouse gas reduction (climate change action), the importance of reasoned discourse with political and policy officials, and the value of persuasive arguments for sustainable economic growth. The Association also recognizes the need for industry-wide "green" benchmarking data and shared best practices, and is working with its constituents and its national and international counterparts to help to responsibly ensure the sector is well positioned for a sustainable future.

**How have you influenced, or are you attempting to influence their position?**

As members of REALPAC, as well as REALPAC's Environmental, Social and Governance (ESG) Committee, we support initiatives to increase awareness on energy improvements and increase government incentives towards energy efficient existing and new commercial real estate.

**Trade association**

Building Owners and Managers Association (BOMA) and its regional chapters

**Is your position on climate change consistent with theirs?**

Consistent

**Please explain the trade association's position**

BOMA is the voice of the Canadian commercial real estate industry, addressing issues of national concern, and promotes excellence in the industry through information,

education advocacy and recognition, including on issues of carbon and energy efficiency. BOMA Canada implements timely, responsible and consistent policy positions on issues of critical importance to the Canadian commercial real estate industry (including climate change-related legislation).

**How have you influenced, or are you attempting to influence their position?**

Through our Board membership with BOMA, we support initiatives to increase awareness of energy and climate change issues, and incentives to increase building energy and carbon efficiency investments.

**Trade association**

Canada Green Building Council (CaGBC)

**Is your position on climate change consistent with theirs?**

Consistent

**Please explain the trade association's position**

The CaGBC mission is to "Lead and accelerate the transformation to high-performing, healthy green buildings, homes and communities throughout Canada". This includes the adoption of green building practices that ultimately lead to reduced greenhouse gas emissions. The CaGBC is working with federal, provincial and municipal leaders and government officials to support the development and implementation of green building policies and sustainability practices across Canada and is working with CaGBC members and stakeholders to set and report against ambitions targets and action plans that will contribute to COP21 goals.

**How have you influenced, or are you attempting to influence their position?**

Through our membership with the CaGBC, we support initiatives to increase the adoption of green building practices, participation in green building certification systems, and incentives to increase energy and carbon efficiency investments.

**Trade association**

NAIOP (Commercial Real Estate Development Association)

**Is your position on climate change consistent with theirs?**

Consistent

**Please explain the trade association's position**

NAIOP is an organization for developers, owners, and investors of office, industrial, retail and mixed-use real estate. They provide strong advocacy, education and business opportunities on a range of issues. The organization is committed to providing its members with education and resources that encourage environmentally-responsible choices, as well as issuing policy statements that promote the utilization of sustainable building practices. Energy efficiency is a legislative priority for NAIOP and "NAIOP supports the advancement of higher levels of energy efficiency for commercial buildings

through solutions that incorporate federal incentives, and realistic time frames for the financial recoupment of efficiency investments through utility savings."

**How have you influenced, or are you attempting to influence their position?**

Through our membership on the NAIOP, we support initiatives to increase awareness of energy and climate change issues as part of a broader mandate for real estate operations.

**Trade association**

Urban Land Institute (ULI)

**Is your position on climate change consistent with theirs?**

Consistent

**Please explain the trade association's position**

ULI is the oldest and largest network of cross-disciplinary real estate and land use experts in the world. The Urban Land Institute provides leadership in the responsible use of land and in creating and sustaining thriving communities worldwide. One of the ULI's six commitments is to "Exploring issues: Of urbanization, conservation, regeneration, land use, capital formation, and sustainable development". ULI also maintains a Centre for Sustainability and Economic Performance that is "dedicated to creating healthy, resilient, and high performance communities around the world. Through the work of its Greenprint and Urban Resilience programs, the Center provides leadership and support to land use professionals to invest in energy performance and portfolio resilience while reducing risks due to a changing climate."

**How have you influenced, or are you attempting to influence their position?**

Through our membership in ULI, we support initiatives and research focused on responsible and sustainable land use planning and development, including issues related to building resilience, energy conservation and climate change adaptation/mitigation.

**Trade association**

Sustainability Accounting Standards Board (SASB)

**Is your position on climate change consistent with theirs?**

Consistent

**Please explain the trade association's position**

SASB's mission is to connect businesses and investors on the financial impacts of sustainability. Their work includes the development of an industry-specific taxonomy of financially material sustainability issues.

**How have you influenced, or are you attempting to influence their position?**

Through our membership on the SASB Investor Advisory Group, we are supporting disclosure of financially material sustainability issues, including related to climate change.

