

Welcome to your CDP Climate Change Questionnaire 2021

C0. Introduction

C_{0.1}

(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. We operate in Canada, the United States and Europe under the brands Canada Life, Empower Retirement, Putnam Investments and Irish Life. At the end of 2020, our companies had more than 24,500 employees, 205,000 advisor relationships, and thousands of distribution partners – all serving our more than 30 million customer relationships across these regions. Great-West Lifeco and its companies have approximately \$2.0 trillion in consolidated assets under administration as at December 31, 2020, and are members of the Power Corporation group of companies. Great-West Lifeco trades on the Toronto Stock Exchange (TSX) under the ticker symbol GWO.

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.

C_{0.2}

(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, 2020	December 31, 2020	No



C_{0.3}

(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

C_{0.4}

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

CAD

C_{0.5}

(C0.5) Select the option that describes the reporting boundary for which climaterelated 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

C_{1.1}

(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	The Board of Directors is responsible for, among other things, providing the overall
committee	oversight of the Corporation with respect to all risks, including climate-related risks.



	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). In 2020, the Board of Directors formally approved the sustainability risk taxonomy and the updated Risk Appetite Framework reflecting sustainability risk, including climate-related risks.
Board-level	The Risk Committee of the Board of Directors is responsible for, among other
committee	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 2020, our Risk Committee reviewed the updated climate scenario stress and scenario testing, which includes a green scenario (2C) with orderly transition, a green scenario (2C) with disorderly transition, and a brown scenario (4C). These scenarios were included in our Own Risk and Solvency Assessment (ORSA) report. In addition, a thematic review on climate change was provided to the Risk Committee. This year the update focused on additional information on climate risks associated with our real estate and mortgage portfolio.
Board-level	The Investment Committee of the Board of Directors is responsible for, among
committee	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 2020, the Investment Committee reviewed the results of a thematic review of climate change, including stress and scenario testing of our asset portfolio including vulnerable properties.
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 is informed of CSR-related issues, including climate change-related matters, via a number of management reporting channels. The CEO has oversight over the Corporation's climate change-related strategies and resources and capabilities within the Corporation to support those strategies,



including a recent senior management appointment focused on advancing the Corporation's CSR strategy and related policies. 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 Other, please specify Climate-related corporate disclosures	Climate-related risks and opportunities to our own operations Climate-related risks and opportunities to our investment activities Climate-related risks and opportunities to our insurance underwriting activities Climate-related risks and opportunities to our other products and services we provide to our clients	The Great-West Lifeco Board-level committees, which include the Risk Committee, Investment Committee, and the Audit Committee, among others, meet at least quarterly. 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 2020, 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 a detailed review of our properties portfolio. This year the update focused on additional information on climate risks associated with our real estate and mortgage 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.



	The Investment Committee reviews risks and opportunities related to our investment activities, including specific physical and transition risks. The Investment Committee also oversees our investment strategies and performance against investment plans, including cleaner energy
	investments through our private debt placements in renewable energy projects. In 2020, 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 property portfolio. This year the update focused on additional information on climate risks associated with our real estate and mortgage portfolio.
	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 Risks and opportunities related to our insurance underwriting activities	Quarterly



			Risks and opportunities related to our other products and services Risks and opportunities 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 Risks and opportunities related to our insurance underwriting activities Risks and opportunities related to our other products and services Risks and opportunities related to our own operations	Quarterly
Chief Investment Officer (CIO)	Other, please specify President and Group Head, 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 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 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	Quarterly



			Risks and opportunities related to our insurance underwriting activities Risks and opportunities related to our other products and services Risks and opportunities related to our own operations	
Other, please specify 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 Risks and opportunities related to our insurance underwriting activities Risks and opportunities related to our other products and services Risks and opportunities related to our own operations	Quarterly
Other, please specify 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 Risks and opportunities related to our investing activities Risks and opportunities	More frequently than quarterly



Other, please specify	Risk - CRO reporting	Both assessing and managing climate-	related to our insurance underwriting activities Risks and opportunities related to our other products and services Risks and opportunities	More frequently than quarterly
Sustainability Risk Working Group	line	related risks and opportunities	related to our investing activities Risks and opportunities related to our insurance underwriting activities Risks and opportunities related to our other products and services Risks and opportunities related to our other products and services Risks and opportunities related to our own operations	tnan quarterly
Other, please specify 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 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 and/or Lifeco Strategic Operating Committee/Lifeco Executive 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. The CIO chairs the Great-West Lifeco Sustainable Investments Council (SIC), whose mandate is to support Great-West Lifeco's growing responsible investment activities, including climate related investment matters. In 2020, the SIC supported the implementation of EU SFDR regulations, and the analysis of ESG criteria within the general account portfolio and coordinated signature of an enterprise-wide ESG data analytics license.

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) 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 CSR Committee	Non- monetary reward	Emissions reduction target	The CSR committee members' annual objectives include executing on the Corporation's corporate social responsibility initiatives, including activities being undertaken to achieve our carbon reduction target.
Other, please specify 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 Property Catastrophe Team	Monetary reward	Other (please specify) 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) 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	Monetary	Portfolio/fund	The sustainable investing team works with the
Responsible	reward	alignment to climate-	broader equity research and portfolio
Investment staff		related objectives	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 climaterelated 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 2020, we conducted a climate scenario Enhanced Fujita (EF) scale tornado test at our Winnipeg campus. The result of the analysis determined that while the probability of this event is a once in 22 year event, an EF tornado would result in a significant impact to this location as well as the other nearby buildings and infrastructure, including injuries, property/equipment damage, and financial loss from business disruptions. The estimate loss exposure would be approximately \$44.3M. While important, this type of loss would not be substantive on the 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 2020, we strengthened our climate-related disclosures through the CDP submission, 2020 Annual Report, ESG Scorecard, Public Accountability Statement and the Sustainability Reports of Canada Life, UK, Putnam, 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 2020, the general account has over \$4.42 billion invested in renewable energy through its private placements, and its asset management affiliates manage more than CA\$121 billion across a number of ESG-related strategies. In 2020, the fee income from

responsible investment options represented less than 1% of our total fee income. While

C2.2a

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

important, these opportunities are not deemed substantive to the business.

	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 the UK, 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 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. In 2020, we reviewed Canada Life UK's (CL) modelling capabilities against the requirements of the 2021 biennial exploratory scenario (BES). While Canada Life UK is not a participant for the 2021 BES, Canada Life UK is leveraging the 2021 BES specifications for its own ORSA scenarios in 2021.

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 review that is underway related to climate change 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 Department of Labour proposed rules regarding ESG, including climate change, as well as the Biden administration plans on 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. We also monitored developments relating to the Sustainable Finance Disclosure obligations for asset managers and other financial markets participants, which imposes additional ESG disclosures on websites, in prospectus and in periodic reports.

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 noncompliance 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. 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 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. 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 fuelbased, 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 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. The EU's Sustainable Finance Disclosure Regulation (SFDR) is effective across the EU from 10th March 2021. It imposes mandatory ESG disclosure obligations for asset managers and other financial markets participants, manifesting in additional disclosures on websites, in prospectus and in periodic reports. In 2020, we strengthened our climate-related disclosures through the CDP submission, 2020 Annual Report, 2020 Annual Information Form, ESG Scorecard, Canada Life's Public Accountability Statement and
		the Sustainability Reports of Canada Life Asset Management (UK) and Irish Life Investment Managers (ILIM). 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 reserves



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.

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 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.

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?

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), Canada Life Asset Management UK (CLAM UK), Setanta Asset Management, and PanAgora Asset Management (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. 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. 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. We review model outputs from cedents in order to monitor our peak perils at the most significant locations in order 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 the potential quantum of losses, 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 example, Great-West Lifeco included property catastrophe reinsurance loss reserves 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.

