Climate Change 2016 Information Request
Great-West Lifeco Inc.

Module: Introduction

Page: Introduction

CC0.1
Introduction
Please give a general description and introduction to your organization.

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

When reporting for the Corporation, Great-West Lifeco covers its own activities as well as the activities of its subsidiaries. Great-West Lifeco subsidiaries include: operations in Canada, the United States, Europe and Asia through The Great-West Life, London Life, Canada Life, Irish Life, Great-West Financial and Putnam Investments. As of December 31, 2015, Great-West Lifeco and its companies had $1.2 trillion in consolidated assets under administration, and are members of the Power Financial Corporation group of companies.

Great-West Lifeco has long held responsible and ethical management as an intrinsic value, which we believe is essential to our long-term profitability and value creation for our stakeholders. As such, one of the Corporation's values is "Committing ourselves to sustainability", as described in the 2015 Great-West Lifeco Annual Report.

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 on its Canadian subsidiaries, which represent more than fifty percent of Great-West Lifeco's consolidated operations.

CC0.2
Reporting Year
Please state the start and end date of the year for which you are reporting data.
The current reporting year is the latest/most recent 12-month period for which data is reported. Enter the dates of this year first.
We request data for more than one reporting period for some emission accounting questions. Please provide data for the three years prior to the current reporting year if you have not provided this information before, or if this is the first time you have answered a CDP information request. (This does not apply if you have been offered and selected the option of answering the shorter questionnaire). If you are going to provide additional years of data, please give the dates of those reporting periods here. Work backwards from the most recent reporting year.
Please enter dates in following format: day(DD)/month(MM)/year(YYYY) (i.e. 31/01/2001).

Enter Periods that will be disclosed
Thu 01 Jan 2015 - Thu 31 Dec 2015

CC0.3
Country list configuration

Please select the countries for which you will be supplying data. If you are responding to the Electric Utilities module, this selection will be carried forward to assist you in completing your response.

Select country
Canada

CC0.4
Currency selection

Please select the currency in which you would like to submit your response. All financial information contained in the response should be in this currency.

CAD ($)

CC0.6
Modules
As part of the request for information on behalf of investors, electric utilities, companies with electric utility activities or assets, companies in the automobile or auto component manufacture sub-industries, companies in the oil and gas sub-industries, companies in the information technology and telecommunications sectors and companies in the food, beverage and tobacco industry group should complete supplementary questions in addition to the main questionnaire.
If you are in these sector groupings (according to the Global Industry Classification Standard (GICS)), the corresponding sector modules will not appear below but will automatically appear in the navigation bar when you save this page. If you want to query your classification, please email

respond@cdp.net.
If you have not been presented with a sector module that you consider would be appropriate for your company to answer, please select the module below. If you wish to view the questions first, please see https://www.cdp.net/en-US/Programmes/Pages/More-questionnaires.aspx.

Further Information

Module: Management

Page: CC1. Governance

CC1.1
Where is the highest level of direct responsibility for climate change within your organization?

Senior Manager/Officer

CC1.1a
Please identify the position of the individual or name of the committee with this responsibility

At the senior executive level, the highest level of direct responsibility for climate change has been assigned to the Deputy Chief Financial Officer, Great-West Lifeco, who is the appointed Corporate Social Responsibility (CSR) Lead at Great-West Lifeco. Through this role, the Deputy Chief Financial Officer has direct responsibility for overseeing efforts taken to identify and address the impacts of climate change, monitor the progress being made to minimize impacts to the business, and provide oversight on the development and execution of the strategy and related communication efforts.

The CSR Lead reports to the executive team (President and CEO of Great-West Lifeco and President and COO of Canada) on these matters on a periodic basis, as well as to the Executive Committee of the Board of Directors, where deemed material.

CC1.2
Do you provide incentives for the management of climate change issues, including the attainment of targets?

Yes

CC1.2a
Please provide further details on the incentives provided for the management of climate change issues

Who is entitled to benefit from these incentives?	The type of incentives	Incentivized performance indicator	Comment
Chief Financial Officer (CFO)	Recognition (non-monetary)	Emissions reduction target	The Deputy Chief Financial Officer's annual objectives include oversight on the Corporation's corporate social responsibility initiative, including activities being undertaken to achieve our carbon reduction target of 8% in absolute Scope 1 and 2 GHG emissions (tonnes CO2e) for our corporate head office and investment properties by 2020, based on a 2013 base year.
Other: CSR Committee	Recognition (non-monetary)	Emissions reduction target	The CSR committee members' annual objectives include executing on the Corporation's corporate social responsibility initiative, including activities being undertaken to achieve our carbon reduction target of 8% in absolute Scope 1 and 2 GHG emissions (tonnes CO2e) for our corporate head office and investment properties by 2020, based on a 2013 base year.
Other: Assistant Vice President, Corporate Properties	Monetary reward	Emissions reduction target	The Assistant Vice-President Corporate Properties variable compensation bonus structure includes executing on initiatives to achieve our carbon reduction target of 8% in absolute Scope 1 and 2 GHG emissions (tonnes CO2e) for our corporate head office and investment properties by 2020, based on a 2013 base year.
Other: Corporate Executive Team - Leadership Property Catastrophe Team	Monetary reward	Other: Climate change risks in the reinsurance business.	The Great-West Lifeco leadership property catastrophe team is compensated for identifying optimal property reinsurance opportunities within defined criteria and considering exposure to property risks, including physical climate parameters

Who is entitled to benefit from these incentives?	The type of incentives	Incentivized performance indicator	Comment
Other: Property Managers	Monetary reward	Emissions reduction project Emissions reduction target Energy reduction project Energy reduction target Efficiency project Efficiency target	The corporate property managers at GWL Realty Advisors Inc. that manage Great-West Lifeco properties are rewarded through the company's annual bonus structure for progress in meeting our carbon reduction target. All property managers of GWL Realty Advisors Inc. (including those of corporate head office and investment properties) are also incentivized through their annual bonus structures for progress being made towards building energy efficiency improvements, including established energy, water and waste reduction projects and targets as established through the Sustainability Benchmarking and Conservation Program (SBCP) for office assets.

Further Information

Page: CC2. Strategy

CC2.1
Please select the option that best describes your risk management procedures with regard to climate change risks and opportunities

Integrated into multi-disciplinary company wide risk management processes

CC2.1a
Please provide further details on your risk management procedures with regard to climate change risks and opportunities

Frequency of monitoring	To whom are results reported?	Geographical areas considered	How far into the future are risks considered?	Comment
Annually	Board or individual/sub-set of the Board or committee appointed by the Board	Our risk assessment process considers Canada, the U.S., Europe and Asia.	> 6 years	In order to inform our risk assessment process, self-assessment teams have been established to identify the risks and opportunities relating to various aspects of our business operations, products and services across a broad geographic scope. The scope of climate-related issues considered through the process includes: environmental regulations, green building standards, renewable energy markets, changing weather impacts on the reinsurance and property management business, changing customer demands, stakeholder concerns, and reputational impacts.

CC2.1b
Please describe how your risk and opportunity identification processes are applied at both company and asset level

At a company level, we consider a broad range of climate change risks and opportunities. The assessment is conducted with the oversight of our corporate executive team, through our Chief Risk Officer. The assessment at a company level includes our exposure to reputational impacts, extreme weather events on our reinsurance business, as well as investment opportunities into new cleaner technology / renewable energy markets. We assess these types of risks and opportunities as they relate to the impact they could have on the entire Corporation.

