Task Force on Climate-related Financial Disclosures (TCFD) Report

Responsible Investment

December 2022

AIMCo is Alberta's investment manager. Each day, we have the privilege of helping our clients secure a better financial future for the Albertans they serve. As a long-term global investor, our clients trust us to act in their best interests by identifying, monitoring and managing material investment risks and opportunities.

Climate change is one of the most pressing systemic risks of our time, with worldwide efforts accelerating to keep global warming within 1.5^{0}C above pre-industrial levels — a threshold scientists believe is necessary to avoid even more catastrophic impacts to people, the planet and ultimately, long-term investment returns. The 2022 Intergovernmental Panel on Climate Change (IPCC) report found that without ambitious and immediate climate action within this decade — including cutting emissions and removing carbon already in the atmosphere — most climate thresholds will be out of reach.

Climate risk is non-diversifiable and can impact the revenues, expenditures, assets and liabilities, and capital and financing of the companies we are invested in on behalf of our clients. AIMCo recognizes the business imperative of integrating climate considerations into our investment strategies. We view the physical, regulatory and reputational risks associated with climate change — along with opportunities to earn a return on investments that support the transition to the low-carbon economy — as material to delivering superior, risk-adjusted returns to our clients.

Taking Action on Climate Risk

$14B+

in green investments across our asset classes[1]

95%

of Canadian office assets in our Real Estate portfolio have green building certifications

$500M

issued in AIMCo Realty's inaugural green bond offering in 2021

18%

reduction in 2021 AIMCo investment portfolio financed emissions intensity from 2020 levels

16%

of our Private Placement Fixed Income portfolio financed renewable energy and low-carbon projects

$11B

of the market value of our publicly held investment portfolios has green exposure as estimated by the FTSE Russell Green Revenues framework

[1]Green investments are defined based on generally accepted definitions of 'green investments', such as the OECD's Annual Survey of Large Pension Funds and Public Pension Reserve Funds and include: equity investments in pure play green companies, labelled green bonds, investments in renewable energy in private infrastructure, private renewable resources investments which includes forestry and agriculture, and Canadian and U.S. commercial real estate investments with green building certifications.

What is TCFD Reporting and Why Does it Matter?

The Task Force on Climate-related Financial Disclosures (TCFD) was created by the Financial Stability Board (FSB) to develop recommendations on the types of information that companies should disclose to support investors, lenders and insurance underwriters in appropriately assessing and pricing risks related to climate change.

In 2017, the TCFD released its climate-related financial disclosure recommendations, which are designed to provide consistent, timely, comparable and decision-useful information to support capital allocation. Through disclosures structured around four thematic areas — governance, strategy, risk management, and metrics and targets — organizations across all sectors can help stakeholders and the market understand their climate resiliency and any financial implications of climate change.

Transparency is one of AIMCo's core values. Our annual TCFD report demonstrates to our clients that we continue to actively manage climate-related risks and opportunities on their behalf across the investment process. We also believe in walking the talk. By producing our own annual TCFD report since 2019, we follow the same standards we advocate for the companies we are invested in to adopt.

As the environmental, social and governance (ESG) reporting landscape evolves with more standardization and higher quality data, AIMCo's disclosures will continue to adapt to provide decision-useful information for our clients and investment teams.

Governance

TCFD Recommendation	AIMCo's Approach
Describe the board's oversight and management's role in assessing and managing climate-related risks and opportunities.	• The AIMCo Board of Directors oversees the governance of responsible investment at AIMCo and approves the Responsible Investment (RI) Policy which applies to all assets under management (AUM) and ESG issues including climate change. • The AIMCo Board is briefed on AIMCo's ESG performance, strategy, and trends, including those related to climate change. • The Audit Committee of the Board reviews the annual TCFD report. • The AIMCo Board Education Program shares education materials and external learning opportunities on climate change. • The AIMCo Executive Committee approves the overarching RI strategy and is briefed on RI activities including climate analysis. • AIMCo's Investment Committee receives climate-related risk analysis as part of ESG due diligence conducted for potential deals. • AIMCo has two internal cross functional working groups focused on climate: the TCFD working group and Climate Transition Finance working group.