How portfolio coverage is defined: As an asset manager, Great-West Lifeco assesses exposure to climate-related risks and opportunities as t relates to its investment portfolios, covering the nsurance General Account (on balance sheet
As an asset manager, Great-West Lifeco assesses exposure to climate-related risks and opportunities as t relates to its investment portfolios, covering the
nvestments for Great-West Lifeco) as well as certain nvestments of third party clients mainly managed hrough Great-West Lifeco's asset management affiliates. Great-West Lifeco's third party client asset management affiliates include GWL Realty Advisors, rish Life Investment Managers (ILIM), Putnam nvestments (Putnam), GLC Asset Management (GLC), Canada Life Asset Management UK (CLAM JK), Setanta Asset Management, and PanAgora Asset Management. We assess the exposure of the investment portfolio or a broad range of climate-related risks and apportunities, 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 where here is sufficient data. Fools used to assess the portfolio's exposure to climate-related risks and opportunities: The climate-related risks and opportunities of certain of the subsidiary asset management affiliates contfolios are assessed based on various tools, including in depth fundamental analysis of the sector specific exposure, 2-degree alignment using tools
mrii n (Coulling Coulling Coul



Investing (Asset	Majority of	Qualitative	How portfolio coverage is defined:
owner)	the portfolio	and quantitative	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 Tools used to assess the portfolio's exposure to
			climate-related risks and opportunities: 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.
			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: 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 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.
			Tools used to assess the portfolio's exposure to



climate-related risks and opportunities: With respect to the reinsurance business, we leverage robust weather models. We monitor peak perils at the most significant 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. The information from these scenario models enables us to assess the potential quantum of losses, which in turn informs our pricing models. 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 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, Putnam Investments conducts water risk sector analysis to inform engagement with investee companies where possible based on data availability, and on a company and sector specific basis. GWL Realty Advisors monitors and measures water consumption data from the real estate investment portfolio under management to inform resource efficiency strategies. Meanwhile Irish Life Investment Managers, as part of the 2020 CDP non-disclosure campaign, participated



			in engaging 181 companies to respond to the CDP's Water Security Disclosure Request. Water-related risks and opportunities are also considered during portfolio construction and rebalance for their Sustainable Equity Fund that considers data from a service provider. Water management indicators at a company level are considered as part of the 'Resource Use' assessment for Sustainalytics' ESG Risk Rating score, which includes different categories related to a company's exposure (water use, regional water stress) and a company's management (water risk and management programmes, water intensity) scores. Additionally, water is one of the themes included in the positive tilt applied to favor Green Revenues Sustainalytics measures "companies' involvement in products and services that provide access to water, increase water efficiency, and/or contribute to the sustainable management of water resources" as they relate to SDGs 6 and 9. Water use is also a category considered for monitoring controversies, that if assessed as Level 5 are included in Irish Life Investment Managers' exclusion list.
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 2020, by minimizing risks and maximizing the opportunities in the office portfolio, Great-West Lifeco achieved an 11% reduction in overall water consumption at its owner-occupied and owned investment properties.
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	Portfolio coverage	Please explain
Investing (Asset manager)	Yes	Minority of the portfolio	As part of the 2020 CDP non-disclosure campaign, Irish Life Investment Managers participated in engaging 107 companies to respond to CDP's Forests disclosure request. Great-West Lifeco's exposure to forestry related assets and investments is limited. In the next two years, we will explore the possibility to further 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.
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), Canada Life Asset Management UK (CLAM UK), Setanta Asset Management, and PanAgora Asset Management. For example, both Irish Life Investment Managers (ILIM) 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. ILIM requests climate-related information for risk investment purposes through its direct and collaborative engagements (CA100+ and CDP NDC) 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 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 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	We assessed climate risks through our enterprise risk management processes, including within our market, credit, insurance and operational risk processes.
	business	Within our operations, 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 offices in Winnipeg determined the financial impact would not be substantive representing less than 1% of capital and operating expenditures.
		Within the general accounts, 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 (< 10 years), limiting our concentration risk. Commercial mortgage properties are regionally diversified and vulnerable properties have P&C insurance. Finally, within equity holdings, vulnerable sectors such as metals and mining, power generation, oil & gas, chemicals, comprise less than 1% of the total asset portfolio. Based on the assessment, we concluded the balance sheet remains strong and resilient.
		Within the reinsurance business, we monitor peak perils at the most significant locations in order 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. Notably, losses from hurricanes Harvey, Irma, and Maria amounted to claims reserves of \$175 million, which was not considered substantive.
		For life/health insurance, we have a diversified portfolio with diversification between mortality and longevity risk. 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 and re-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?

СРРС	Primary reason Please evoluin		
		·	
Row 1	Primary reason Opportunities exist, but none with potential to have a substantive financial or strategic impact on business	Please explain 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. 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 \$121 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; Irish Life's NNIP Sustainable Global Equities Indices, MSCI World Ex. Fossil Fuels Index Fund, Customer ESG Indices, Standard ESG Indices, Sustainable Equities and MAPs; PanAgora Dyanmic Equity and Stock Selector Strategies, Sustainable Global Equity, Dynamic FLEX, Diversified Risk global Equity ESG Aware Strategies and Setanta Ethical & SRA Funds. While these products are important, the benefits are not considered substantive given our diversified businesses and extensive distribution reach. For example, in 2020, the income from responsible investment options represented less than 1% of our total fee income	
		our total fee income. Within the clean energy market, we currently have investments over \$4.4 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 ~2% of our invested assets.

We also considered the opportunities presented by sustainable real estate assets managed by our subsidiaries, GWLRA, CLAM, and ILIM. Notably, through their investment processes and management practices, we have reduced the GHG emissions of our global owner-occupied properties and Canadian investment

and 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 18% (9,615 tonnes CO2e). 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) Is your organization's low-carbon transition plan a scheduled resolution item at Annual General Meetings (AGMs)?

		Is your low-carbon transition plan a scheduled resolution item at AGMs?	
F	Row	No, but we intend it to become a scheduled resolution item within the next two	
1	I	years	

C3.2

(C3.2) Does your organization use climate-related scenario analysis to inform its strategy?

Yes, qualitative and quantitative

C3.2a

(C3.2a) Provide details of your organization's use of climate-related scenario analysis.



Climate-related	Details
scenarios and models	Details
applied	
2DS	Great-West Lifeco's climate scenario testing incorporates top-down
	analysis to assess the future potential exposure of the balance sheet to
RCP 2.6	climate risks and opportunities; and, bottom up analysis to identify
RCP 8.5	potential areas of vulnerability in the asset portfolio of the general
Other, please specify	account, including bonds, mortgages, real estate and stocks. It involves
Modelling is used for the	a structured multi-dimensional approach and considers disruptive
Property & Catastrophe portfolio in the	themes that could present risk downside and upside opportunities, as
Reinsurance department.	well as resilience themes.
	In order to assess the potential impact of a range of outcomes, three
	scenarios were developed:
	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.
	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.
	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.
	We extended the time horizon to a 50-year period, because of the
	emergence of transition impacts ahead of physical impacts, which we
	believe is relevant for our business strategies. 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 Lifeco's
	invested assets in the general account. In 2020, we conducted an
	extension of the bottom-up review of the investment portfolio, with a
	specific focus on properties exposure to climate change, both coastal
	and inland.
	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. In



2020, we determined that climate change was most significant for properties located in a coastal or low-lying area, primarily in the UK, Ireland, Vancouver (Canada), California, and Central London. All these properties are covered under P&C insurance. In the U.S. separate hazard policies are required for commercial mortgage property in flood/hurricane zones. As such, the balance sheet remains strong and resilient with respect to the climate change scenarios.

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, \$4.4 billion is invested in renewable energy investments in the General Account, and CA\$121 billion managed across several ESG related strategies within Great-West Lifeco's Asset Management affiliates as at year-end 2020. The results have directly informed strategies to consider selectively trimming exposure in longer maturities, limits related to vulnerable industries and coverage of P&C insurance on vulnerable properties.

C3.3

(C3.3) 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. In 2020, the most substantive decision has been two-fold. First, we have increased investments into sustainable funds that include climate-related considerations. In 2020, our asset management affiliates managed CA\$121 billion across a number of ESG related strategies, including climate change. Second, we also made decisions to increase investments in the cleaner energy market to support the transition to a low



		carbon economy, which in 2020 amounted to over \$4.4 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. 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 reinsurance business. As a result, an important growth strategy is to increase our property and casualty reinsurance business over the next 3 years. We have also seen increasing consumer expectations for corporate social responsibility (CSR) including climate change, which continues to coalesce around stronger principles for collective stakeholder value. More broadly, core drivers of sustainability and resilience feature prominently in strategies, which incorporate our strong focus on corporate social responsibility, D&I, ESG, and climate change
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. They also monitor climate metrics in third party assessments such as ISS.
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 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®. 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 2020, the most substantial decision we made was to become an official supporter of the Financial Stability Board's Taskforce on Climate-related Disclosures (TCFD) recommendations and strengthen our understanding of climate-related risks and opportunities by updating our physical climate scenario analysis in the General Account as it relates to bonds, mortgages, real estate and public equities.

C3.4

(C3.4) Describe where and how climate-related risks and opportunities have influenced your financial planning.

Financial planning elements that have been influenced



Row

Revenues
Direct costs
Capital expenditures
Acquisitions and
divestments
Access to capital
Assets
Liabilities

Revenues (0-2 year time horizon short-term): 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 planning process in the context of our reinsurance business. We review model output from our cedents in order to monitor peak perils at the most significant locations in order to assess the likelihood, severity and velocity of extreme weather events, including windstorms, hurricanes and cyclones. The information enables us to assess the potential quantum of losses, which in turn informs our pricing models. For example, Great-West Lifeco established reserves of \$175 million for claims relating to losses from hurricanes Harvey, Irma and Maria which 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.