At an asset level, climate-related risk assessments are conducted by our self-assessment teams to identify the risks and opportunities related to our corporate properties, subsidiaries, and building property investments. The self-assessment teams represent different aspects of our business operations, products and services. In conducting the assessment at an asset level, we consider the impact of carbon emissions, water and energy consumption, business continuity impacts from extreme weather events, green building standards in our corporate and investment properties, as well as the opportunities to invest in energy efficient building projects.

CC2.1c
How do you prioritize the risks and opportunities identified?

We prioritize our climate change risks and opportunities on an annual basis based on the magnitude of the impact and likelihood of occurrence on our operations and business products and services. The results of the risks and opportunities from the assessment are communicated to the corporate risk management office for review and consideration. Where material issues are identified, control policies and management programs are established to ensure the risks and opportunities are being addressed through consistent guidelines and standards.

CC2.2
Is climate change integrated into your business strategy?

Yes

CC2.2a
Please describe the process of how climate change is integrated into your business strategy and any outcomes of this process

Our business strategy is informed by a broad range of information, including climate change issues that might be relevant to the effective functioning of our business and provision of our products and services.

When considering climate change issues in our business strategy, we consider climate change risks and opportunities, our performance on carbon and energy management strategies in our corporate and investment properties, insurance investment experience that may be impacted by changing physical parameters, and stakeholder requests for greater disclosure.

This information is consolidated by our CSR Committee through various corporate and subsidiary teams, including the risk assessment office. Where relevant, the CSR Lead communicates climate-related information to the executive team for consideration into business strategy decisions.

Climate change aspects that have influenced our strategy cover both internal and external factors. Internal factors include carbon and energy management performance at our corporate and investment real estate properties to address the possible risk of energy cost increases that may arise from extreme weather events. We are also influenced by weather claims in the reinsurance and insurance business, as well as market trends relating to our renewable energy investment portfolios which could impact revenues.

External factors that have influenced our strategy include customer demands for responsible growth in energy efficient products and services, stakeholder requests for greater disclosure, as well as a consideration of the reputational impacts related to climate change action.

The most important components of our short-term strategy (2015-2018) influenced by climate change relate to extreme weather events and the impact on energy costs, stakeholder requests for energy efficient products and services, and employee interest in responsible behaviour with a low carbon footprint.

For example, to address energy cost increases from extreme weather events, we have now set another GHG reduction target in 2015 to reduce our Scope 1 and 2 GHG emissions from our six corporate head offices as well as our investment properties by an additional 8% by 2020 based on a 2013 base year. The target covers approximately 84% of our gross global Scope 1 and 2 emissions and only excludes one recent property acquisition (Jan. 2015) as well as backup generator diesel fuel use, corporate jet fuel use and fugitive emissions from refrigerant leaks. To achieve this target, we are focusing our efforts on building equipment retrofits that optimize energy, water and waste, and ensuring best practices are shared amongst our facilities. Since 2013, we have achieved a reduction of 6.5% of Scope 1 and 2 GHG emissions in boundary for the target.

From a product and client strategy perspective, we are now tapping into possible climate-related opportunities, including: providing socially responsible investment funds with climate-related screening criteria; diversifying our product portfolio into renewable energy investments; and are accelerating access to online mobile applications and eClaim services to further reduce our carbon impacts associated with paper consumption, while enabling a positive and more convenient customer experience. For example, in 2015, we replaced individual cheques for health and dental providers with electronic statements, eliminating the use of almost 2.7 million sheets of paper and more than 1.3 million envelopes through the year.

We have also now strengthened our state-of-the-art property management services for property owners and tenants, which includes implementing green building standards and best practices.

The most important components of our long-term strategy influenced by climate change, covering the next 5-10 years, is to pay even more attention to our experience with the risks associated with climate-related events and ensure it is being effectively integrated in pricing products and insurance contract liabilities. While not currently an issue, we are monitoring research and analysis on the potential climate-related health experience on morbidity and mortality rates. We are also now working on improving our processes to integrate environmental, social and governance criteria into our products and services, including climate-related events.

Overall, we believe that the integration of climate-related considerations into our business strategy has continued to enable us to run a financially solid and responsible company. Climate-related considerations are contributing to our strategic advantage over competitors through:
• cost-efficiencies from green procurement practices;
• market competitiveness in the real estate property management service from greener and more sustainable building service offerings;
• customer loyalty and trust through efficient, convenient, climate-friendly and responsible products and services;
• attraction, retention and engagement of employees by encouraging our staff and distribution associates to get involved on the environmental causes we support as an organization, including those that address climate change such as Pollution Probe's Healthy Communities campaign; and,
• prudent risk management processes that enable us to limit our overall exposure to climate-related insurance and investment market losses by maintaining a diversified product and service portfolio, which is unique when compared to many of our peers in the industry. (source: 2015 CDP)

The most substantial business decisions made during 2015 that were influenced by climate change included:
• Supporting investments in the renewable energy sector, whose growth as a sector is being driven by solutions that enable a low carbon economy. In 2015, Lifeco's Canadian bond group invested in excess of CDN $1.9 billion in infrastructure, including investments in green energy projects. Our CDN $400 million investment in green energy projects included investments in solar, wind and hydro energy projects. Notable transactions included a $100 Million investment in Boulder Creek and Upper Lillooet Hydro Power Project and

a $95 million in Helios Solar Star (Solar Power) Project in Ontario.
• Investing in energy efficiency building projects within existing and new real estate properties to ensure that we are proactively addressing possible energy price increases from supply disruptions that may result from extreme weather events. In 2015, we now have 20 buildings under GWL Realty Advisors' management that have attained LEED® Gold certification, and more than 90% of the eligible commercial portfolio is certified to the BOMA BEST® standard.

CC2.2c
Does your company use an internal price of carbon?

Yes

CC2.2d
Please provide details and examples of how your company uses an internal price of carbon

Within the GHG Inventory Report developed for GWL Realty Advisors' managed portfolio, which includes all head office and investment properties within the Great-West Lifeco reporting boundary, we put a price on carbon to understand how much GHG emissions reductions would potentially represent in monetary value.

We currently reference a carbon price of $30 per tonne as a proxy, which corresponds with the carbon tax price per tonne of CO2e in British Columbia (British Columbia's Carbon Tax Act [SBC 2008] Chapter 40, B.C. Reg. 125/2008 O.C. 386/2008.

We use this carbon price for informational purposes – to determine the level of opportunity that our business may have to monetize carbon through potential cap and trade systems (e.g. GHG offset origination for commercial energy efficiency projects). Over time, we will be exploring how to integrate carbon costs into the investment decision-making process for our retrofit (and other) projects.

CC2.3
Do you engage in activities that could either directly or indirectly influence public policy on climate change through any of the following? (tick all that apply)

Trade associations
Funding research organizations
Other

CC2.3b
Are you on the Board of any trade associations or provide funding beyond membership?

Yes

CC2.3c
Please enter the details of those trade associations that are likely to take a position on climate change legislation

Trade association	Is your position on climate change consistent with theirs?	Please explain the trade association's position	How have you, or are you attempting to, influence the position?
Canadian Institute of Actuaries	Consistent	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. The CIA held a Climate Change and Sustainability Forum in April of 2015 where the physical impacts of climate change, impacts of climate change on health and the environment, as well as the evolving investment landscape (as it relates to climate risk, policy developments, produce evolution and governance considerations) were discussed.	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. The Lifeco (through the Great-West Life Assurance Company) has representation on the CIA's Climate Change and Sustainability Committee.
REALpac (Real Property Association of Canada)	Consistent	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	As members of REALpac, we support initiatives to increase awareness on energy improvements and increase government incentives towards energy efficient existing and new commercial real estate.

