

Climate Action Implementation Plan

An update on Manulife's approach to climate transition

Introduction

Our Bold Ambition

Our Path to Success

Playing Our Part

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Cautionary Statement

Cautionary statement regarding the use of this report and forward-looking statements

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This report contains forward-looking statements, which are made pursuant to the “safe harbour” provisions of Canadian provincial securities laws and the U.S. Private Securities Litigation Reform Act of 1995. The forward-looking statements in this report include statements with respect to our Climate Action Plan and its implementation, our journey to net zero, and statements related to other sustainability-related strategies. Forward looking statements can generally be identified by the use of words such as “may”, “will”, “could”, “should”, “would”, “likely”, “suspect”, “outlook”, “expect”, “intend”, “estimate”, “anticipate”, “believe”, “plan”, “forecast”, “objective”, “seek”, “aim”, “continue”, “goal”, “restore”, “embark” and “endeavour” (or the negative thereof) and words and expressions of similar import, and include statements concerning possible or assumed future results. Although we believe the expectations reflected in such forward-looking statements are reasonable, such statements involve risks and uncertainties, and undue reliance should not be placed on such statements. Certain material factors or assumptions are applied in making forward-looking statements and actual results may differ materially from those expressed or implied in such statements.

The factors and assumptions which may impact the forward-looking statements in this report include limited availability of quality emissions and issuer data; variations in measurement methodologies; varying sector specific decarbonization efforts and our ability to implement decarbonization initiatives; shifting stakeholder and regulatory expectations; evolving economic conditions, technological advancements, and public policies; balancing sustainability commitments with an orderly transition across regions; and strategic, market, reputational, system and environmental risks.

In particular, we have relied on external methodologies to guide our emissions measurement and target setting approach for Manulife’s scope 1 and 2 greenhouse gas emissions target and scope 3 financed emissions targets. Our decarbonization approach described in this report relies on currently available climate science, and on assumptions and estimations based on publicly available information and internal data. We caution that there are inherent limitations and uncertainties with available climate data and scenarios, and with quantification methodologies, that may impact our underlying assumptions and estimations.

Within our General Account, interim targets support us in understanding how our investments can contribute to decarbonization of the real economy and provide guideposts against which to measure our progress towards our long-term commitments. However, our targets, and our progress toward achieving them, may need to be revisited if the assumptions underlying net zero scenarios and pathways prove incorrect, or if regulatory, economic, technological and other external factors needed to enable such scenarios and pathways fail to evolve. Manulife’s commitment to achieve net zero financed emissions within our General Account’s investments by 2050 does not include investments of our third-party clients, which are managed by Manulife’s Global Wealth and Asset Management business.

Our reporting on progress towards achieving our short-term and long-term targets relies on various external frameworks, methodologies, taxonomies and other standards, which may change over time, resulting in changes to, or restatements of, our reporting processes and results. The availability of quality and reliable data is a notable factor in our ability to set targets, make effective

decisions against, and report on our progress towards, our targets and strategic areas of focus for us. While we rely on third-party data sources, Manulife has not independently verified any third-party data, or underlying assumptions of such data, and cannot guarantee the quality of the data used. As a consequence of incomplete, inadequate, or unavailable data, our targets, and our progress toward achieving them, may need to be revisited. Additionally, our use of third-party data must not be taken as an endorsement of the third party or its data or be construed as granting any form of intellectual property.

Across all areas of our Climate Action Plan, we have assumed standard growth rates and changes to our business in the development of our targets and decarbonization approaches. Any changes to our business, including, our own investment, financing, underwriting and lending activities, may have a material effect on our ability to achieve our targets and to decarbonize.

This report is provided solely for informational purposes, does not promote any business or business interest of Manulife, and does not constitute an offer or a solicitation to buy or sell any security, product or service in any jurisdiction. Additionally, this report is not intended to provide investment, financial, legal, accounting, tax or other advice, and such information should not be relied or acted upon for providing such advice. Nothing in this report shall form the basis of or be relied upon in connection with any contract, commitment or investment decision whatsoever. The recipient is solely liable for any use of the information contained in this report, and neither Manulife nor any of its affiliates nor any of their respective directors, officers, employees or agents shall be held responsible for any direct or indirect damages arising from the use of this report by the recipient.