Direct costs (0-2 year time horizon short-term): 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.

Capital expenditures (0-2 year time horizon short-term): 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.

Acquisitions and divestments (0-2 year time horizon short-term): 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.

Access to capital (0-2 year time horizon short-term): 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 five 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 four years. We believe this performance has enhanced our positioning from a reputational standpoint and possibly indirectly strengthened investor confidence.

Assets (0-2 year time horizon short-term): 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, as at year-end 2020, Great-West Lifeco had had invested over \$4.4 billion in renewable energy projects, which included wind, solar, and hydro energy projects. However, with ~2% of our General Account investments 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.

Liabilities (0-2 year time horizon): 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.



C3.4a

(C3.4a) Provide any additional information on how climate-related risks and opportunities have influenced your strategy and financial planning (optional). $\mbox{N/A}.$

C-FS3.6

(C-FS3.6) Are climate-related issues considered in the policy framework of your organization?

Yes, both of the above

C-FS3.6a

(C-FS3.6a) In which policies are climate-related issues integrated?

	Type of policy	Portfolio coverage of policy	Description
Investing (Asset manager)	Sustainable/Responsible Investment Policy 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"), Setanta Asset Management ("Setanta"), 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. 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 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. 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
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 the entire reinsurance business. These insurance-underwriting policies require Great-West Lifeco to monitor peak perils at



		the most significant locations in order 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 the potential quantum of losses, which in turn informs our pricing models. The determination of the portfolio coverage of the policy is based on the fact that these insurance underwriting policies cover all of Great-West Lifeco's P&C reinsurance underwriting processes. It therefore covers a majority of the reinsurance policy portfolio.
Other products and services, please specify		

C-FS3.6b

(C-FS3.6b) Describe your exclusion policies related to industries and/or activities exposed or contributing to climate-related risks.

Type of exclusion policy	Portfolio	Application	Description
Other, please specify Thermal coal extraction/production; 10% more revenue involvement in arctic oil and oil sands	Investing (Asset manager)	New business/investment for existing projects	Great-West Lifeco's subsidiary, Irish Life Investment Managers, has integrated climate change as part of its investment exclusionary policy. In 2020, its exclusion policy was specifically strengthened with climate-related factors, including excluding companies with 25% or more revenue involvement in thermal coal power generation and 10% or more revenue involvement in thermal coal extraction/production, as well as companies with 10% or more revenue involvement in arctic oil or oil sands.

C-FS3.7

(C-FS3.7) Are climate-related issues factored into your external asset manager selection process?



Yes, for some assets managed externally

C-FS3.7a

(C-FS3.7a) 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 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. In addition, through Great-West Lifeco's major investment affiliates, including GLC Asset Management ("GLC"), Irish Life Investment Managers ("ILIM"), and PanAgora Asset Management, 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)

25,168.45

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

40.69

Target year

2025

Targeted reduction from base year (%)

27.3

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

18,297.46315

Covered emissions in reporting year (metric tons CO2e)

19,620.97

% of target achieved [auto-calculated]

80.7377473004

Target status in reporting year

Underway

Is this a science-based target?

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

Target ambition

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 (80.7% 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, as well as COVID-19 related closures and travel restrictions in 2020.



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)

25,168.45

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

40.69

Target year

2036

Targeted reduction from base year (%)

50.4

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

12,483.5512

Covered emissions in reporting year (metric tons CO2e)

19,620.67

% of target achieved [auto-calculated]

43.7353114713

Target status in reporting year

Underway

Is this a science-based target?

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

Target ambition

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 (43.7% 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, as well as COVID-19 related closures and travel restrictions in 2020.

C4.2

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

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	36	
To be implemented*	11	247
Implementation commenced*	2	79
Implemented*	2	232
Not to be implemented	0	

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 Motors and drives

Estimated annual CO2e savings (metric tonnes CO2e)

230.84



Scope(s)

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

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

14.671

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

121,171

Payback period

4-10 years

Estimated lifetime of the initiative

6-10 years

Comment

Installation of high efficiency motors/pumps or VFDs for motors/pumps

Initiative category & Initiative type

Energy efficiency in buildings Lighting

Estimated annual CO2e savings (metric tonnes CO2e)

1.13

Scope(s)

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

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

3.750

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

250,000

Payback period

>25 years

Estimated lifetime of the initiative

11-15 years

Comment



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 2020, we dedicated over \$8+ 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 2020, we continued the work of the Great-West Lifeco Global Real Estate Sustainability Council and the Corporate Properties Sustainability Working Group (CPSWG). The CPSWG, 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 CPSWG 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

ESG Funds

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

ESG related investment mandates that include low carbon criteria

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

1



% of total portfolio value

6.1

Asset classes/ product types

Investing Listed Equity

Comment

Lifeco affiliates had CAD \$121 billion in ESG-related investment mandates as at yearend 2020, of which climate change is a component. This group of products include low carbon finance, sustainable fund options as well as integration into mainstream investment decisions by applying an ESG lens. The coverage of these products is as follows: Five GLC Socially Responsible Investment funds, Five ILIM ESG mandates, indices and strategies; three PanAgora ESG mandates; seven Putnam ESG funds, and one Setanta Socially Responsible Investment fund.

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)

19,995

Comment

Scope 2 (location-based)

Base year start

January 1, 2013

Base year end

December 31, 2013

Base year emissions (metric tons CO2e)

41,861.65

Comment



Scope 2 (market-based)

Base year start

January 1, 2013

Base year end

December 31, 2013

Base year emissions (metric tons CO2e)

41,861.65

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)

16,358.55

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 no operations where we are able to access electricity supplier emission factors or residual emissions factors and 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

27,357.5

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

3,160.84

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 postconsumer 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 4.0, 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

206.6

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 for Canada and US data. (Maas, Carol. Greenhouse Gas and Energy Co-Benefits of Water Conservation. POLIS



Project on Ecological Governance, University of Victoria. November 2008).

Canada: Environment and Climate Change Canada. National Inventory Report 1990–2019: Greenhouse Gas Sources and Sinks in Canada Part 1. (Ottawa: Environment and Climate Change Canada, 2021.), 61-73.

United States: eGRID 2018, released Feb 2020 from epa.gov/energy/egrid United Kingdom/Ireland: 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-2020

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

73

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

3.469.25

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: Environment Canada. Greenhouse Gas Division, National Inventory Report 1990–2015 Part 2: Greenhouse Gas Sources and Sinks in Canada. (Ottawa:

Environment Canada, 2017.), 195 and Environment and Climate Change Canada.

National Inventory Report 1990–2018: Greenhouse Gas Sources and Sinks in Canada Part 2. (Ottawa: Environment and Climate Change Canada, 2020.), 173. Based on 500 year emissions with following equation: Emission Factor = (CH4 GWP)*Lo*(1-EXP(-500*k))/1000).

United States: https://www.epa.gov/sites/production/files/2019-

10/documents/warm_v15_management_practices_updated_10-08-2019.pdf page 6-9 UK/Ireland: 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-2020



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

69

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

2.280.49

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 and Ground Travel (UK/Ireland) - 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-2020

Corporate Air Travel (USA/Canada) - 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 - Environment and Climate Change Canada. National Inventory Report 1990–2019: Greenhouse Gas Sources and Sinks in Canada Part 2. (Ottawa: Environment and Climate Change Canada, 2021.) 213, 217, 219. Based on average of fuel efficiencies for 2017 mid-size, automatic transmission, 6 cyclinder, regular gasoline vehicles from Fuel Consumption Ratings Search Tool (NRCan)

Rail Travel and Corporate Ground Travel (USA) – Emissions Factors for Greenhouse Gas Inventories (March 2018): https://www.epa.gov/sites/production/files/2018-03/documents/emission-factors mar 2018 0.pdf

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

100

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

4,083.11

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 and Water - Environment and Climate Change Canada. National Inventory Report 1990–2019: Greenhouse Gas Sources and Sinks in Canada Part 1. (Ottawa: Environment and Climate Change Canada, 2021.), 61-73. Water used intensity factor of 1.276 ekWh/m3. Water – Maas, Carol. Greenhouse Gas and Energy Co-Benefits of Water Conservation. POLIS Project on Ecological Governance, University of Victoria. November 2008.

Natural Gas - Environment and Climate Change Canada. National Inventory Report 1990–2019: Greenhouse Gas Sources and Sinks in Canada Part 2. (Ottawa: Environment and Climate Change Canada, 2021.), 211-212

Waste – Environment Canada. Greenhouse Gas Division, National Inventory Report 1990–2015 Part 2: Greenhouse Gas Sources and Sinks in Canada. (Ottawa: Environment Canada, 2017.), 195 and Environment and Climate Change Canada. National Inventory Report 1990–2018: Greenhouse Gas Sources and Sinks in Canada Part 2. (Ottawa: Environment and Climate Change Canada, 2020.), 173. Based on 500 year emissions with following equation: Emission Factor = (CH4 GWP)*Lo*(1-EXP(-500*k))/1000).