Trade association	Is your position on climate change consistent with theirs?	Please explain the trade association's position	How have you, or are you attempting to, influence the position?
Building Owners and Managers Association (BOMA) and its regional chapters	Consistent	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).	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.
Canada Green Building Council (CaGBC)	Consistent	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.	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.
NAIOP (Commercial Real Estate Development Association	Consistent	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."	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.

CC2.3d
Do you publicly disclose a list of all the research organizations that you fund?

Yes

CC2.3e
Please provide details of the other engagement activities that you undertake

As part of our indirect engagement activities on climate change, we are also demonstrating our community values by encouraging our staff and distribution associates to get involved with the environmental causes we support as an organization, including those that address climate change issues. Recent examples include: the World Wildlife Fund, Habitat for Humanity, Pollution Probe (Healthy Communities Campaign), International Institute for Sustainable Development (IISD) as well as the Canadian Institute for Energy Training (CIET). The following presents a detailed explanation of our engagements.

Pollution Probe's Healthy Communities Campaign:
Method of Engagement - We engage with Pollution Probe at a group level through ongoing dialogue and as a major sponsor of the organization's national, year-round Healthy Communities Campaign.
Topic of Engagement - We engage with Pollution Probe on focused e-waste recycling, which helps to divert waste from landfills and ultimately reduce carbon emissions.
Nature of Engagement - As both the Presenting Sponsor and an active corporate Participant, we made an early commitment to register an e-waste recycling drive. Employees dropped off more than 2,500 lbs of electronic waste TVs, monitors, microwaves, audio equipment and phones – in special recycling bins set up in our Winnipeg buildings.
Actions Advocated - Through our engagement with Pollution Probe, we are supporting healthier sustainable behaviour, which in 2015 focused on recycling e-waste. By diverting e-waste from landfills, we are supporting initiatives to protect both the environment and the health and safety of people from substances of concern like mercury and lead within electronics.

International Institute for Sustainable Development (IISD):
Method of Engagement – We are engaged with IISD to promote research and knowledge of the risks associated with climate change.
Topic of Engagement - The topic of engagement is focused on understanding the risk of climate change and how we can anticipate the risk to increase community resilience.
Nature of Engagement – We are the catalyst funder for Prairie Climate Centre – a joint venture between the IISD and the University of Winnipeg. The Centre provides research, advice and policy development.
Actions Advocated – Through our engagement with the IISD we are supporting coordinated research, advice and policy development on climate change. For example, we are supporting the compilation of climate data and mapping to allow farmers, municipalities and governments to plan more effectively for floods and other weather-related events.

Nature Conservancy of Canada (NCC):
Method of Engagement – Since 2012, Great-West Life, London Life and Canada Life have been supporting the NCC's Conservation

Volunteers program as a National Development Sponsor. The NCC is Canada's leading national land conservation organization. It works for the direct protection of the country's biodiversity through the purchase, donation or placing of conservation easements on ecologically significant lands.
Topic of Engagement - We are supporting the NCC to promote a national conservation training program for volunteers. The preserved land (e.g., forest or wetlands) will absorb or sequester a greater amount of carbon dioxide than what would occur if logging or development operations continued. Our support of the NCC aligns with our corporate social responsibility strategy's environmental focus to reduce carbon emissions and ensure ecosystem preservation.
Nature of Engagement – NCC's Conservation Volunteers program invites Canadians of all ages to spend a day with NCC on one of our properties, completing important restoration work alongside NCC experts.
Actions Advocated – Through our support of the NCC, we are helping Canadians of all ages gain a greater understanding of important conservation activities through engagement.

Building Operator Certification Program
Method of Engagement – We engage with the Canadian Institute for Energy Training to provide training and skills development for GWL Realty Advisors' staff as part of the Building Operator Certification Program.
Topic of Engagement - The topics of engagement are related to energy efficiency and the overall performance of the buildings GWL Realty Advisors manages.
Nature of Engagement - The program is an internationally recognized, nine-day training and certification program offered by the Canadian Institute for Energy Training. It offers facilities professionals training and skills development to improve the comfort, energy efficiency and overall operational performance of the buildings GWL Realty Advisors manages.
Actions Advocated – We support educational programs to increase the skills and training for building operators related to energy efficiency and the overall performance of buildings

CC2.3f
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

Further Information

Page: CC3. Targets and Initiatives

CC3.1
Did you have an emissions reduction or renewable energy consumption or production target that was active (ongoing or reached completion) in the reporting year?

Absolute target

CC3.1a
Please provide details of your absolute target

ID	Scope	% of emissions in scope	% reduction from base year	Base year	Base year emissions covered by target (metric tonnes CO2e)	Target year	Is this a science-based target?	Comment
Abs1	Scope 1+2 (location-based)	35.9%	35%	2007	13443	2015	No, but we anticipate setting one in the next 2 years	The 35% reduction target achieved in 2015 relates to the Lifeco Canadian corporate head office properties. This target excludes our investment properties, corporate jets, and emissions associated with refrigerants and backup generator diesel fuel use. This target expired in the reporting year (achieved) and a new target has been established with a target year of 2020 (see below).

ID	Scope	% of emissions in scope	% reduction from base year	Base year	Base year emissions covered by target (metric tonnes CO2e)	Target year	Is this a science-based target?	Comment
Abs2	Scope 1+2 (location-based)	84.3%	8%	2013	21092	2020	No, but we anticipate setting one in the next 2 years	8% reduction in Scope 1 and 2 GHG emissions for our corporate head office and investment properties. The target excludes GHG emissions associated with the Yonge Richmond Centre (acquired in January, 2015), 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. 84.3% of our gross global Scope 1 + 2 emissions are in scope for this target.

CC3.1e
For all of your targets, please provide details on the progress made in the reporting year

ID	% complete (time)	% complete (emissions or renewable energy)	Comment
Abs1	100%	100%	Lifeco has achieved its target of reducing absolute scope 1 and 2 GHG emissions by 35% for its Canadian corporate head office properties from 2007-2015. GHG emissions have reduced by 41.3% over this time period.
Abs2	28.5%	76.1%	Great-West Lifeco has achieved 2013 to 2015 Scope 1 and 2 GHG emission reductions of 6.5% for its corporate head office and investment properties in scope for this target. These reductions 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.

CC3.2
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

CC3.2a
Please 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	Description of product/Group of products	Are you reporting low carbon product/s or avoided emissions?	Taxonomy, project or methodology used to classify product/s as low carbon or to calculate avoided emissions	% revenue from low carbon product/s in the reporting year	% R&D in low carbon product/s in the reporting year	Comment
Company-wide	Company-wide property management services through our wholly-owned subsidiary GWL Realty Advisors	Avoided emissions	Other: GHG Protocol for Corporate Accounting	0%	Less than or equal to 10%	Revenue from GWL Realty Advisors property management services is confidential (private, wholly-owned subsidiary) and consequently the % revenue from services is not reported (reported as "0"). Through GWL Realty Advisors Inc., 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.