Strategy

TCFD Recommendation	AIMCo's Approach
Describe the climate-related risks and opportunities identified, their impacts and the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	• AIMCo's Corporate Strategy, Corporate Objectives and Division Objectives include embedding climate risks and opportunities into our investment platform. • A multidisciplinary team at AIMCo is developing an AIMCo specific, investment-driven response to climate change. More detail will be provided in next year's TCFD report. • We exercise shareholder voice through proxy voting to promote climate-related disclosure. AIMCo supported 80% of management proposals on Say on Climate during the 2022 proxy season. • We engage with investee companies to encourage climate-related disclosure and alignment to TCFD reporting standards. Over the 2022 proxy season, 44% of our engagements conducted had a primary discussion topic of climate and improving climate-related disclosures. • We advocate with policymakers, regulators and stock exchanges to encourage climate-related disclosure guidance such as the International Sustainability Standards Board's (ISSB) proposed enhancement and standardization of sustainability-related financial information disclosure and climate-related disclosures. • AIMCo is a signatory or active member of several RI advocacy and collaboration initiatives focusing on climate including the Investor Leadership Network Climate Change Advisory Committee, CDP, Climate Action 100+ and Climate Engagement Canada. • We measure emissions across asset classes to conduct historical and future-focused climate analysis to identify key drivers of climate risk and resilience.

Risk Managment

TCFD Recommendation	AIMCo's Approach
Describe the organization's processes for identifying, managing and assessing climate-related risks and how they are integrated into the organization's overall risk management.	• Teams across AIMCo strive to identify material climate risks at various stages of the investment process and across the fund to ensure an integrated, coordinated approach. • We identified several short, medium and long-term risks, including risks related to investment in high-emitting sectors, which could lead to counterparty and/or higher stranded asset risk. • AIMCo is exposed to regulatory risk from rapidly changing policy and operational risk as business could be impacted due to changing weather patterns. • AIMCo uses tools and processes to help quantify climate-related risks and opportunities including carbon footprinting, MSCI Climate Value at Risk (Climate VaR) and FTSE Green Revenues. • Climate-related risks are managed through investments in low-carbon assets, by researching best practices in climate mitigation, via climate-related pre-investment and post-investment analysis, through stewardship activities, including active management, engagements and proxy voting, and by delivering climate-related reporting to our clients.

Metrics and Targets

TCFD Recommendation	AIMCo's Approach
Disclose the metrics, greenhouse gas (GHG) emissions and targets used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management processes.	• We monitor different metrics to capture both historical and forward-looking perspectives. Our carbon footprint provides a snapshot of the total emissions generated by our investments during the prior calendar year, while Climate VaR estimates the portfolio's climate-related risks and opportunities out to the year 2100, under different warming scenarios. • AIMCo follows Partnership for Carbon Accounting Financial's (PCAF) Financed Emissions standard as the method to attribute emissions to investors proportionate to their investments' equity and debt holdings. Our 2022 carbon footprint scope expanded to include Mortgages, Renewable Resources and Sovereign debt. Additionally, we are now reporting our carbon footprint by asset class. • Following new standards developed by PCAF, AIMCo has calculated the carbon emission removals attributable to our forestry assets.

What is PCAF and Why Does it Matter?

Partnership for Carbon Accounting Financials (PCAF) is a global partnership of financial institutions that work together to develop and implement a harmonized approach to assess and disclose the greenhouse gas (GHG) emissions associated with their loans and investments. PCAF enables transparency and accountability and has developed an open-source global GHG accounting standard for financial institutions.

AIMCo, along with more than 300 other financial institutions, committed to measuring and disclosing financed GHG emissions associated with its investment portfolios in alignment with the PCAF standard, which is reflected in this TCFD report. To advance carbon accounting in the finance industry, AIMCo participates in the PCAF Mortgages & Commercial Real Estate, Emission Removals, and Sovereign Debt working groups and the PCAF global Core team.

Behind the Numbers: Metrics & Targets

The absolute GHG emissions that banks and investors finance through their loans and investments are often referred to as 'financed emissions'. Indirect GHG emissions are those emissions emitted from sources not owned or controlled by an entity. For financial institutions, Scope 3 GHG emissions are by far the largest component of their total GHG emissions.