**Trade association**

Boston Association of Institutional Investors (BAII)

**Is your position on climate change consistent with theirs?**

Consistent

**Please explain the trade association's position**

The Association of Institutional investors is a member led organization of institutional investment advisors that represents the interests of investors and strives to advance good practices and promote fair and efficient financial markets through open engagement with policy makers and others. The ESG working group is focused on advancing knowledge and awareness for investors on environmental, social and governance factors.

**How have you influenced, or are you attempting to influence their position?**

Through our membership on the BAII, we chair the ESG working group for the association.

# C12.3d

**(C12.3d) Do you publicly disclose a list of all research organizations that you fund?**

Yes

# C12.3e

**(C12.3e) Provide details of the other engagement activities that you undertake.**

We engage with various organizations to support climate change awareness and management and encourage our staff to get involved in these causes. Recent examples include the International Institute for Sustainable Development (IISD) and Nature Conservancy of Canada.

**International Institute for Sustainable Development (IISD):**

Method of Engagement – We are engaged with the IISD to promote research and knowledge of the risks associated with climate change.

Topic of Engagement - The topic of engagement is focused on understanding the risk of climate change and how we can anticipate the risk to increase community resilience.

Nature of Engagement – We are the catalyst funder for Prairie Climate Centre – a joint venture between the IISD and the University of Winnipeg. The Centre provides research, advice and policy development.

Actions Advocated – Through our engagement with the IISD we are supporting coordinated research, advice and policy development on climate change. For example, in 2019, we supported the IISD`s establishment of the climate services centre – a significant progression of Great-West Lifeco's initial support in establishing the Prairie Climate Centre at the University of

Winnipeg. The new climate service centre will provide government, business and civil society decision maker's access to the data, guidance, research, knowledge exchange, training and capacity building needed to reduce their vulnerability to climate variability and change and take advantage of emerging opportunities.

Nature Conservancy of Canada (NCC):
Method of Engagement – We are engaged with the NCC as a national sponsor to support conservation, public engagements and community partnerships on the topic of sustainability and climate change.
Topic of Engagement – Through the NCC engagement, we focused on providing an educational opportunity for our employees to learn about sustainability and the impact of climate on bees.
Nature of Engagement – As a national sponsor, we supported an event in Toronto to engage employees in making bee hotels, including providing them with a kit to take home to share.
Actions Advocated – In addition to educating our employees on sustainability, our engagement has helped the NCC complete 212 ecosystem conservation projects, 128 habitat completed restoration projects, 39 infrastructure improvement and clean-up projects, and 45 biological inventories and monitoring projects. We also supported public engagement of 2809 volunteers and partnerships with 82 community partners.

## C12.3f

**(C12.3f) What processes do you have in place to ensure that all of your direct and indirect activities that influence policy are consistent with your overall climate change strategy?**

An annual review of our direct and indirect activities that influence public policy, including both financial and non-financial engagements with voluntary sector organizations, is conducted by our Community Relations Department to ensure relevancy, efficacy and consistency of approach and strategy. Where relevant, this process includes a review of our direct and indirect activities that influence public policy, which are assessed for consistency with our overall climate change strategy. This includes our support of organizations addressing climate change strategies and sustainability, including finding practical solutions to address energy and carbon management issues at a policy, business and personal level. New opportunities to support such endeavours are measured against annual strategic objectives. In addition, the executive-led Corporate Social Responsibility (CSR) Committee provides perspective on the alignment of the community investment approach with the CSR strategy, which includes climate-related matters.

## C12.4

**(C12.4) Have you published information about your organization's response to climate change and GHG emissions performance for this reporting year in places other than in your CDP response? If so, please attach the publication(s).**

### Publication
In mainstream reports

### Status
Complete

### Attach the document
lifeco-2019-annual-report-en.pdf

### Page/Section reference
Pages 14, 15 and 78.

### Content elements
Risks & opportunities

### Comment
The 2019 Annual Report discloses information related to Great-West Lifeco's responsible investing approach as well as sustainability risk exposure, including with respect to climate change.

### Publication
In mainstream reports

### Status
Complete

### Attach the document
35981-CL-PAS_english_FIN(WEB).pdf

### Page/Section reference
Pages 22-23

### Content elements
Emissions figures
Emission targets
Other, please specify
Green building certifications

### Comment
The 2019 Public Accountability Statement relates to the pre-amalgamation Canadian operations of The Canada Life Assurance Company, The Great-West Life Assurance Company and London Life Insurance Company; and to Canada Life Financial Corporation and The Canada Life Insurance Company of Canada. It also describes the

corporate social responsibility activities of GLC Asset Management Group Ltd. and GWL Realty Advisors Inc.