CC3.3
Did you have emissions reduction initiatives that were active within the reporting year (this can include those in the planning and/or implementation phases)

Yes

CC3.3a
Please identify the total number of projects at each stage of development, and for those in the implementation stages, the estimated CO2e savings

Stage of development	Number of projects	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	4	
To be implemented*	17	525.3
Implementation commenced*	8	232.8
Implemented*	23	925.2
Not to be implemented	4	

CC3.3b
For those initiatives implemented in the reporting year, please provide details in the table below

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Scope	Voluntary/ Mandatory	Annual monetary savings (unit currency - as specified in CC0.4)	Investment required (unit currency - as specified in CC0.4)	Payback period	Estimated lifetime of the initiative	Comment
Energy efficiency: Building services	Lighting-Focused Retrofits (multiple locations) including but not limited to: Lighting upgrades at London Life head office, Lighting upgrades (sensors) at Canada Life Toronto, Lighting controls upgrades at Canada Life Toronto, Lighting upgrades (Phase 1, energy efficient fixtures/bulbs) at Toronto College Park, Lighting retrofits (common area) at 433 Main, Lighting upgrades in parking areas + office areas (Winnipeg Head Office), Lighting controls upgrades (Winnipeg Head Office)	423.9	Scope 2 (location-based)	Voluntary	462870	532196	1-3 years	6-10 years	

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Scope	Voluntary/ Mandatory	Annual monetary savings (unit currency - as specified in CC0.4)	Investment required (unit currency - as specified in CC0.4)	Payback period	Estimated lifetime of the initiative	Comment
Energy efficiency: Building services	HVAC-Focused Retrofits (multiple locations - primarily natural gas and steam reductions), including but not limited to: Heat pump and compressor replacements (both Oliver Village towers), Water heaters (both Oliver Village towers) and tank replacements (Ashby tower only), HVAC retrofit at Toronto College Park, Building recommissioning (including HVAC) at 180 Queen Street West, and rooftop makeup air unit retrofit at London Life RAM Centre.	501.3	Scope 1 Scope 2 (location-based)	Voluntary	129925	1169859	4-10 years	6-10 years	
Energy efficiency: Building fabric	Supply & install new roof membrane system (both towers at Oliver Village), Wall/roof insulation at London Life Head Office.		Scope 1 Scope 2 (location-based)	Mandatory		3137523		16-20 years	

CC3.3c
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 2015, we dedicated approximately CAD $5 Million to do energy efficiency projects.
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.
Employee engagement	Employee engagement is a core component of Great-West Lifeco's sustainability strategy. In 2015, we developed a Corporate Properties Sustainability Working Group (CPSWG). The Working Group, consisting of experienced property management and building operations employees, helps to direct sustainability initiatives with a particular focus on greenhouse gas (GHG) reductions at our corporate properties. So far, they have concentrated on retrofits focusing on energy, water and waste reduction, and the sharing of best practices and strategies among our facilities. The Working Group also helps co-ordinate environment-themed employee engagement activities, such as our participation in the longstanding Earth Day and Earth Hour events. Additionally, sustainability initiatives that can lead to emission reductions at the corporate level are run throughout the year as well, including energy awareness programs, waste reduction initiatives (e.g. paper use reduction), and the promotion of sustainable commuting strategies.

Further Information

Page: CC4. Communication

CC4.1
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	Status	Page/Section reference	Attach the document	Comment
In mainstream reports (including an integrated report) but have not used the CDSB Framework	Complete	Pg. 17	https://www.cdp.net/sites/2016/90/7690/Climate Change 2016/Shared Documents/Attachments/CC4.1/GWL-Public Accountability Statement-2015.pdf	Great-West Life Assurance Co 2015 Public Accountability Statement publishes data (including GHG emissions performance) regarding the corporation's environmental sustainability performance. See pages 17-21.

Further Information

Module: Risks and Opportunities

Page: CC5. Climate Change Risks

CC5.1
Have you identified any inherent climate change risks that have the potential to generate a substantive change in your business operations, revenue or expenditure? Tick all that apply

CC5.1d
Please explain why you do not consider your company to be exposed to inherent risks driven by changes in regulation that have the potential to generate a substantive change in your business operations, revenue or expenditure

Through our risk assessment process, we have assessed our climate-related risks over a 6 year timeline, taking into consideration various regulatory requirements including GHG reporting regulations, cap & trade schemes, building energy requirements, and carbon taxes. We reviewed possible impacts related to the acquisition and ongoing management of our corporate and investment properties, loans secured by real property and investments in equity and fixed income securities.

With respect to the acquisition and ongoing management of our corporate and investment properties, we are not directly impacted by any climate-related regulations. For example, on an annual basis, our subsidiary, GWLRA quantifies the GHG emissions of our corporate and regional offices across Canada, as well as our third-party investment properties. In 2015, these properties were not subject to Canadian GHG reporting regulatory thresholds or cap & trade schemes in Canada.

The impact of climate-related regulations was also considered in the context of our investments. We recognize that we may be exposed to some sectors in our investments that could be impacted by climate-related regulations. However, the impacts of climate-related regulations in our investments are inherently limited given the diversification of our business. Diversification is an inherent part of our business strategy, which enables us to limit our exposure to sectors and regions that may be subject to climate-related regulations. For example, in 2015, no individual sector accounted for more than 5% of invested assets. This diversification of assets better positions our Company to face fluctuations from exposure to regulatory carbon-related risk exposure. Furthermore, the total percentage of assets invested in sectors that could be highly exposed to regulatory pressures related to carbon taxes and/or cap & trade schemes, such as oil & gas, gas utilities, and industrial products, amounted to ~6% of invested assets in 2015. In considering the diversification of our portfolio, any such climate-related risks would not be considered substantive to our business.

Based on the above, we are not, at this time, exposed to risks driven by changes in climate-related regulations that have the potential to generate a substantive change in our business operations, revenues or expenditure.

CC5.1e
Please explain why you do not consider your company to be exposed to inherent risks driven by physical climate parameters that have the potential to generate a substantive change in your business operations, revenue or expenditure

Through our risk assessment process we consider various physical climatic risks over a 6 year timeframe, including changes in temperature extremes, tropical cycles, and changes in precipitation patterns. We review possible impacts related to the acquisition and ongoing management of our investment properties as well as our reinsurance, life and health insurance and investment business.

Within our reinsurance business, we have exposure to weather-related property insurance claims. The reinsurance is designed to attach for very significant claim events for the underlying cedants, and there are contractual limits which caps the exposure on the portfolio (limiting inherent risk exposure). We licence the latest modeling from Risk Management Solutions (RMS) to calculate loss probabilities for our portfolios by geographic region. Furthermore, reinsurance contracts are renegotiated annually, which allows for an opportunity to revisit risk exposures and limits on an ongoing basis. Therefore, any impacts from weather-related events would not have a substantive impact on our business operations, revenue or expenditures.

In our investment business, we have always carried a wide range of diversified funds limiting our risk exposure to any one particular sector and/or market, including those affected by changes in physical climate parameters. For example, in 2015, no individual sector accounted for >5% of invested assets. This diversification better positions us to face fluctuations from sectors located in geographic regions exposed to physical climatic risks.

In our life and health insurance businesses, we have not identified substantive risks from changes in physical climate parameters and health impacts on both morbidity/mortality rates. 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. For example, over the past few years, we have not experienced notable changes in insurance claims as result of climate-related health impacts.

Finally, diversification has always been an inherent part of our business strategy, which enables us to limit our exposure to sectors, markets, and regions that may be impacted by climate-related physical parameters.