Steam: Enwave communication March 8, 2021 and Creative Energies - Email communication with Lori Parker at Creative Energy on April 4, 2021.

Chilled Water: Enwave communication March 8, 2021

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



85

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 area 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 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

0.000000722

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

43,716.06

Metric denominator

unit total revenue

Metric denominator: Unit total

60,583,000,000

Scope 2 figure used

Location-based



% change from previous year

39.52

Direction of change

Decreased

Reason for change

Revenue increased by 35.5% and year-over-year GHG emissions decreased by 18% due to COVID-19 related office closures and travel restrictions. The largest reductions were from natural gas (2,547 tCO2e), jet fuel (1,587 tCO2e) and electricity (3,487 tCO2e). Another reduction (non-COVID-19 related) was from fewer refrigerant top ups, resulting in an emissions decrease of 1,224 tCO2e. GHG emissions reduction activities from energy efficiency-focused projects in buildings, implemented in the reporting year, resulted in reductions of 232 tonnes CO2e.

Intensity figure

1.75

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

43,716.06

Metric denominator

full time equivalent (FTE) employee

Metric denominator: Unit total

24,926

Scope 2 figure used

% change from previous year

20.13

Direction of change

Decreased

Reason for change

Employee count increased by 2.6% and year-over-year GHG emissions decreased by 18% due to COVID-19 related office closures and travel restrictions. The largest reductions were from natural gas (-2,547 tCO2e), jet fuel (1,587 tCO2e) and electricity (3,487 tCO2e). Another reduction (non-COVID-19 related) was from fewer refrigerant top ups, resulting in an emissions decrease of 1,224 tCO2e. GHG emissions reduction activities from energy efficiency-focused projects in buildings, implemented in the reporting year, resulted in reductions of 232 tonnes CO2e.



Intensity figure

0.00403

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

43.716.06

Metric denominator

square foot

Metric denominator: Unit total

10,839,544

Scope 2 figure used

Location-based

% change from previous year

18.03

Direction of change

Decreased

Reason for change

There was no change in area. GHG emissions decreased by 18% due to COVID-19 related office closures and travel restrictions. The largest reductions were from natural gas (-2,547 tCO2e), jet fuel (1,587 tCO2e) and electricity (3,487 tCO2e). Another reduction (non-COVID-19 related) was from fewer refrigerant top ups, resulting in an emissions decrease of 1,224 tCO2e. GHG emissions reduction activities from energy efficiency-focused projects in buildings, implemented in the reporting year, resulted in reductions of 232 tonnes CO2e.

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?

Decreased

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		Please explain calculation
	(percentage)	



	(metric tons CO2e)			
Change in renewable energy consumption	0	No change	0	
Other emissions reduction activities	232	Decreased	0.44	Energy efficiency-focused projects at Canadian owner-occupied and investment properties resulted in estimated GHG emission reductions of 232 tCO2e. Calculation is as follows: - 232 tCO2e/53,331 tCO2e = -0.44%
Divestment	0	No change	0	
Acquisitions	0	No change	0	
Mergers	0	No change	0	
Change in output	5,884.37	Decreased	11.03	Due to COVID-19 travel restrictions, reduced usage of the corporate jet and company vehicles resulted in emissions reductions of 1,587 tCO2e and 533 tCO2e respectively. Office closures from COVID-19 in Canada, Ireland, the UK and the US also resulted in reduced emissions from decreased electricity and natural gas consumption. This amounted to 3,764 tCO2e. Calculation is as follows: -5,884 tCO2e/53,331 tCO2e = -11.03%
Change in methodology	211.14	Decreased	0.4	Changes in emissions factors for UK electricity (0.2556 kgCO2e/kWh in 2019 to 0.2331 kgCO2e/kWh in 2020) and Canada steam (0.0754 kgCO2e/lb in 2019 to 0.0714 kgCO2e/lb in 2020 for Ontario and 0.0899 kgCO2e/lb in 2019 to 0.0874 kgCO2e/lb in 2020 for British Columbia) , resulted in emissions reductions of 212 tCO2e. This was countered very slightly by a minor increase in the Ireland electricity emissions factor, rising from 0.3772 kgCO2e/kWh to 0.3773 kgCO2e/kWh. Calculation is as follows: -211 tCO2e/53,331 tCO2e = -0.40%.



Change in boundary	0	No change	0	
Change in physical operating conditions	2,091	Decreased	3.92	Weather and occupancy changes in the Canadian corporate buildings and the International portfolio resulted in a net decrease in emissions of 2091 tCO2e largely from reductions in electricity and natural gas consumption. Calculation is as follows: -2091 tCO2e/53,331 tCO2e = -3.92%.
Unidentified	0	No change	0	
Other	1,196.78	Decreased	2.24	A decrease in back-up fuel and refrigerant usage resulted in a reduction in emissions of 1,197 tCO2e. This was mainly due to a large refrigerant top up made in a Canadian corporate property in 2019, and smaller top ups needed at several properties in 2020. Calculation is as follows: -1197 tCO2e/53,331 tCO2e = -2.24%.

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	No
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)
Consumption of fuel (excluding feedstock)	HHV (higher heating value)	0	84,225.01	84,225.01
Consumption of purchased or acquired electricity		105,861.34	34,447.28	140,308.62
Consumption of purchased or acquired steam		0	10,146.5	10,146.5
Total energy consumption		105,861.34	128,818.8	234,680.14

C9. Additional metrics

C9.1

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

Description

Waste

Metric value

3,460.49



Metric numerator

tCO2e

Metric denominator (intensity metric only)

% change from previous year

32.7

Direction of change

Decreased

Please explain

Landfill waste from the Canadian Corporate and International properties decreased from 2019 to 2020 by 1680 tCO2e, largely as a result of COVID-19 office closures and employees working from home.

Description

Other, please specify

GWLRA-managed Segregated Fund Investment Properties

Metric value

74,068.03

Metric numerator

tCO2e

Metric denominator (intensity metric only)

% change from previous year

9.6

Direction of change

Decreased

Please explain

Emissions from the Canadian Segregated Fund properties decreased by 7,827 tCO2e. This was due to large decreases in natural gas (3,818 tCO2e) and electricity emissions (3,468 tCO2e). These decreases were mainly due to COVID-19 office closures from March - Dec 2020.

Description

Other, please specify
Lifeco Leased Properties (Canada)

Metric value



4,083.11

Metric numerator

tCO2e

Metric denominator (intensity metric only)

% change from previous year

8.3

Direction of change

Decreased

Please explain

Emissions from the Canadian Leased properties decreased by 367 tCO2e. This was due to a large decrease in landfill waste emissions (640 tCO2e), mainly due to COVID-19 office closures from March - Dec 2020 and employees working from home. An increase in natural gas emissions of 234 tCO2ewas from the addition of three new leases.

Description

Other, please specify
Water Consumption-related GHG Emissions

Metric value

206.06

Metric numerator

tCO2e

Metric denominator (intensity metric only)

% change from previous year

17.2

Direction of change

Decreased

Please explain

Water emissions in Canadian Corporate and International properties has decreased by 43 tCO2e, mainly due to COVID-19 office closures from March-December 2020 and employees working from home.

Description

Other, please specify



Business Travel GHG Emissions

Metric value

2.280.49

Metric numerator

tCO2e

Metric denominator (intensity metric only)

% change from previous year

81.7

Direction of change

Decreased

Please explain

Business Travel emissions were reduced by 10,175 tCO2e, due to COVID-19 travel restrictions and stay-at-home orders for most of 2020.

Description

Other, please specify
Paper Use GHG Emissions

Metric value

3,160.84

Metric numerator

tCO2e

Metric denominator (intensity metric only)

% change from previous year

24.5

Direction of change

Increased

Please explain

Paper emissions increased by 622 tCO2e due to variability in the types of paper products purchased.

Description

Energy usage

Metric value



234,680,136.49

Metric numerator

kWh

Metric denominator (intensity metric only)

% change from previous year

19

Direction of change

Decreased

Please explain

Absolute energy usage in the corporate properties was reduced by 54,919 MWH. This was largely due to decreases in natural gas usage of 26,214 MWH, and in electricity usage of 20,108 MWH from COVID-19 office closures.

Description

Energy usage

Metric value

21.65

Metric numerator

kWh

Metric denominator (intensity metric only)

ft2

% change from previous year

19

Direction of change

Decreased

Please explain

As a result of large decreases in natural gas and electricity usage from COVID-19 office closures, energy intensity in the Corporate properties decreased by -19.0% or -5.07 kWh/ft2.