- **Scope 1** – direct emissions that are the result of owned or controlled sources
- **Scope 2** – indirect emissions that result from the generation of purchased electricity
- **Scope 3** – indirect emissions that are the result of activities from assets not owned or controlled by the organization, but that the organization indirectly impacts in its value chain. Includes investments managed by the reporting company on behalf of clients

As a provider of investment management services to our institutional clients, AIMCo's carbon emissions footprint can be divided into:

- Emissions attributable to our corporate operations (Scope 1, Scope 2 and Scope 3, excluding our investment portfolio)
- Emissions attributable to our investment portfolio (Scope 3)

Emissions Attributable to AIMCo's Corporate Operations

AIMCo underscored its commitment to climate action through participation in the City of Edmonton's Corporate Climate Leaders Program (CCLP). Developing a GHG inventory is the first requirement of the initiative, which is shown below.

Total GHG Emissions by Year (tonnes of carbon dioxide equivalent)	2021	2020	2019
Scope 1 - Direct Emissions	**368**	**576**	**620**
Fuel - Natural Gas	368	576	620
Scope 2 - Indirect Emissions	**1,306**	**1,396**	**1,082**
Electricity	1,306	1,396	1,082
Scope 3 - Other Indirect Emissions	**124**	**218**	**643**
Business Travel - Car	-	-	1
Business Travel - Hotel	1	4	12
Business Travel - Flights	109	199	625
Waste	11	13	- [1]
Water	2	2	1
Total Emissions [2]	**1,798**	**2,190**	**2,345**

[1] Data unavailability reflects AIMCo's move to a new head office building at the end of 2019. [2] COVID-19 work from home mandates and travel restrictions impacted AIMCo's emissions in 2020 and 2021, along with the ability to gather data such as emissions from employee commutes.

With respect to the risks and opportunities in the context of our operations, electricity consumption and natural gas consumption constitute a significant part of our emissions. We continue to monitor our operational GHG inventory to inform future plans and targets for reducing GHG emissions as required by our CCLP commitment.

Emissions Attributable to AIMCo's Investment Portfolio

The investment portfolio emissions reported include Scope 1 and Scope 2 emissions of the underlying companies based on the latest available data. AIMCo's investment portfolio emissions calculation now encompasses sovereign bond investments, the Mortgages asset class and the Renewable Resources asset class, which includes our forestry and agriculture assets. We followed the PCAF Standard for the recommended approach to attribute the emissions of companies to investors. The Appendix notes our assumptions, data limitations and where we have deviated from the PCAF Standard to capture more securities in our portfolio.

AIMCo Asset Classes *As at December 31*	Absolute Financed Carbon Emissions (tCO_2e tonnes of carbon dioxide equivalent)		Financed Carbon Emissions Intensity (tCO_2e/$M tonnes of carbon dioxide equivalent per million dollar invested)	
	2021	2020 [3]	2021	2020 [3]
Money Market and Fixed Income [1]	542,278	577,398	33	41
Public Equity	2,434,427	2,938,225	49	64
Real Estate	91,117	121,533	12	18
Infrastructure	1,102,500	932,995	105	103
Private Equity	75,204	98,753	13	25
Renewable Resources	13,201	14,123	8	10
Total Fund [1,2]	**4,258,727**	**4,683,027**	**47**	**57**

[1] Excludes carbon emissions attributable to sovereign bond investments. [2] Reflects 87% coverage. [3] Based on feedback from our Investment teams and new guidance from PCAF, our scope has changed. Therefore, we recalculated our 2020 carbon footprint to transparently disclose our carbon trajectory.

For calendar year 2021, AIMCo's Total Fund carbon emissions fell relative to 2020 under both the absolute financed and financed intensity metrics. AIMCo's absolute financed carbon emissions decreased by 9% (424,300 tCO_2e), while the financed carbon emissions intensity decreased by 18%

(10 tCO_2e/$M invested). The decrease in emissions cannot be attributed to one single factor and some of the changes may be reversed in the future; for example, investing in assets with higher emissions profiles with the goal of transitioning them to be low-carbon. Factors that may influence the reduction in carbon emissions include COVID-19 impacts, and changes to asset valuations, sector exposures, market values and company carbon emissions.

These calculations were developed to provide insights on carbon emissions associated with our portfolio investments as well as relevant benchmarks. In previous years, we disclosed the Weighted Average Carbon Intensity (WACI) metric. While we will continue to measure WACI, going forward we plan to report AIMCo's Absolute Financed Carbon Emissions and Financed Carbon Emissions Intensity to further align with the PCAF standard. We believe the PCAF standard is the best available methodology to measure carbon emission risk and opportunities while reflecting the multi-asset nature of our investment portfolio.