CC5.1f
Please explain why you do not consider your company to be exposed to inherent risks driven by changes in other climate-related developments that have the potential to generate a substantive change in your business operations, revenue or expenditure

We do not consider risks driven by changes in other climate-related developments to have a substantive impact on our business in terms of our operations, revenues and expenditures.

We assess changes in other climate-related developments over a 6 year time-frame. Through our assessment, we consider fluctuating socio-economic conditions that could result in the direct or indirect loss of the Company's financial results, operations or reputation, as well as changing stakeholder requests for greater disclosure.

Through our assessment, we do not consider fluctuating socio-economic conditions that result from society's exposure to weather-related losses to have a substantive impact on our business. We use prudent policy termination assumptions, which take into account recent Company and industry experience and the latest research on expected future trends, including with respect to fluctuating socio-economic conditions. For example, in our experience the impacts from extreme weather events, such as Hurricane Katrina, has had limited impact on insurance affordability and customer retention rates.

From a stakeholder standpoint, 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. 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.

Based on the above, we are not, at this time, exposed to risks driven by changes in other climate-related developments that have the potential to generate a substantive change in our business operations, revenues or expenditure.

Further Information

Page: CC6. Climate Change Opportunities

CC6.1
Have you identified any inherent climate change opportunities that have the potential to generate a substantive change in your business operations, revenue or expenditure? Tick all that apply

CC6.1d
Please explain why you do not consider your company to be exposed to inherent opportunities driven by changes in regulation that have the potential to generate a substantive change in your business operations, revenue or expenditure

We assessed climate-related opportunities over a 6 year time-line, taking into consideration various regulatory requirements including cap & trade schemes, green building incentives, and subsidies that support growth in the renewable energy market, and green bonds. We reviewed possible impacts related to the acquisition and ongoing management of our investment properties, loans secured by real property, and investments in equity and fixed income securities.

For example, we did not consider government incentives that support cleaner more energy efficient upgrades to provide a substantive opportunity in light of the fact that spend on utilities at our owner occupied properties represents less than 0.2% of our overall expenditures. Furthermore, given the nature of our operations, GWLRA is not eligible for substantive government subsidies.

With respect to the acquisition and ongoing management of our corporate and investment properties, we are not directly impacted by any climate-related regulations. For example, on an annual basis, GWLRA quantifies the GHG emissions of our offices across Canada, as well as our third-party investment properties. While GHG reductions have been achieved, we do not yet see opportunities to benefit from the cap & trade schemes evolving in Canada.

GWLRA's property management (PM) services help its third-party clients meet their own corporate sustainability obligations. While these initiatives contribute to building trust and market share, the benefits are not considered to be substantive in the broader context. For example, PM services revenues represent <0.5% of our net income.

We also considered the possible investment opportunities in renewable energy markets that are increasing, in part due to government incentives. In 2015, GWL's private debt placement group invested over $400M in green energy projects, including wind, solar, and hydro energy projects. The opportunities from these investments are not considered substantive to our business, although the private debt group is monitoring green bonds and future opportunities. At this time, <1% of our overall asset value is invested in renewable/sustainable energy markets.

Based on the above, we have not, at this time, identified opportunities driven by changes in regulation to generate a substantive change in our business operations, revenue or expenditure.

CC6.1e

Please explain why you do not consider your company to be exposed to inherent opportunities driven by physical climate parameters that have the potential to generate a substantive change in your business operations, revenue or expenditure

We do not consider climate-related opportunities driven by changes in physical parameters to have a substantive impact on our business in terms of our operations, revenues and expenditures.

We assessed climate-related opportunities driven by changes in physical parameters over a 6 year timeline, given the unpredictability of weather patterns. In particular, we considered the possible opportunities associated with general warming temperatures and the associated energy reduction costs during the winter periods on our corporate and investment properties.

In our review, any potential opportunities from warming temperatures would not have a substantive impact on the operating costs of our business. Given the geographic diversity of our operations, cost savings from warming temperatures would be offset by expenditures during extreme cold weather. Furthermore, any benefits that accrue from energy cost savings from physical weather changes would not be substantive for our business. For example, in 2015, our overall spend on utilities for our owner-occupied properties represented less than 0.2% of overall expenditures, limiting any substantive impacts on our business operations, expenditures and revenues.

In our investment business, we have always carried a wide range of diversified funds limiting our risk exposure to any one particular sector, market or geography, including those affected positively by changes in physical climate parameters. For example, in 2015, no individual sector accounted for more than 5% of our invested assets. This diversification of assets limits the opportunities from specific sectors impacted by physical climate events.

Based on the above, we have not, at this time, identified opportunities driven by changes in physical parameters to generate a substantive change in our business operations, revenue or expenditure.

CC6.1f

Please explain why you do not consider your company to be exposed to inherent opportunities driven by changes in other climate-related developments that have the potential to generate a substantive change in your business operations, revenue or expenditure

We assessed other climate-related opportunities over a 6 year timeline, taking into consideration the opportunities related to new products and services, building customer trust and loyalty and reducing operational costs and do not consider the opportunities to have a substantive impact on our business operations, revenue or expenditure.

In terms of enhancing our reputation with our customers, we considered the property management services carried out by our subsidiary GWLRA. For example, from 2014-2015, GWLRA achieved approximately 12,327 t CO_2e in GHG reductions for the managed portfolio, which includes GWL-owned assets and those owned by third-party clients. Furthermore, GWLRA participates in various climate-related engagement initiatives, including the Greening Greater Toronto’s Race to Reduce Program - an initiative in which office building landlords and tenants work together to reduce energy use. When considered in the context of our overall business, however, these opportunities would not generate a substantive change to our business operations, expenditures or revenue. For example, in 2015, the income from our property management services represented less than 0.5% of our overall net income, and therefore the opportunity would not be substantive to our business.

We also considered the impact of using low carbon products in our business offering (such as electronic applications and eClaim services), as well as our clients’ responsible investment options that include environmental and climate-related screening criteria. In 2015, GWL's subsidiary GLC asset management became a signatory to the United Nations Principles for Responsible Investment (UN PRI), demonstrating our commitment to the development of a more sustainable global financial system. While these initiatives contribute to supporting even greater growth within our business and the communities where we operate, the benefits are not considered to generate a substantive change to our business given our diversified businesses and extensive distribution reach. For example, in 2015, the income from responsible investment options represented less than 0.01% of our overall net income.

Based on the above, we have not, at this time, identified opportunities driven by changes in physical parameters to generate a substantive change in our business operations, revenue or expenditure.

Further Information

Module: GHG Emissions Accounting, Energy and Fuel Use, and Trading

Page: CC7. Emissions Methodology

CC7.1

Please provide your base year and base year emissions (Scopes 1 and 2)

Scope	Base year	Base year emissions (metric tonnes CO2e)
Scope 1	Mon 01 Jan 2007 - Mon 31 Dec 2007	10483

Scope	Base year	Base year emissions (metric tonnes CO2e)
Scope 2 (location-based)	Mon 01 Jan 2007 - Mon 31 Dec 2007	24693
Scope 2 (market-based)	Mon 01 Jan 2007 - Mon 31 Dec 2007	24693

CC7.2
Please give the name of the standard, protocol or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions

Please select the published methodologies that you use
The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)
ISO 14064-1

CC7.2a
If you have selected "Other" in CC7.2 please provide details of the standard, protocol or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions

CC7.3
Please give the source for the global warming potentials you have used

Gas	Reference
CO2	IPCC Fourth Assessment Report (AR4 - 100 year)
CH4	IPCC Fourth Assessment Report (AR4 - 100 year)
N2O	IPCC Fourth Assessment Report (AR4 - 100 year)
HFCs	IPCC Fourth Assessment Report (AR4 - 100 year)

CC7.4
Please give the emissions factors you have applied and their origin; alternatively, please attach an Excel spreadsheet with this data at the bottom of this page

Fuel/Material/Energy	Emission Factor	Unit	Reference
			See attached document.