Description

Other, please specify Water Use

Metric value



599,304.56

Metric numerator

m3

Metric denominator (intensity metric only)

% change from previous year

18.7

Direction of change

Decreased

Please explain

Water consumption decreased by 137,855 m3 as a result of reductions in water usage from COVID-19 office closures and employees working from home.

Description

Other, please specify
Water Use Intensity

Metric value

0.06

Metric numerator

m3

Metric denominator (intensity metric only)

ft2

% change from previous year

18 7

Direction of change

Decreased

Please explain

Water Use Intensity decreased by 0.013 m3/ft due to a decrease in water usage from COVID-19 office closures and employees working from home.

Description

Waste

Metric value

1,666.25

Metric numerator



metric tonnes

Metric denominator (intensity metric only)

% change from previous year

33.5

Direction of change

Decreased

Please explain

Landfill waste generation decreased by 839 metric tonnes, due primarily to decreases from the Canadian Corporate Properties of 410.7 tonnes and the Empower Retirement/Putnam properties of 427.5 tonnes. These decreases were mainly due to COVID-19 office closures and employees working from home.

Description

Waste

Metric value

57

Metric numerator

%

Metric denominator (intensity metric only)

% change from previous year

2.8

Direction of change

Decreased

Please explain

The waste diversion rate decreased slightly due to an overall reduction in waste to landfill, waste to energy and recycling, as a result of COVID-19 office closures and employees working from home.

Description

Other, please specify
Waste to Energy (GHG Emissions)

Metric value

8.76



Metric numerator

tCO2e

Metric denominator (intensity metric only)

% change from previous year

84.8

Direction of change

Decreased

Please explain

Waste to Energy generation from the Canadian Corporate and International properties decreased from 2019 to 2020 by 49 tCO2e, as a result of COVID-19 office closures.

Description

Other, please specify
Waste to Energy (tonnes)

Metric value

123.43

Metric numerator

metric tonnes

Metric denominator (intensity metric only)

% change from previous year

57

Direction of change

Decreased

Please explain

Waste to Energy generation decreased by 163 metric tonnes, due to a decrease from the Irish Life properties of 95.7 tonnes and no waste to energy data being reported for the Canadian corporate properties in 2020.

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

Page/ section reference

Please see pages 3-6 for details on the limited level assurance statement from PwC (e.g., scope and subject matter, independence and quality control, conclusions etc.). All Scope 1 GHG emissions for Great-West Lifeco were in scope as listed on page 3.

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

Page/ section reference

Please see pages 3-6 for details on the limited level assurance statement from PwC (e.g., scope and subject matter, independence and quality control, conclusions etc.). All Scope 2 GHG emissions for Great-West Lifeco were in scope as listed on page 3.

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: 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 limited assurance Report on GHG Statement_June 29 2021 final.pdf

Page/section reference

Please see pages 3-6 for details on the limited level assurance statement from PwC (e.g., scope and subject matter, independence and quality control, conclusions etc.). Upstream GHG emissions (Scope 3) associated with water consumption at owner-



occupied and investment real estate assets were included and are outlined in the table on page 3.

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 limited assurance Report on GHG Statement_June 29 2021 final.pdf

Page/section reference

Please see pages 3-6 for details on the limited level assurance statement from PwC (e.g., scope and subject matter, independence and quality control, conclusions etc.). Upstream GHG emissions (Scope 3) associated with waste production at owner-occupied and investment real estate assets were included and are outlined in the table on page 3.

Relevant standard

Proportion of reported emissions verified (%)

Scope 3 category

Scope 3: Investments

Verification or assurance cycle in place

Annual process

Status in the current reporting year



Type of verification or assurance

Limited assurance

Attach the statement

 $\ensuremath{\mathbb{Q}}$ GWL_PwC limited assurance Report on GHG Statement_June 29 2021 final.pdf

Page/section reference

Please see pages 3-6 for details on the limited level assurance statement from PwC (e.g., scope and subject matter, independence and quality control, conclusions etc.). GHG emissions associated with Canadian and US real assets, specifically, GWLRA-managed and operationally controlled segregated fund investment assets and EverWest-managed US Property Fund assets, were included in the scope of the verification process and listed in the table on page 3 of the assurance statement.

Relevant standard

ISAE 3410

Proportion of reported emissions verified (%)

100

C_{10.2}

(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, Scope 1 & 2 (combined), and Scope 3 GHG emissions. See attached PwC Assurance Statement (pg.4).
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, Scope 1 & 2 (combined), and Scope 3 GHG emissions. See attached PwC Assurance Statement (pg.4).



			0 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, Scope 1 & 2 (combined), and Scope 3 GHG emissions. See attached PwC Assurance Statement (pg.4).
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, Scope 1 & 2 (combined), and Scope 3 GHG emissions. See attached PwC Assurance Statement (pg.4).

^⁰ ¹GWL_PwC limited assurance Report on GHG Statement_June 29 2021 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

Carbon tax/pricing implications on utility costs have been assessed for the Canadian portfolio. The GHG emissions inventory report for GWLRA, includes forward-looking carbon pricing assessments based on the government of Canada's commitment to carbon pricing (the Greenhouse Gas Pollution Pricing Act). For example, carbon taxes are currently targeted at a rate of between \$20.4/tonne (QC) to \$45/tonne (BC), with the aim of \$50/tonne across the country by 2022, although some exceptions may apply as provinces implement their own federally-approved programs. Under the Federal proposal, the government would increase the carbon price by \$15 per year starting in 2023 rising to \$170 per tonne in 2030. The forward-looking carbon pricing analysis (transition risk assessment) includes a scenario of pricing at \$170/tonne CO2e by 2030.

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

Carbon tax/pricing implications on utility costs have been assessed for the Canadian portfolio. The GHG emissions inventory report for GWLRA, includes forward-looking carbon pricing assessments based on the government of Canada's commitment to carbon pricing (the Greenhouse Gas Pollution Pricing Act). For example, carbon taxes are currently targeted at a rate of between \$20.4/tonne (QC) to \$45/tonne (BC), with the aim of \$50/tonne across the country by 2022, although some exceptions may apply as provinces implement their own federally-approved programs. Under the Federal proposal, the government would increase the carbon price by \$15 per year starting in 2023 rising to \$170 per tonne in 2030. The forward-looking carbon pricing analysis (transition risk assessment) includes a scenario of pricing at \$170/tonne CO2e by 2030.

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Shadow price Implicit price

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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)

45

Variance of price(s) used

Carbon tax/pricing implications on utility costs have been assessed for the Canadian portfolio. The GHG emissions inventory report for GWLRA, includes forward-looking carbon pricing assessments based on the government of Canada's commitment to carbon pricing (the Greenhouse Gas Pollution Pricing Act). For example, carbon taxes are currently targeted at a rate of between \$20.4/tonne (QC) to \$45/tonne (BC), with the aim of \$50/tonne across the country by 2022, although some exceptions may apply as provinces implement their own federally-approved programs. Under the Federal proposal, the government would increase the carbon price by \$15 per year starting in 2023 rising to \$170 per tonne in 2030. The forward-looking carbon pricing analysis (transition risk assessment) includes a scenario of pricing at \$170/tonne CO2e by 2030.

Type of internal carbon price

Shadow price Implicit price

Impact & implication

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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)

50

Variance of price(s) used

Carbon tax/pricing implications on utility costs have been assessed for the Canadian portfolio. The GHG emissions inventory report for GWLRA, includes forward-looking carbon pricing assessments based on the government of Canada's commitment to carbon pricing (the Greenhouse Gas Pollution Pricing Act). For example, carbon taxes are currently targeted at a rate of between \$20.4/tonne (QC) to \$45/tonne (BC), with the aim of \$50/tonne across the country by 2022, although some exceptions may apply as provinces implement their own federally-approved programs. Under the Federal proposal, the government would increase the carbon price by \$15 per year starting in 2023 rising to \$170 per tonne in 2030. The forward-looking carbon pricing analysis (transition risk assessment) includes a scenario of pricing at \$170/tonne CO2e by 2030.

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)

170

Variance of price(s) used

Carbon tax/pricing implications on utility costs have been assessed for the Canadian portfolio. The GHG emissions inventory report for GWLRA, includes forward-looking carbon pricing assessments based on the government of Canada's commitment to carbon pricing (the Greenhouse Gas Pollution Pricing Act). For example, carbon taxes are currently targeted at a rate of between \$20.4/tonne (QC) to \$45/tonne (BC), with the aim of \$50/tonne across the country by 2022, although some exceptions may apply as provinces implement their own federally-approved programs. Under the Federal proposal, the government would increase the carbon price by \$15 per year starting in 2023 rising to \$170 per tonne in 2030. The forward-looking carbon pricing analysis (transition risk assessment) includes a scenario of pricing at \$170/tonne CO2e by 2030.