### Publication

In voluntary communications

### Status

Underway – previous year attached

### Attach the document

lifeco-esg-key-performance-indicators-en.pdf

### Page/Section reference

Page 1.

### Content elements

Emissions figures
Other metrics

### Comment

The Environmental, Social and Governance (ESG) Scorecard provides standardized ESG disclosures for Great-West Lifeco's operating companies in Canada and internationally. These include The Canada Life Assurance Company (Canada Life) including its Canadian and international subsidiaries, Great-West Life & Annuity Insurance Company (Empower Retirement and Great-West Financial), and Putnam Investments, LLC (Putnam). The data is prepared in alignment with the Global Reporting Initiative (GRI) Standards.

## C-FS12.5

### (C-FS12.5) Are you a signatory of any climate-related collaborative industry frameworks, initiatives and/or commitments?

| | Industry collaboration | Comment |
|---|---|---|
| Reporting framework | Task Force on Climate-related Financial Disclosures (TCFD) | Great-West Lifeco formalized its support of the TCFD, recognizing the importance of climate-related disclosures with respect to governance, strategy, risk, and metrics and targets. |
| Industry initiative | Principles for Responsible Investment (PRI)<br>Climate Action 100+ | UN PRI: Great-West Lifeco' asset management affiliates are signatories to the UNPRI, including Irish Life Investment Managers (since 2010); Putnam Investments (since 2011); PanAgora (since 2011) and GLC Asset Management (since 2016).<br>Claimte Action 100+: Great-West Lifeco's asset management |

| | | |
|---|---|---|
| | Other, please specify<br>CDP's Non-disclosure campaign | affiliates, Irish Life Investment Managers and GLC Asset Management are part of the Climate Action 100+, focused on engaging the top 100 global Greenhouse gas emitters to disclose their transition plans in alignment with the Paris Agreement.<br>CDP's Non-disclosure Campaign: Great-West Lifeco's asset management affiliate, Irish Life Investment Managers is part the non-disclosure campaign – a group of 88 investors who focus on companies that did not provide sustainability and climate-related disclose representing some of the biggest emitters on 20 of the largest exchanges across the world. |
| Commitment | | |

# C14. Portfolio Impact

## C-FS14.1

**(C-FS14.1) Do you conduct analysis to understand how your portfolio impacts the climate? (Scope 3 portfolio impact)**

| | We conduct analysis on our portfolio's impact on the climate | Disclosure metric | Comment |
|---|---|---|---|
| Investing (Asset manager) | Yes | Category 15 "Investment" total absolute emissions | We conduct analysis of our assets under management to determine alignment with a 2-degree world compared to a referenced indices or benchmark. This type of analysis is undertaken by our asset management affiliates, including GLC, ILIM, and PanAgora, with regard to their sustainability strategy. |
| Investing (Asset owner) | Yes | Category 15 "Investment" total absolute emissions | We conduct analysis of the segregated Fund Investments Properties by measuring the carbon footprint of the entire portfolio. We also conduct analysis of the Great-West Lifeco Insurance General Account, using the PACTA model. As part of the analysis, we assess exposure to a 2-degree world. |
| Insurance underwriting (Insurance company) | No, but we plan to do so in the next two years | | We will be exploring opportunities in the next two years to conduct an analysis of the insurance business on climate. |

| | | | |
|---|---|---|---|
| Other products and services, please specify | Not applicable | | N/A |

# C-FS14.1a

**(C-FS14.1a) What are your organization's Scope 3 portfolio emissions? (Category 15 "Investments" total emissions)**

## Category 15 (Investments)

### Evaluation status

Relevant, calculated

### Scope 3 portfolio emissions (metric tons CO2e)

89,775

### Portfolio coverage

More than 0% but less than or equal to 10%

### Percentage calculated using data obtained from client/investees

100

### Emissions calculation methodology

We measure the carbon footprint of the Canadian segregated fund real estate investment portfolio based on utility data and relevant invoices.

### Please explain

The investment carbon footprint analysis is based on the Canadian Segregated Fund properties that are managed by the GWL Realty Advisors. We therefore obtain primary carbon footprint data from the real estate properties.

# C-FS14.1c

**(C-FS14.1c) Why do you not conduct analysis to understand how your portfolio impacts the climate? (Scope 3 Category 15 "Investments" emissions or alternative carbon footprinting and/or exposure metrics)**

N/A.