Further Information

Attachments

https://www.cdp.net/sites/2016/90/7690/Climate Change 2016/Shared Documents/Attachments/ClimateChange2016/CC7.EmissionsMethodology/Emissions Factors.xlsx

Page: CC8. Emissions Data - (1 Jan 2015 - 31 Dec 2015)

CC8.1
Please select the boundary you are using for your Scope 1 and 2 greenhouse gas inventory

Financial control

CC8.2
Please provide your gross global Scope 1 emissions figures in metric tonnes CO2e

10293

CC8.3
Does your company have any operations in markets providing product or supplier specific data in the form of contractual instruments?

Yes

CC8.3a
Please provide your gross global Scope 2 emissions figures in metric tonnes CO2e

Scope 2, location-based	Scope 2, market-based (if applicable)	Comment
12821	12821	GWL does not purchase any contractual instruments that have a different emissions factor when using market-based versus location-based approaches.

CC8.4

Are there are 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

CC8.5
Please estimate the level of uncertainty of the total gross global Scope 1 and 2 emissions figures that you have supplied and specify the sources of uncertainty in your data gathering, handling and calculations

Scope	Uncertainty range	Main sources of uncertainty	Please expand on the uncertainty in your data
Scope 1	More than 2% but less than or equal to 5%	Assumptions Metering/ Measurement Constraints	GWL purchases several forms of energy considered in Scope 1 emissions (natural gas, jet fuel) which are metered by utilities and service providers. These meters are revenue grade and typically accurate within <2%. GWL also includes refrigerant purchases in Scope 1 emissions. Given that measurement of this source is done at the time of the replacement of refrigerant and not related to any rate of leakage, discrepancies in the recorded time of replacement and actual time of emission can exist.
Scope 2 (location-based)	Less than or equal to 2%	Metering/ Measurement Constraints	GWL purchases several forms of energy considered in Scope 2 emissions (electricity, steam) which are metered by utilities and service providers. These meters are revenue grade and typically accurate within <2%.
Scope 2 (market-based)	Less than or equal to 2%	Metering/ Measurement Constraints	GWL purchases several forms of energy considered in Scope 2 emissions (electricity, steam) which are metered by utilities and service providers. These meters are revenue grade and typically accurate within <2%.

CC8.6
Please indicate the verification/assurance status that applies to your reported Scope 1 emissions

Third party verification or assurance process in place

CC8.6a
Please provide further details of the verification/assurance undertaken for your Scope 1 emissions, and attach the relevant statements

Verification or assurance cycle in place	Status in the current reporting year	Type of verification or assurance	Attach the statement	Page/section reference	Relevant standard	Proportion of reported Scope 1 emissions verified (%)
Annual process	Complete	Limited assurance	https://www.cdp.net/sites/2016/90/7690/Climate Change 2016/Shared Documents/Attachments/CC8.6a/GWL_PwC Report on GHG Statement FY15_3_juin_2016 FINAL.pdf	3	ISAE 3410	100

CC8.7
Please indicate the verification/assurance status that applies to at least one of your reported Scope 2 emissions figures

Third party verification or assurance process in place

CC8.7a
Please provide further details of the verification/assurance undertaken for your location-based and/or market-based Scope 2 emissions, and attach the relevant statements

Location-based or market-based figure?	Verification or assurance cycle in place	Status in the current reporting year	Type of verification or assurance	Attach the statement	Page/Section reference	Relevant standard	Proportion of reported Scope 2 emissions verified (%)
Location-based	Annual process	Complete	Limited assurance	https://www.cdp.net/sites/2016/90/7690/Climate Change 2016/Shared Documents/Attachments/CC8.7a/GWL_PwC Report on GHG Statement FY15_3_juin_2016 FINAL.pdf	3	ISAE 3410	100

Location-based or market-based figure?	Verification or assurance cycle in place	Status in the current reporting year	Type of verification or assurance	Attach the statement	Page/Section reference	Relevant standard	Proportion of reported Scope 2 emissions verified (%)
Market-based	Annual process	Complete	Limited assurance	https://www.cdp.net/sites/2016/90/7690/Climate Change 2016/Shared Documents/Attachments/CC8.7a/GWL_PwC Report on GHG Statement FY15_3_juin_2016 FINAL.pdf	3	ISAE 3410	100

CC8.8
Please identify if any data points have been verified as part of the third party verification work undertaken, other than the verification of emissions figures reported in CC8.6, CC8.7 and CC14.2

Additional data points verified	Comment
Year on year change in emissions (Scope 1)	PwC verified the year on year change in emissions for Scope 1, Scope 2, and Scope 3. See attached PwC Assurance Statement.
Year on year change in emissions (Scope 2)	PwC verified the year on year change in emissions for Scope 1, Scope 2, and Scope 3. See attached PwC Assurance Statement.
Year on year change in emissions (Scope 3)	PwC verified the year on year change in emissions for Scope 1, Scope 2, and Scope 3. See attached PwC Assurance Statement.

CC8.9
Are carbon dioxide emissions from biologically sequestered carbon relevant to your organization?

No

Further Information

Page: CC9. Scope 1 Emissions Breakdown - (1 Jan 2015 - 31 Dec 2015)

CC9.1
Do you have Scope 1 emissions sources in more than one country?

No

CC9.2
Please indicate which other Scope 1 emissions breakdowns you are able to provide (tick all that apply)

By facility
By GHG type
By activity

CC9.2b
Please break down your total gross global Scope 1 emissions by facility

Facility	Scope 1 emissions (metric tonnes CO2e)	Latitude	Longitude
Oliver Village	971.6	53.547	-113.519
Oxbridge Place	461.6	53.536	-113.505
London Life - Ram Centre	368.6	43.009	-81.155
London Life	946.1	42.987	-81.250
One City Centre Drive	61.4	43.596	-79.642
Canada Life Place	156.6	50.448	-104.613
180 Queen St	385.3	43.651	-79.390
190 Simcoe St	20.0	43.652	-79.391
330 University Ave	4.5	43.652	-79.390
Mackenzie Financial	187.8	43.651	-79.390
College Park	1509.2	43.661	-79.386
433 Main Street	695.4	49.281	-97.139
GWL Centre (560 Broadway)	21.0	49.885	-97.154
GWL Data Centre	62.0	49.875	-97.042
GWL Centre	1936.2	49.879	-97.147
Yonge Richmond Centre	519.4	43.651	-79.381

Facility	Scope 1 emissions (metric tonnes CO2e)	Latitude	Longitude
GWLL - Corporate Jet	859.0		
GWLI - Corporate Jet	1126.3		

CC9.2c
Please break down your total gross global Scope 1 emissions by GHG type

GHG type	Scope 1 emissions (metric tonnes CO2e)
CO2	10075.3
CH4	9.6
N2O	65.0
HFCs	142.9

CC9.2d
Please break down your total gross global Scope 1 emissions by activity

Activity	Scope 1 emissions (metric tonnes CO2e)
Jet Fuel	1986.0
Heating	8054.9
Refrigeration/Cooling	142.9
Backup Generation from Diesel	109.0

Further Information

Page: CC10. Scope 2 Emissions Breakdown - (1 Jan 2015 - 31 Dec 2015)

CC10.1
Do you have Scope 2 emissions sources in more than one country?