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)

30

% 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

We measure our success through our ability to achieve our green building certification targets, as well as our ability to reduce our emissions from the Canadian owner-occupied and investment properties. 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 2020, Great-West Lifeco achieved a 22% reduction in the GHG scope 1 and 2 emissions when compared to its baseline year of 2013 for its Canadian owner-occupied and investment properties.

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

We measure our success through the results from our satisfaction surveys with GWLRA's tenants and residents. For example, 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 2020, GWLRA achieved a 32% 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 engaged with our clients to promote acceptance and better education for investors, financial advisors and investment consultants. In 2019 and 2020, 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 over 181 advisors, with well over 111 advisors making progress on the module. The revamped GLC Asset Management Responsible Investing webpage debuted in February of 2020 has recorded an 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

Information collection (Understanding investee behavior)

Details of engagement

Included climate change in investee selection / management mechanism

% 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. As part of the Non-



disclosure Campaign, ILIM has joined 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.

ILIM conducts collaborative engagement through the Climate Action 100+ Group focusing on major industrial GHG emitters to ensure their transition plans align with the Paris Agreement.

ILIM also conducts specific proxy voting on shareholder proposals regarding climaterelated issues through its third-party provider, ISS. When determining the merits of a shareholder proposal, ILIM will consider emission targets alignment with the Paris Agreement, realistic climate strategies and incentives, and disclosures related to the TCFD and CDP.

ILIM does not manage any of the listed equities portfolio reported in C-FS14.1a/C-FS14.2b.

Impact of engagement, including measures of success

Irish Life Investment Managers' (ILIM) engagement efforts last year have enabled collaborative engagement with 546 companies to respond to CDP's Climate Change disclosure request, as part of the CDP Non-Disclosure Campaign.

In the 2020 cycle, ILIM obtained an 18% response rate for the 546 engagement letters it co-signed on climate change. This included 12 fossil fuel companies who disclosed their climate-related exposure to climate-related issues through CDP.

Furthermore, in 2020, ILIM conducted 24 direct climate change engagements with companies and climate-related shareholder proposals, of which 3 passed that focused the companies on aligning their strategies and lobbying with the Paris Agreement, and conducting climate risk scenario analysis.

Type of engagement

Engagement & incentivization (changing investee behavior)

Details of engagement

Support climate-related issues in proxy voting

% 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. As part of the Non-disclosure Campaign, ILIM has joined 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.

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Furthermore, in 2020, ILIM conducted 24 direct climate change engagements with companies and climate-related shareholder proposals, of which 3 passed that focused the companies on aligning their strategies and lobbying with the Paris Agreement, and conducting climate risk scenario analysis.

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

2



Portfolio coverage

Minority of the portfolio

Rationale for the coverage of your engagement

Through our asset management affiliate, Putnam Investments, we engage top holdings across Putnam-held corporate issuers, accounting for approximately 50% of equity assets under management as well as certain corporate credit holdings. In addition to ongoing engagement through proxy voting and research processes, Putnam sends annual individually tailored letters to CEOs, acknowledging efforts to date and encouraging future progress on key sustainability issues specific to each company, including disclosure and action on climate-related matters. Putnam is also part of SASB's corporate engagement working group, which focuses on encouraging financially material ESG disclosures, including a range of climate-related information.

Putnam Investments manages 2% of Great-West Lifeco's listed equities portfolio as reported in C-FS14.1a/C-FS14.2b.

Impact of engagement, including measures of success

We assess our success by the number of companies engaged and the progress they exhibit on financially material sustainability issues, including climate-related action and disclosures. Several companies in our portfolio have published inaugural sustainability reports, increased communications 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.

Method of engagement: We define other partners in our value chain as community organizations we interact with on climate-related issues, such as Earth Rangers in 2020 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.

<u>Strategy for prioritizing engagements</u>: 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 people reached in addressing climate change issues. For example, in 2020, we engaged with the Earth Rangers as a national sponsor to support educating children and their families about biodiversity & climate change, inspiring them to adopt sustainable behaviours, and empowering them to become directly involved in protecting animals and their habitats. As a national sponsor, we supported three activities: During Earth Week we introduced our employees to Earth Rangers and offered a special membership signup opportunity, In the summer we supported a mission: Live Love Local, encouraging young Canadians to learn more about how where their food comes from contributes to climate change and to choose local, or even grow



their own food right at home! During our Canada Life Summer Camp in August – we connected our employees and their families to a Facebook live event to get up close and personal with Earth Rangers and their amazi ng animal ambassadors! This live animal meet & greet gave families across Canada the opportunity to learn about interesting species, how climate change impacts their habitats and ask questions, and see demonstrations of natural behaviours, right from home. As a result of the activities, more than 1,500 young Canadians completed the Live Love Local mission in 2020 and counting. Members completed more than 50,000 Missions in 2020, making a significant and positive impact on the environment and their local community 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

Association of Institutional Investors (AII)

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), the Nature Conservancy of Canada, and the Green Action Centre for the National Commuter Challenge.

International Institute for Sustainable Development (IISD):

We were engaged with the IISD to promote research and knowledge of the risks associated with climate change.

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

We were 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. Through our engagement with the IISD we supported coordinated research, advice and policy development on climate change. In 2020, our previous pledge supported IISD bringing the AquaHacking Challenge to Lake Winnipeg. Over the process 472 youth engaged in water-related activities 109 individuals registered for the challenge 19 teams registered for the challenge – resulting in five finalist teams being selected to pitch their solutions to help Lake Winnipeg and the communities who depend on it. The five teams were awarded grants ranging in \$2,500-20,000 to bring their ideas to life. Drawing on the relationships built through the AquaHacking Lake Winnipeg 2020 Challenge, IISD will continue to champion solutions to global sustainability issues, especially through the innovative use of data and technology.

Nature Conservancy of Canada (NCC):

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. Through the NCC engagement, we focused on providing an educational opportunity for our employees and Canadians at large to learn about effects of climate change & sustainability and encourage them to head outside and observe wild plants, animals and insects, snap photos and upload the images, to be reviewed by a global network of scientists. Nature will play a critical role in our actions by providing a two-for-one solution to reduce the impacts of rapid climate change. The places we protect and restore both store carbon and help people and nature adapt to our changing climate. BioBlitz was an opportunity to evolve how NCC engages with their volunteers and to help people connect with nature during a time when we needed it most.

As a national sponsor, we supported a new week-long virtual event: Big Backyard BioBlitz, encouraging Canadians to observe nature and learn more about habitats and species in their backyards and neighbourhoods through the use of the iNaturalist app. Data collected from backyards and greenspaces across the country will help inform knowledge about species and impacts of climate change, while contributing to a broader view of nature in Canada.

2020 Big Backyard BioBlitz 1,393 volunteers registered from across Canada and 1,672 iNaturalist participants joined as observers and identifiers. Nearly 50% were new volunteers,



resulting in: 20,656 observations made (an observation is an encounter with an individual organism at a particular time and location), and 3,480 species identified. In addition to educating our employees on sustainability, our engagement has helped the NCC complete 540 new conservation projects completed across Canada, connect 300,000 Canadians to nature, and 18,000 volunteers cared for nature.

Commuter Challenge:

We are engaged with Green Action Centre for the National Commuter Challenge with our employees across Canada and as a sponsor locally in Winnipeg.

Through our participation we are engaging our employees to take action and providing education and awareness of the impact of active and sustainable transportation on climate change and effect on air quality and reduction of greenhouse gas emissions.

Commuter Challenge is a week-long event during Canadian Environment Week typically end of May/Early June culminating June 5th with Environment Day annually. It is a friendly competition between Canadian cities and workplaces, that encourages Canadians to leave their cars at home. Rewards walking, cycling, carpooling/ride-sharing, taking transit and telecommuting and celebrates active and sustainable transportation.

In 2020 more than 355 workplaces participated, with 2,968 individuals registered resulting in 67,633 Kg Co2 avoided by eliminating 321,270 kms travelled. Canada Life received Gold status award for participation in Winnipeg as having the top participation rate overall for an employer 1,000 – 2,999 employees category. More than 200 Canada life employees participation across all locations.

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-2020-annual-report-en.pdf

Page/Section reference

Pages 7, 8, 49, 91

Content elements

Governance

Risks & opportunities

Comment

The 2020 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

lifeco-2020-annual-information-form.pdf

Page/Section reference

Pgs. 17-18

Content elements

Risks & opportunities

Comment

The 2020 Lifeco Annual Information Form outlines the Company's approach to managing sustainability risk, including climate change-related risks.

Publication

In mainstream reports



Status

Complete

Attach the document

Page/Section reference

Pages 25, 28, 29

Content elements

Emissions figures
Emission targets
Other metrics
Other, please specify
Green building certifications

Comment

The 2020 Public Accountability Statement relates to Great-West Lifeco's operating company Canada Life and describes the CSR, ESG, and sustainability-related activities, including climate change-related initiatives, of Canada Life and its subsidiaries.