Additional Considerations

In 2022, PCAF developed guidance to attribute emissions from sovereign bond investments and accounting for carbon emission removals generated from investments in technology and nature-based solutions. As per the guidance, we are disclosing the results separately from the Total Fund calculations.

	Absolute Financed Carbon Emissions (tonnes of carbon dioxide equivalent)	Financed Carbon Emissions Intensity (tonnes of carbon dioxide equivalent per million dollar invested)
	2021	2021
Sovereign Bonds	3,675,387	309

For calendar year 2021, carbon emissions attributable to AIMCo's sovereign bond investments, primarily comprised of Canadian government-issued securities, were 3,675,387 million tCO_2e in terms of absolute financed carbon emissions and 309 tCO_2e/$M invested in financed carbon emissions intensity. The calculation considers the quantification of a country's emissions by considering all emissions — its own direct emissions and indirect emissions including those of its imports from other nations — generated within its territorial boundary. There are many examples of where a government can exercise control and influence on emissions within and outside of its territorial boundaries, such as carbon taxes on producers of emissions or on imported goods. When reporting emissions associated with sovereign bonds beyond the emissions of the governmental organization only, double counting occurs with Scope 1 and 2 emissions generated by other sectors. However, double counting within the GHG emissions reports of financial institutions is not necessarily problematic if emission results of the different asset classes are clearly reported separately, as recommended by the PCAF guidance.

	Absolute Financed Carbon Emissions (tonnes of carbon dioxide equivalent)	Financed Carbon Emissions Intensity (tonnes of carbon dioxide equivalent per million dollar invested)
	2021	2021
Emission Removals	455,141	320

We worked closely with our investment partner New Forests to derive emission removals attributable to our investments in our forestry assets. For forestry investments, emission removals result from the increase in carbon from the atmosphere stored within the forest due to growth. We witnessed an increase in demand by financial institutions to measure emission removals as a strategy to capture climate-related opportunities and to mitigate climate-related risks. However, this is an evolving area and the final approach to measuring emission removals may subsequently change once further guidance around nature-based solutions is developed and standardized.

Scenario Analysis

AIMCo continues to use MSCI's quantitative Climate Value at Risk (Climate VaR) tool for our Public Equities and Corporate Debt portfolios and added the Real Estate portfolio this year. Climate VaR integrates physical risk and transition risk scenarios out to 2100 and offers various temperature warming scenarios for analysis.

For physical risk, the model uses the IPCC Representative Concentration Pathways (RCP) to assess the impact of five chronic risks (extreme heat, extreme cold, extreme precipitation, wind and snowfall) and two acute risks (coastal flooding and tropical cyclones), factoring in impacts from business interruptions and asset damages.

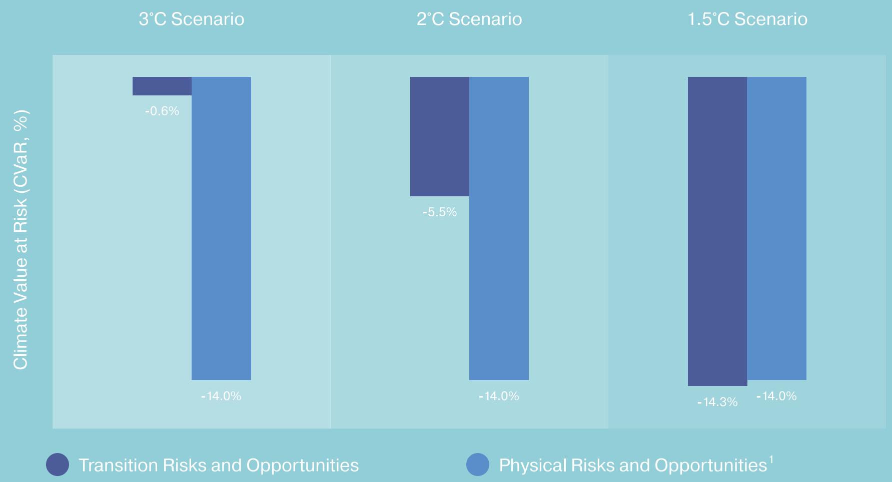
For transition risk, the Climate VaR model focuses mainly on policy risk and technological opportunities by:

- Estimating individual issuers' costs of meeting emissions reduction targets based on countries' stated targets and sector targets for companies' owned and operated facilities
- Evaluating issuers' patent data and green revenue market share based on MSCI's Cleantech data and its scoring of low-carbon technologies across all Global Industry Classification Standard (GICS) sectors

AIMCo's TCFD working group elected to use the Asia-Pacific Integrated Model (known as AIM/CGE) under 1.5°C, 2°C and 3°C temperature options to inform our assessment of the risks and opportunities in our current investment portfolios. The model assumes that we would maintain the same holdings and asset mix through the end of this century. While that is unlikely, the analysis provides insights in determining where vulnerabilities may exist and what alternative asset mix and other attributes would make the portfolio more resilient to a changing climate.

The following chart offers a summary of some key results from our analysis, which represent MSCI's assessment of the percentage of our public market portfolios value at risk under various warming scenarios, in the year 2080, then present valued to today. As expected, the risk is significantly higher in a 1.5˚C scenario, where more stringent policy and regulations will result in higher transition risk, versus the 3˚C scenario, which is essentially business as usual.

AIMCo Public Equities and Corporate Debt Climate Value at Risk by Scenario & Type



[1] Due to model limitations, the Climate VaR average physical risk option was selected with all three transition risk scenarios.

One of the most interesting components of the MSCI model is the Climate VaR results by sector for each of our portfolios. As expected, some issuers within a given sector are far better placed than others, even in traditionally carbon-intense sectors such as Energy, Utilities and Materials where higher rates of climate-risk exposure exist overall. Additionally, we found that the largest contributors to the aggregated Climate VaR were Energy, Materials and Financials. For AIMCo, this presents the opportunity to invest in companies that appear climate resilient within a given sector, and in innovative products and services which effectively reduce our carbon exposure. AIMCo can use this information to inform our engagements, sector allocations and decisions to minimize climate risks and leverage opportunities to ensure we are pursuing a strategy of climate resilience.

Partners in the Transition to the Low-Carbon Economy: Investment Spotlights

Infrastructure

At the end of 2021, AIMCo's Infrastructure portfolio invested over $5 billion, or approximately 50% of the asset class AUM, in low-carbon assets[2]. Three assets in the Infrastructure portfolio — Puget Sound Energy, Porterbrook and London City Airport — have already made net-zero commitments. More recently, AIMCo and its investment partners provided funding for the world's largest green hydrogen platform, the ACES Delta hub in the western U.S., and acquired a 94% stake in Constantine Energy Storage, a U.K. based grid-scale Battery Energy Storage System (BESS) developer. Hydrogen and BESS are expected to play a vital role in the decarbonization goals of many different industries and stakeholders, with the long-term nature of both platforms aligning with our clients' objectives and the transition to the low-carbon economy.

Private Placement Fixed Income

Our Private Placement Fixed Income portfolio offers clients attractive yields, diversification benefits and favourable deal structures that are typically more robust than public market transactions. The market also provides access to low-carbon issuers. As of October 2022, $449 million of the Private Placement Fixed Income portfolio financed renewable energy and low-carbon projects in Canada, the U.S. and the U.K. Grand Renewable is one of the solar projects financed through a debt agreement and operates a utility scale 100 megawatt alternating current solar facility on a 1,000-acre site in Haldimand, Ontario. The project falls within the Six Nations of the Grand River traditional territory and received strong support from the First Nations partner with 10% ownership in the project. AIMCo also invested in Whitecap Resources through secured debt financing, an oil and gas company that acquires and develops petroleum and natural gas properties in Canada. Whitecap is the operator and majority owner of the Weyburn Unit in Saskatchewan — the world's largest carbon capture, utilization and storage project for enhanced oil recovery using anthropogenic carbon dioxide (CO_2) — and the Joffre Unit in Alberta, which is Canada's first commercial CO_2 flood for enhanced oil recovery. Whitecap sequesters 2 million tonnes of CO_2 per year or 37 million tonnes over the lifetime of the projects, equivalent to taking 8 million cars off the road for an entire year.

[2] The definition of low-carbon investment is aligned with the E.U.'s green taxonomy and includes investments with carbon emissions intensity below 30 tCO_2e/$M invested and excludes all investments in oil & gas and fossil-fuel based power generation.