No

CC10.2
Please indicate which other Scope 2 emissions breakdowns you are able to provide (tick all that apply)

By facility
By activity

CC10.2b
Please break down your total gross global Scope 2 emissions by facility

Facility	Scope 2 emissions, location based (metric tonnes CO2e)	Scope 2 emissions, market-based (metric tonnes CO2e)
Oliver Village	879.0	879.0
Oxbridge Place	2171.0	2171.0
London Life - Ram Centre	124.0	124.0
London Life	806.4	806.4
One City Centre Drive	350.0	350.0
Canada Life Place	1708.7	1708.7
180 Queen St	327.4	327.4
190 Simcoe St	1292.2	1292.2
330 University Ave	580.7	580.7
Mackenzie Financial	348.9	348.9
College Park	3536.5	3536.5
433 Main Street	9.8	9.8
GWL Centre (560 Broadway)	0.5	0.5
GWL Data Centre	24.2	24.2
GWL Centre	32.3	32.3
Yonge Richmond Centre	629.5	629.5

CC10.2c
Please break down your total gross global Scope 2 emissions by activity

Activity	Scope 2 emissions, location based (metric tonnes CO2e)	Scope 2 emissions, market-based (metric tonnes CO2e)
Electricity Consumption	11501.8	11501.8
Heating (Steam)	1319.2	1319.2

Further Information

Page: CC11. Energy

CC11.1
What percentage of your total operational spend in the reporting year was on energy?

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

CC11.2
Please state how much heat, steam, and cooling in MWh your organization has purchased and consumed during the reporting year

Energy type	Energy purchased and consumed (MWh)
Heat	0
Steam	6183.9
Cooling	0

CC11.3
Please state how much fuel in MWh your organization has consumed (for energy purposes) during the reporting year

51505.4

CC11.3a
Please complete the table by breaking down the total "Fuel" figure entered above by fuel type

Fuels	MWh
Jet kerosene	7395.5
Natural gas	43693.7
Diesel/Gas oil	416.1

CC11.4
Please provide details of the electricity, heat, steam or cooling amounts that were accounted at a low carbon emission factor in the market-based Scope 2 figure reported in CC8.3a

Basis for applying a low carbon emission factor	MWh consumed associated with low carbon electricity, heat, steam or cooling	Comment
Contract with suppliers or utilities, with a supplier-specific emission rate, not backed by electricity attribute certificates	6183.9	We purchase district steam for our Toronto office locations. This source produces lower emissions per MWh compared to traditional fossil fuel-based heating sources.

CC11.5
Please report how much electricity you produce in MWh, and how much electricity you consume in MWh

Total electricity consumed (MWh)	Consumed electricity that is purchased (MWh)	Total electricity produced (MWh)	Total renewable electricity produced (MWh)	Consumed renewable electricity that is produced by company (MWh)	Comment
113761.7	113761.7	0	0	0	

Further Information

Page: CC12. Emissions Performance

CC12.1
How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to the previous year?

Decreased

CC12.1a
Please 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

Reason	Emissions value (percentage)	Direction of change	Please explain and include calculation
Emissions reduction activities	3.7	Decrease	Various efficiency retrofits, operational changes, and behavioral programs instituted throughout the GWL head office and investment property portfolio. Reductions have been calculated by looking at completed project listings and ruling out other factors such as corporate jet usage, weather, occupancy, acquisitions and scope 1 & 2 GHG emissions year-over-year variance due to backup generator diesel fuel use and refrigerant top-ups. See a detailed listing of emission reduction activities under question 3.3b. This year, 925 t CO2e from Scope 1 and 2 emissions was reduced due to emission reduction activities, and our total S1 and S2 emissions in the previous year (2014CY) were 25,006 t CO2e, therefore we arrived at 3.7% through (925 / 25,006) * 100 = 3.7% decrease.
Divestment	0	No change	
Acquisitions	4.6	Increase	Acquisition of Yonge Richmond Centre in January 2015. Methodology: 1,149 t CO2e increase in S1 and S2 emissions due to acquisition of Yonge Richmond Centre divided by 25,006 t CO2e 2014 gross global scope 1 + 2 GHG emissions: (1,149 / 25,006) * 100 = 4.6% increase.
Mergers	0	No change	
Change in output	2.3	Decrease	Reduced corporate jet fuel use, and consequently GHG emissions, due to the completion of acquisition (and post-acquisition integration) activities requiring extensive travel: (571 / 25,006) * 100 = 2.3% decrease
Change in methodology	0	No change	
Change in boundary	0	No change	
Change in physical operating conditions	4.3	Decrease	There were minor decreases in emissions due to changes in weather and occupancy. Weather and occupancy accounted for a decrease of 22 t CO2e in electricity associated GHG emissions, 930 t CO2e in natural gas associated emissions and 133 t CO2e in GHG emission associated with purchased steam (totaling 1,084 t CO2e): (1,084 / 25,006) * 100 = 4.3% decrease
Unidentified	0	No change	
Other	1.8	Decrease	There was a reduction in year-over-year GHG emissions attributable to diesel fuel use in backup generators and refrigerant top-ups. Decreases in diesel fuel consumption as well as fugitive emissions (refrigerant leaks/top ups) accounted for 460 t CO2e in GHG emission reductions: (460 / 25,006) = 1.8% decrease

CC12.1b
Is your emissions performance calculations in CC12.1 and CC12.1a based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?

Location-based

CC12.2
Please describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tonnes CO2e per unit currency total revenue

Intensity figure =	Metric numerator (Gross global combined Scope 1 and 2 emissions)	Metric denominator: Unit total revenue	Scope 2 figure used	% change from previous year	Direction of change from previous year	Reason for change
0.68	metric tonnes CO2e	33820	Location-based	1.5	Increase	Total income (revenue) reported in Canadian $ millions. Increase is related to both a drop in annual revenues when compared to 2014 and the acquisition of Yonge Richmond Centre in January, 2015.

CC12.3
Please provide any additional intensity (normalized) metrics that are appropriate to your business operations

Intensity figure =	Metric numerator (Gross global combined Scope 1 and 2 emissions)	Metric denominator	Metric denominator: Unit total	Scope 2 figure used	% change from previous year	Direction of change from previous year	Reason for change
1.13	metric tonnes CO2e	full time equivalent (FTE) employee	6725	Location-based	21.6	Decrease	Significant increase in FTE counts in 2015 compared to 2014. In addition, emissions have decreased in 2015 due to lower reported leakage of refrigerants, emission reduction activities, and decreases in emissions associated with natural gas/steam heating in 2015. Note this metric only applies to the 6 Head Office properties that GWL currently staffs FTE, hence the numerator (Scope 1+2 emissions) used is only for the relevant 6 head office properties (7,888 t CO2e) where FTE is tracked, as per last year's submission.
0.005164	metric tonnes CO2e	square foot	4091697	Location-based	12.8	Decrease	Large decrease observed in refrigerant in 2015. In addition, a new property located in Ontario was acquired in 2015 which contains a lower emissions intensity than the existing data set average, further reducing overall emissions intensity. Finally, GWL has made several reductions due to efficiency measures (emission reduction activities) throughout the portfolio in 2015, resulting in reduced emissions and emissions intensity.