Publication

In voluntary communications

Status

Underway – previous year attached

Attach the document

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

Page/Section reference

Entire document

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.



Publication

In voluntary sustainability report

Status

Complete

Attach the document

gwlra-ar-2020-eng.pdf

Page/Section reference

Pgs. 8-10, 17-19, 27-37

Content elements

Risks & opportunities Emissions figures Emission targets Other metrics

Comment

The GWL Realty Advisors, a wholly owned subsidiary of Great-West Lifeco, discloses its greenhouse gas emissions figures/performance, emissions targets, and management of climate risk in the Annual Review document.

Publication

In voluntary sustainability report

Status

Complete

Attach the document

Putnam Sustainability and Impact Report.pdf

Page/Section reference

Pages 4, 6

Content elements

Risks & opportunities
Other metrics
Other, please specify
Climate-related engagement

Comment



Putnam Investments, a wholly owned subsidiary of Great-West Lifeco discloses its approach to integrating climate-related matters into its investment decisions through its Sustainability and Impact Report.

Publication

In voluntary sustainability report

Status

Complete

Attach the document

 $\ensuremath{\mathbb{Q}}$ putnam_engagement_stewardship-report.pdf

Page/Section reference

Pages 9, 13, 18, 20, 21, 31, 33, 36, 39

Content elements

Risks & opportunities
Other metrics
Other, please specify
Climate-realted engagement

Comment

Putnam Investments, a wholly owned subsidiary of Great-West Lifeco discloses how it engages with investee companies as it relates to climate change issues..

Publication

In voluntary sustainability report

Status

Complete

Attach the document

 $\cup{0.05cm}$ ILIM-responsible-investing-annual-review-2020.pdf

Page/Section reference

Pages 6-8

Content elements

Governance Risks & opportunities

Comment



Irish Life Investment Managers (ILIM), a wholly owned subsidiary of Irish Life, which is a wholly-owned subsidiary of Great-West Lifeco, discloses climate related information through its Responsible Investment Annual Review.

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 is an official Supporter of the recommendations 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) Climate Action 100+ Other, please specify CDP's Non- disclosure campaign	UN PRI: Great-West Lifeco' asset management affiliates are signatories to the UN PRI, including Irish Life Investment Managers (since 2010); Putnam Investments (since 2011); PanAgora (since 2011), GLC Asset Management (since 2016), and Setanta Asset Management (since 2020). Climate Action 100+: Great-West Lifeco's asset management 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. 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. Sustainable Roundtable Inc.: In addition, our affiliate, Putnam Investments is a member of the Sustainable Roundtable Inc., which provides benchmarks for sustainable workplace opportunities.
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 strategies related to sustainable funds. We also conduct analysis of the Canadian segregated real estate Fund Investment Properties (managed by GWL Realty Advisors) and the US Property Fund (managed by EverWest) by measuring the carbon footprint of the assets under operational/financial control.
Investing (Asset owner)	Yes	Category 15 "Investment" total absolute emissions	We conduct analysis of the Great-West Lifeco General Account stock (listed equities) portfolio. We calculated the Scope 3 financed GHG emissions of the Great-West Lifeco general account using the GHG Protocol Corporate Accounting and Reporting Standard (Category 15, Scope 3 emissions) guidance. Scope 3 financed GHG emissions were calculated using the proportional emissions from equity investments, which are allocated based on Great-West Lifeco's proportional share of equity in the investee. The "Investment-specific method" was used, which involves collecting scope 1 and scope 2 emissions from the investee company (via a third-party data platform) and allocating the emissions based upon the share of Great-West Lifeco's investment. This methodology is in line with the Partnership for Carbon Accounting Financials (PCAF) 2020 Global GHG Accounting and Reporting Standard for the Financial Industry (First Edition). Scope 3 GHG emissions related to the general account listed equities portfolio have been internally checked and reviewed, but not externally assured in accordance with a standard.



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)

946,393

Portfolio coverage

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

Percentage calculated using data obtained from client/investees

70

Emissions calculation methodology

Canadian segregated real estate funds (GWL Canadian Real Estate Fund No.1 and London Life Real Estate Fund - managed by GWL Realty Advisors) and US Property Fund (EverWest managed): Energy, water and waste data collected from the Canadian segregated fund real estate investment portfolio and the EverWest U.S. Property Fund portfolio was multiplied by appropriate emissions factors as listed below. Note that the portfolio GHG emissions related to the real estate assets have been externally assured (limited level) in accordance with the International Standards on Assurance Engagements 3410, Assurance Engagements on Greenhouse Gas Statements ("ISAE 3410"), issued by the International Auditing and Assurance Standards Board.

GWPs: Carbon dioxide (tCO2unit): 1; Methane (tCH4/unit): 25; Nitrous Oxide (tN2O/unit): 298

Electricity and Water - Environment and Climate Change Canada. National Inventory Report 1990–2019: Greenhouse Gas Sources and Sinks in Canada Part 1. (Ottawa: Environment and Climate Change Canada, 2021.), 61-73. Water used intensity factor of 1.276 ekWh/m3. Water – Maas, Carol. Greenhouse Gas and Energy Co-Benefits of Water Conservation. POLIS Project on Ecological Governance, University of Victoria. November 2008.

Natural Gas - Environment and Climate Change Canada. National Inventory Report



1990–2019: Greenhouse Gas Sources and Sinks in Canada Part 2. (Ottawa: Environment and Climate Change Canada, 2021.), 211-212

Waste – Environment Canada. Greenhouse Gas Division, National Inventory Report 1990–2015 Part 2: Greenhouse Gas Sources and Sinks in Canada. (Ottawa: Environment Canada, 2017.), 195 and Environment and Climate Change Canada. National Inventory Report 1990–2018: Greenhouse Gas Sources and Sinks in Canada Part 2. (Ottawa: Environment and Climate Change Canada, 2020.), 173. Based on 500 year emissions with following equation: Emission Factor = (CH4 GWP)*Lo*(1-EXP(-500*k))/1000).

Steam: Enwave communication March 8, 2021 and Creative Energies - Email communication with Lori Parker at Creative Energy on April 4, 2021.

For Great-West Lifeco's General Account global stock (listed equities) portfolio, as at year-end 2020: We calculated the Scope 3 financed GHG emissions of the Great-West Lifeco general account using the GHG Protocol Corporate Accounting and Reporting Standard (Category 15, Scope 3 emissions) guidance.

Scope 3 financed GHG emissions were calculated using the proportional emissions from equity investments, which are allocated based on Great-West Lifeco's proportional share of equity in the investee. The "Investment-specific method" was used, which involves collecting scope 1 and scope 2 emissions from the investee company (via a third-party data platform) and allocating the emissions based upon the share of Great-West Lifeco's investment. This methodology is in line with the Partnership for Carbon Accounting Financials (PCAF) 2020 Global GHG Accounting and Reporting Standard for the Financial Industry (First Edition).

Scope 3 GHG emissions related to the general account listed equities portfolio have been internally checked and reviewed, but not externally assured in accordance with a standard.

Please explain

Scope 3 portfolio investment emissions includes the following:

- Canadian segregated real estate funds (GWL Canadian Real Estate Fund No.1 and London Life Real Estate Fund managed by GWL Realty Advisors), representing 74,068 tonnes CO2e of the total reported value of 946,393 tonnes CO2e
- US Property Fund (managed by EverWest), representing 10,437 tonnes CO2e of the total reported value of 946,393 tonnes CO2e
- Great-West Lifeco's General Account global stock (listed equities) portfolio, representing 861,888 tonnes CO2e of the total reported value of 946,393 tonnes CO2e

The carbon footprint analysis for listed equities is based on the Great-West Lifeco general account stock portfolio and relates to Great-West Lifeco's proportional share of GHG emissions of the investee companies. The equities portfolio represents approximately 6% of Great-West Lifeco's total invested assets of the General Account.



The data was obtained through the Sustainalytics carbon data platform. The results represent 70% coverage of Great-West Lifeco's General Account total stock portfolio of \$11.8 billion.

The metrics are used to monitor the GHG emissions associated with each investment fund/portfolio and/or asset class.

The current coverage is not considered substantive based on the total Great-West Lifeco General Account portfolio of \$199 Billion as at year-end 2020.

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)

The reason we do not conduct analysis of the impact of our insurance underwriting portfolio is because the data on the carbon impact is currently unavailable. We will therefore be exploring opportunities to conduct an analysis of the insurance portfolio and are currently investigating methods to quantify financed GHG emissions of Great-West Lifeco's general account public fixed income investments. Over the next two years, we plan to investigate methods to quantify the emissions of the general account public fixed income investments.