Appendix

Accurate computation of climate-related metrics in investment portfolios requires high quality, security-level data including carbon emissions data for underlying companies. High quality data is often not available for all asset classes, especially private market investments. Recognizing that deferring measurement and reporting until 100% reported data is available would impede the progress AIMCo could make in the near term in providing transparency to stakeholders, estimates are used, when necessary.

While we believe that calculating the carbon footprint is an appropriate starting point for firm-level, climate-related reporting, it is worth noting that the financed carbon emissions metrics are backward-looking in that that they only consider past emissions of companies. They do not provide an assessment of how those companies may evolve their businesses to reduce their carbon emissions in the future based on transition plans, reduction targets and goals.

Notes

1. Dollars reported are CAD unless otherwise noted.
2. Emissions are expressed in terms of carbon dioxide equivalents (CO_2e).
3. Results presented reflect snapshots of the portfolio investments' carbon intensity as of December 31 of each respective year.
4. Calculations consider scope 1 and scope 2 emissions as defined by GHG Protocol. We do not consider emissions that emanate from the use of companies' products, also known as scope 3 emissions, as data is limited, and invites double counting.
5. For investments in public market companies in Public Equities and Money Market and Fixed Income, MSCI data was used. ESG data reporting by companies is often produced on a lag relative to financial data, as most ESG data disclosure and reporting takes place on an annual basis and requires significant time to produce. Where emissions or financial data are not available by the cut-off date, we use the best, latest available data and/or proxies from MSCI ESG Manager.
6. The Public Equities carbon footprint calculation is inclusive of derivative and synthetic securities. PCAF has not developed guidance to carbon emissions accounting for derivative and synthetic securities as they do not directly contribute to real world emissions. However, given the material contribution of these securities to AIMCo's AUM, we have included these securities. Pure short and net short positions continue to be excluded from the calculations.
7. The Money Market and Fixed Income carbon footprint calculation includes short-term and long-term corporate debt and our private commercial mortgage investments. Sovereign bonds include bonds and loans of all maturities issued in domestic or foreign currencies. Repurchase/Reverse Repurchase transactions are excluded.
8. The Real Estate carbon footprint includes only standing assets with self-reported emissions (Canadian and U.S. assets that are fully built or >90% leased).
9. The Infrastructure carbon footprint includes direct, co-investments and funds where holdings are valued over $100 million. For companies that do not disclose emissions, we have proxied using PCAF guidance.
10. The Private Equity carbon footprint excludes venture capital and relationship

investments. PCAF has not developed guidance on carbon emissions accounting for externally managed funds given the challenges associated with defining organizational and reporting boundaries for carbon reporting purposes. Availability of data in private markets is also a challenge. In 2021, AIMCo developed a methodology to account for carbon emissions attributable to externally managed funds in our private market asset classes. The methodology follows PCAF's economic-activity estimation method with modifications to account for data gaps.

11. Equations for the carbon footprint calculations are shown below.
12. The 2020 carbon footprint calculations published in AIMCo's 2021 TCFD report included a different scope than our current calculations. For Public Equities, last year we excluded derivatives and synthetic investments, sovereign bonds and our Mortgages and Renewable Resources asset classes. Based on feedback from our Investment teams and new guidance from PCAF, our scope has changed. We recalculated our 2020 carbon footprint to transparently disclose our carbon trajectory.

Absolute Financed Carbon Emissions

$$\sum_{c} \textit{Attribution Factor} \times \textit{Company Scope } 1 \text{ \& } 2 \textit{ emissions}_c$$

Financed Carbon Emissions

$$\sum_{i}^{n} \frac{\textit{Financed Emissions}_n}{\textit{Holding Market Value}_i} \times \text{M\$1} \times w_i$$

Asia-Pacific Integrated Model (AIM/CGE) Assumptions	1.5 °C Scenario	2.0 °C Scenario	3.0 °C Scenario
Real GDP growth 2010 - 2100 (CAGR)	2.3%	2.3%	2.3%
World Population in 2100 (billions)	8.99	8.99	8.99
Electricity Generation by Fuel Source in 2050			
% Renewables	85%	73%	50%
% Nuclear	9%	8%	15%
% Gas	5%	12%	15%
% Coal	1%	7%	20%
GHG Emissions and Carbon			
Zero GHG Emissions achieved by	2055	NA	NA
Carbon Sequestration peak (Mt/yr)	19,234	22,515	12,311
Carbon Price USD/tons of CO_2e (2033)	700	500	100

AIMCo