Further Information

Page: CC13. Emissions Trading

CC13.1
Do you participate in any emissions trading schemes?

No, and we do not currently anticipate doing so in the next 2 years

CC13.2
Has your organization originated any project-based carbon credits or purchased any within the reporting period?

No

Further Information

Page: CC14. Scope 3 Emissions

CC14.1
Please account for your organization's Scope 3 emissions, disclosing and explaining any exclusions

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
Purchased goods and services	Not relevant, calculated	1799.8	Indirect Measurement using purchasing database information and emissions factors from Environmental Paper Network.	100.00%	The emissions relate to the procurement of office paper for GWL properties. Emissions are associated with the production and of paper products used by GWL employees. When considered in the context of the scope 3 emissions from our investments, these emissions are considered to be immaterial.
Capital goods	Not relevant, explanation provided				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)	Not relevant, explanation provided				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.
Upstream transportation and distribution	Not relevant, calculated	81.8	Indirect measurement using provincial emission factors. Source: Environment Canada. Greenhouse Gas Division, National Inventory Report 1990–2013 Part 1: Greenhouse Gas Sources and Sinks in Canada.	100.00%	The emissions relate to the transport and distribution of products that we purchase to our offices. The emissions we have calculated relate to the distribution of water for consumption in our buildings. When considered in the context of the scope 3 emissions from our investments, these emissions are considered to be immaterial.
Waste generated in operations	Not relevant, calculated	2863.0	Indirect measurement using provincial emission factors. Source: Environment Canada. Greenhouse Gas Division, National Inventory Report 1990–2013 Part 1: Greenhouse Gas Sources and Sinks in Canada.	100.00%	This includes emission related to the waste we generate at our corporate head office and investment properties, and sent to landfill. When considered in the context of the scope 3 emissions from our investments, these emissions are considered to be immaterial.
Business travel	Relevant, calculated	7113.4	For Air Travel: Calculated using vendor provided air travel data and calculated using emissions factors from: EPA, Optional Emissions from Commuting, Business Travel and Product Transport For Reimbursed Employee Mileage: Calculated using an average fuel efficiency rating of 0.098L/km with emissions factors from: Environment Canada.	100.00%	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	Not relevant, explanation provided				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	Not relevant, explanation provided				We do not lease assets and therefore it is not relevant.
Downstream transportation and distribution	Not relevant, explanation provided				We do not produce a product that results in transportation and distribution emissions.

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
Processing of sold products	Not relevant, explanation provided				We do not sell products that result in the processing of sold products.
Use of sold products	Not relevant, explanation provided				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	Not relevant, explanation provided				We do not sell products in our business where end of life treatment would be relevant.
Downstream leased assets	Not relevant, calculated	8182.0	Indirect measurement using provincial emission factors. Source: Environment Canada. Greenhouse Gas Division, National Inventory Report 1990–2013 Part 1: Greenhouse Gas Sources and Sinks in Canada.	100.00%	Downstream 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 Great-West Life, London Life, and Canada Life employees in Canada.
Franchises	Not relevant, explanation provided		Indirect measurement using provincial emission factors. Source: Environment Canada. Greenhouse Gas Division, National Inventory Report 1990–2013 Part 1: Greenhouse Gas Sources and Sinks in Canada.		We do not own any franchises.
Investments	Relevant, calculated	95536	Indirect measurement using provincial emission factors. Source: Environment Canada. Greenhouse Gas Division, National Inventory Report 1990–2013 Part 1: Greenhouse Gas Sources and Sinks in Canada.	100.00%	This includes our investment property fund emissions. We have not included the emissions from other investments.
Other (upstream)	Not relevant, explanation provided				No other upstream emissions are considered material.
Other (downstream)	Not relevant, explanation provided				No other downstream emissions are considered material.

CC14.2
Please indicate the verification/assurance status that applies to your reported Scope 3 emissions

Third party verification or assurance process in place

CC14.2a
Please provide further details of the verification/assurance undertaken, and attach the relevant statements

Verification or assurance cycle in place	Status in the current reporting year	Type of verification or assurance	Attach the statement	Page/Section reference	Relevant standard	Proportion of reported Scope 3 emissions verified (%)
Annual process	Complete	Limited assurance	https://www.cdp.net/sites/2016/90/7690/Climate Change 2016/Shared Documents/Attachments/CC14.2a/GWL_PwC Report on GHG Statement FY15_3_juin_2016 FINAL.pdf	3	ISAE 3410	87

CC14.3

Are you able to compare your Scope 3 emissions for the reporting year with those for the previous year for any sources?

Yes

CC14.3a

Please identify the reasons for any change in your Scope 3 emissions and for each of them specify how your emissions compare to the previous year

Sources of Scope 3 emissions	Reason for change	Emissions value (percentage)	Direction of change	Comment
Purchased goods & services	Emissions reduction activities	17.3	Decrease	Following significant reductions in the use of paper from 2011 through 2014, we're now making further incremental improvements as digital alternatives help us eliminate internal reports and reduce printing of many client and advisor materials. Our business areas are providing more data electronically to our clients. For example, in 2015 we replaced individual paper cheques for health and dental providers with convenient electronic statements and weekly direct deposits or semi-monthly bundled cheques. This eliminated the use of almost 2.7 million sheets of paper and more than 1.3 million envelopes through the year.
Upstream transportation & distribution	Acquisitions	2.2	Increase	Increase due to the addition of newly acquired property as of January 2015.
Waste generated in operations	Acquisitions	5.2	Increase	Increase due to the addition of newly acquired property as of January 2015.
Business travel	Change in physical operating conditions	0.1	Increase	Negligible increase in business travel-related GHG emissions due to changes in physical operating conditions.
Downstream leased assets	Other: This decrease is due to factors outside of Great-West Lifeco's financial or operational control at our externally (third-party) managed leased office space.	3.4	Decrease	This decrease is due to factors outside of Great-West Lifeco's financial or operational control at our externally (third-party) managed leased office space.
Investments	Emissions reduction activities	4.6	Decrease	Efficiency conservation measures taken at various locations within the real estate segregated fund portfolios have resulted in GHG emissions decreases due to energy reductions in electricity and natural gas consumption.

CC14.4

Do you engage with any of the elements of your value chain on GHG emissions and climate change strategies? (Tick all that apply)

Yes, other partners in the value chain

CC14.4a

Please give details of methods of engagement, your strategy for prioritizing engagement and measures of success

We interact with other partners including community organizations.

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

Strategy for prioritizing engagements – Engagements are prioritized based on the needs identified by the community organizations and our specific focus areas. Within our environment focus, we prioritize organizations that are supporting carbon mitigation and adaptation strategies. For example, in 2015, we engaged with Pollution Probe, a non-for-profit communication organization to support healthier sustainable behavior focused on recycling e-waste. By diverting e-waste from landfills, we are supporting initiatives to reduce greenhouse gases and ensure the health and safety of people from substances of concern like mercury and lead within electronics.

Measure of Success – We measure our success by the number of community projects and their associated impacts in addressing sustainability issues, including but not limited to addressing climate change.

Further Information

Module: Sign Off

Page: CC15. Sign Off

CC15.1
Please provide the following information for the person that has signed off (approved) your CDP climate change response

Name	Job title	Corresponding job category
Charles Henaire	EVP, Deputy CFO, Chief Accounting and Control Officer, Great-West Lifeco	Chief Financial Officer (CFO)

Further Information

CDP: [W][-,-][AQ][Pu][E2]