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 Yes, by country/region	Scope 3 portfolio impact is as follows: - Canadian segregated real estate funds (GWL Canadian Real Estate Fund No.1 and London Life Real Estate Fund - managed by GWL Realty Advisors), representing 74,068 tonnes CO2e of the total reported value of 946,393 tonnes CO2e - US Property Fund (managed by EverWest), representing 10,437 tonnes CO2e of the total reported value of 946,393 tonnes CO2e - Great-West Lifeco's General Account global stock (public equities) portfolio, representing 861,888 tonnes CO2e of the total reported value of 946,393 tonnes CO2e Canada: 856,844 tonnes CO2e (782,776 tonnes CO2e (listed equities), 74,068 tonnes CO2e (GWLRA-managed segregated real estate funds)) Bermuda: 64,361 tonnes CO2e (listed equities) United States: 22,500 tonnes CO2e (12,063 tonnes CO2e (listed equities),



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10,437 tonnes CO2e US Property Fund))
United Kingdom: 705 tonnes CO2e (listed equities)
Ireland: 667 tonnes CO2e (listed equities)
Belgium: 410 tonnes CO2e (listed equities)
Italy: 244 tonnes CO2e (listed equities)
Germany: 182 tonnes CO2e (listed equities)
France: 144 tonnes CO2e (listed equities)
Spain: 95 tonnes CO2e (listed equities)
Luxembourg: 54 tonnes CO2e (listed equities)
South Korea: 51 tonnes CO2e (listed equities)
Portugal: 45 tonnes CO2e (listed equities)
Netherlands: 28 tonnes CO2e (listed equities)
Taiwan: 15 tonnes CO2e (listed equities)
Switzerland: 15 tonnes CO2e (listed equities)
Greece: 13 tonnes CO2e (listed equities)
Japan: 12 tonnes CO2e (listed equities)
Sweden: 4 tonnes CO2e (listed equities)
Israel: 2 tonnes CO2e (listed equities)
Australia: 2 tonnes CO2e (listed equities)

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	84,505	- Canadian segregated real estate funds (GWL Canadian Real Estate Fund No.1 and London Life Real Estate Fund - managed by GWL Realty Advisors), representing 74,068 tonnes CO2e - US Property Fund (managed by EverWest), representing 10,437 tonnes CO2
Listed equity	Total carbon absolute emissions (CO2e)	Metric tons CO2e	861,888	- Great-West Lifeco's General Account global stock (listed equities) portfolio, representing 861,888 tonnes CO2e of the total reported value of 946,393 tonnes CO2e of reported portfolio investment Scope 3 emissions



C-FS14.2c

(C-FS14.2c) Break down your organization's Scope 3 portfolio impact by country/region.

Country/Region	Metric type	Metric unit	Scope 3 portfolio emissions or alternative metric	Please explain
Canada	Total carbon absolute emissions (CO2e)	Metric tons CO2e	856,844	- Canadian segregated real estate funds (GWL Canadian Real Estate Fund No.1 and London Life Real Estate Fund - managed by GWL Realty Advisors), representing 74,068 tonnes CO2e of the total reported value of 946,393 tonnes CO2e
Bermuda	Total carbon absolute emissions (CO2e)	Metric tons CO2e	64,361	Bermuda: 64,361 tonnes CO2e (listed equities)
United States of America	Total carbon absolute emissions (CO2e)	Metric tons CO2e	22,500	22,500 tonnes CO2e (12,063 tonnes CO2e (listed equities), 10,437 tonnes CO2e US Property Fund))
United Kingdom of Great Britain and Northern Ireland	Total carbon absolute emissions (CO2e)	Metric tons CO2e	705	United Kingdom: 705 tonnes CO2e (listed equities)
Ireland	Total carbon absolute emissions (CO2e)	Metric tons CO2e	667	Ireland: 667 tonnes CO2e (listed equities)
Belgium	Total carbon absolute emissions (CO2e)	Metric tons CO2e	410	Belgium: 410 tonnes CO2e (listed equities)
Italy	Total carbon absolute emissions (CO2e)	Metric tons CO2e	244	Italy: 244 tonnes CO2e (listed equities)



Germany	Total carbon absolute emissions (CO2e)	Metric tons CO2e	182	Germany: 182 tonnes CO2e (listed equities)
France	Total carbon absolute emissions (CO2e)	Metric tons CO2e	144	France: 144 tonnes CO2e (listed equities)
Spain	Total carbon absolute emissions (CO2e)	Metric tons CO2e	95	Spain: 95 tonnes CO2e (listed equities)
Luxembourg	Total carbon absolute emissions (CO2e)	Metric tons CO2e	54	Luxembourg: 54 tonnes CO2e (listed equities)
Republic of Korea	Total carbon absolute emissions (CO2e)	Metric tons CO2e	51	South Korea: 51 tonnes CO2e (listed equities)
Portugal	Total carbon absolute emissions (CO2e)	Metric tons CO2e	45	Portugal: 45 tonnes CO2e (listed equities)
Netherlands	Total carbon absolute emissions (CO2e)	Metric tons CO2e	28	Netherlands: 28 tonnes CO2e (listed equities)
Taiwan, Greater China	Total carbon absolute emissions (CO2e)	Metric tons CO2e	15	Taiwan: 15 tonnes CO2e (listed equities)
Switzerland	Total carbon absolute emissions (CO2e)	Metric tons CO2e	15	Switzerland: 15 tonnes CO2e (listed equities)
Greece	Total carbon absolute emissions (CO2e)	Metric tons CO2e	13	Greece: 13 tonnes CO2e (listed equities)



Japan	Total carbon absolute emissions (CO2e)	Metric tons CO2e	12	Japan: 12 tonnes CO2e (listed equities)
Sweden	Total carbon absolute emissions (CO2e)	Metric tons CO2e	4	Sweden: 4 tonnes CO2e (listed equities)
Israel	Total carbon absolute emissions (CO2e)	Metric tons CO2e	2	Israel: 2 tonnes CO2e (listed equities)
Australia	Total carbon absolute emissions (CO2e)	Metric tons CO2e	2	Australia: 2 tonnes CO2e (listed equities)

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 Asset Management (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, Great-West Lifeco's investment management affiliate companies GLC Asset Management, Irish Life Investment Managers (ILIM) and PanAgora Asset Management 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 assessed 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 affiliates GLC Asset Management, Irish Life Investment Managers (ILIM) and PanAgora Asset Management are 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 plan to explore climate science targets across our portfolio using the Science-based Target Initiative guidance for financial institutions.
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, PanAgora Asset Management, 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)	Yes, for some	Irish Life Investment Managers (ILIM) encourages its investees to set science-based targets. For example, when evaluating the merits of a shareholder proposal with requests related to greenhouse gas (GHG) emissions, disclosures and



		strategies related to direct emissions, emissions from electricity, and emissions related to the company's products and supply chain are considered. Through its third party provider, ILIM will evaluate whether the investee company has set emissions reduction targets that are aligned with Paris Agreement goals of limiting warming to well below 2 degrees Celsius and whether the company has realistic strategies and incentives in place to achieve those targets. They will also consider if the company reports according to the TCFD framework and/or whether it answered the CDP climate-related survey, and the company's CDP rating. In alignment with policy, ILIM will support shareholder requests for analysis and disclosure on whether a company's strategy is realistically aligned with Paris Agreement goals, including requests for disclosure of assumptions and scenario analyses.
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.

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	Deputy Chief Financial Officer and Chief Accounting and Control	Chief Financial Officer
1	Officer, Great-West Lifeco	(CFO)



SC. Supply chain module

SC0.0

(SC0.0) If you would like to do so, please provide a separate introduction to this module.

SC0.1

(SC0.1) What is your company's annual revenue for the stated reporting period?

	Annual Revenue
Row 1	

SC0.2

(SC0.2) Do you have an ISIN for your company that you would be willing to share with CDP?

SC1.1

(SC1.1) Allocate your emissions to your customers listed below according to the goods or services you have sold them in this reporting period.

SC1.2

(SC1.2) Where published information has been used in completing SC1.1, please provide a reference(s).

SC1.3

(SC1.3) What are the challenges in allocating emissions to different customers, and what would help you to overcome these challenges?

Allocation challenges Please explain what would help you overcome these challenges

SC1.4

(SC1.4) Do you plan to develop your capabilities to allocate emissions to your customers in the future?



SC2.1

(SC2.1) Please propose any mutually beneficial climate-related projects you could collaborate on with specific CDP Supply Chain members.

SC2.2

(SC2.2) Have requests or initiatives by CDP Supply Chain members prompted your organization to take organizational-level emissions reduction initiatives?

SC4.1

(SC4.1) Are you providing product level data for your organization's goods or services?

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 state the main reason why you are declining to respond to your customers

Prefer to work directly with customer, not through a third party

Please confirm below

I have read and accept the applicable Terms