# C-FS14.2

**(C-FS14.2) Are you able to provide a breakdown of your organization's Scope 3 portfolio impact?**

| | Scope 3 breakdown | Comment |
|---|---|---|

| | | |
|---|---|---|
| Row 1 | Yes, by asset class | We calculate the emissions impact from the real estate asset class through the quantification of the Canadian Segregated Fund properties, which are managed by our subsidiary GWL Realty Advisors. |

# C-FS14.2a

**(C-FS14.2a) Break down your organization's Scope 3 portfolio impact by asset class.**

| Asset class | Metric type | Metric unit | Scope 3 portfolio emissions or alternative metric | Please explain |
|---|---|---|---|---|
| Commercial real estate | Total carbon absolute emissions (CO2e) | Metric tons CO2e | 89,775 | The scope 3 portfolio impact relates to our real estate asset class, covering our office and multi-residential investments in the Canadian Segregated Fund properties, for which data is available. These emissions were calculated by collecting primary consumption data (e.g., Utility invoices such as electricity and natural gas) and applying relevant provincial, state, or national GHG emissions factors. GHG emissions were calculated according to 'The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)'. Please see section C5 on 'Emissions methodology' for a full overview of the approach. |

# C-FS14.3

**(C-FS14.3) Are you taking actions to align your portfolio to a well below 2-degree world?**

| | We are taking actions to align our portfolio to a well below 2-degree world | Please explain |
|---|---|---|
| Investing (Asset manager) | Yes | Through our asset management subsidiaries, GLC Asset Management, Irish Life Investment Managers (ILIM) and PanAgora Investments are assessing equity and corporate fixed income holdings to a well below 2-degree world, by applying the PACTA tool on portions of the portfolio with regard to their respective sustainability strategies. Furthermore, GLC and ILIM are also part of the Climate |

| | | |
|---|---|---|
| | | Action 100+ Group enabling us to support engagement with the top 100 greenhouse gas emitters globally on developing their climate transition plans in alignment with the Paris Agreement. |
| Investing (Asset owner) | Yes | Through our insurance General Account investments, we are assessing our equity and corporate fixed income holdings to a well below 2-degree world, by applying the PACTA tool on portions of the portfolio. For example, through these assessments, our asset management affiliate GLC is part of the Climate Action 100+ Group, enabling us to support engagement with the top 100 GHG emitters globally on developing their climate transition plans in alignment with the Paris Agreement. |
| Insurance underwriting (Insurance company) | No, but we plan to do so in the next two years | We currently do not assess whether clients are aligned to a well below 2 degree scenario given the lack of available information. Over the next two years, we plan to work with our clients to better understand alignment with a well below 2 degree world. |
| Other products and services, please specify | Not applicable | N/A |

# C-FS14.3a

**(C-FS14.3a) Do you assess if your clients/investees' business strategies are aligned to a well below 2-degree world?**

| | We assess alignment | Please explain |
|---|---|---|
| Investing (Asset manager) | Yes, for some | Through our asset management subsidiaries, Irish Life Investment Managers and GLC Asset Management, we are part of the Climate Action 100+ Group that is engaging the top 100 greenhouse gas emitters globally on developing their climate transition plans in alignment with the Paris Agreement |
| Investing (Asset owner) | No, but we plan to do so in the next two years | We currently do not assess whether clients and investees are aligned to a well below 2-degree world due to the fact that our current engagement processes are focused mainly on climate-related disclosure given the relative maturity of the market. Over the next few years, as carbon disclosure improves, we will be exploring opportunities to further assess alignment to a well below 2 degree world. |

# C-FS14.3b

**(C-FS14.3b) Do you encourage your clients/investees to set a science-based target?**

| | We encourage clients/investees to set a science-based target | Please explain |
|---|---|---|
| Investing (Asset manager) | No, but we plan to do so in the next two years | Over the next two years, we plan to explore opportunities to include setting science-based targets as part of our engagement efforts. |
| Investing (Asset owner) | No, but we plan to do so in the next two years | Over the next two years, we plan to explore opportunities to include setting science-based targets as part of our engagement efforts. |

# C15. Signoff

## C-FI

**(C-FI) Use this field to provide any additional information or context that you feel is relevant to your organization's response. Please note that this field is optional and is not scored.**

N/A

## C15.1

**(C15.1) Provide details for the person that has signed off (approved) your CDP climate change response.**

| | Job title | Corresponding job category |
|---|---|---|
| Row 1 | Deputy Chief Financial Officer and Chief Accounting and Control Officer, Great-West Lifeco | Chief Financial Officer (CFO) |

# Submit your response

**In which language are you submitting your response?**

English

**Please confirm how your response should be handled by CDP**

| | I am submitting to | Public or Non-Public Submission |
|---|---|---|
| I am submitting my response | Investors | Public |

**Please confirm below**

I have read and accept the applicable Terms