This report is intended to provide information from a different perspective and in more detail than is required to be included in mandatory securities filings. While certain matters discussed in this report may be of interest and importance to our stakeholders, the use of the terms “material”, “significant”, “important” or similar words or phrases should not be read as necessarily rising to the level of materiality used for the purposes of securities or other laws and regulations. References to “ESG,” and “net-zero” or similar sustainability-related terms in this document are intended as references to the internally defined criteria of Manulife and not to any jurisdiction-specific regulatory definition that may exist. We have no obligation to update the information or data in this report.

Important information about risk factors that could cause actual results to differ materially from expectations and about material factors and assumptions applied in making our forward- looking statements may be found in our most recent Annual Report under “Risk Management and Risk Factors” and elsewhere in our filings with Canadian and U.S. securities regulators. The forward-looking statements in this report are, unless otherwise indicated, stated as of the date this report is issued and are presented for the purpose of assisting stakeholders in understanding how we intend to achieve our decarbonization commitments set out in our Climate Action Plan and may not be appropriate for other purposes. We do not undertake to update any forward-looking statements except as required by law.

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The purpose of this report is to outline our plan to implement decarbonization efforts set out in our Climate Action Plan for our operations, our General Account investments, and our products and services, and outline specific steps to achieve our targets.

While we continue to make progress in achieving our targets, our approach will be iterative and expand over time as we continue to implement the transition activities outlined in this report.

We seek to disclose our progress on our implementation in a transparent and timely manner.

We consider external guidance, such as the Glasgow Financial Alliance for Net Zero (GFANZ) “Net Zero Transition Plan Guidance” for financial institutions. But, we prioritize developing solutions that are aligned with our specific goals and business objectives.

Updated as at May 2025

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Message from Sarah Chapman, Manulife’s Chief Sustainability Officer



Our journey to net zero builds on our mission for every one of the 36 million people we serve worldwide:

Decisions made *easier*.
Lives made *better*.

Transitions require tradeoffs but also create opportunities. Energy security, reliability, affordability and abundance are core to functioning economies and necessary for societies to progress and thrive.

As a long-term investor, life insurer, and asset manager, we seek to manage climate risk in our business lines and investments and capitalize on opportunities to participate in the just transition to a global low carbon economy. We incorporate climate change considerations into three aspects of our business: our operations, owned investments, and products and services.

We invest capital to achieve returns to support the operations of our business and ensure we meet the promises we make to our insurance customers worldwide. A just and equitable transition has immense potential to create new opportunities for human thriving. By playing our part for a more sustainable future, we move closer to fulfilling our mission, manage long-term risk for our shareholders and give our customers the confidence to plan toward the future.

We believe that, despite the scale of anticipated climate-related risks, the transition to net zero will take time and encounter many obstacles. Individual and collective action play a critical and ever-evolving role. And so, our climate action journey will inevitably evolve as industry, policy and science progresses. We are committed to being clear and transparent on the risks, challenges and opportunities ahead as we move forward. Nonetheless, we remain in a pivotal decade for climate action. Today, the global average surface temperature is already around 1.3°C above pre-industrial levels, prompting heatwaves and other extreme weather events, and greenhouse gas emissions have not yet peaked¹. Failure to act is not an option.

Our Bold Ambition

Manulife's Climate Action Plan
The just transition imperative
Net zero takes everyone



Our Bold Ambition

As a business, we are stronger when people and the planet thrive. Manulife recognizes the threats posed by climate change to our business, public health, and the livelihoods of the communities in which we operate, and the urgent need to preserve the quality of our natural environment.

This includes how we manage our operations, how we make investment decisions, and how we develop and offer financial products and services.

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Our Commitments

In 2021, we released our first Climate Action Plan. Since then, we have made progress across all three pillars of our plan.

Our Operations²:

Reduce the emissions footprint of our operated assets

We are developing solutions to reduce absolute scope 1 and 2 emissions by 40% by 2035³, with an immediate focus on decarbonizing assets we both own and operate.

Our General Account Investments:

Invest in a sustainable future

We are mapping out a pathway to a net zero General Account investment portfolio by 2050 and working to achieve near-term science-based improvements in the carbon footprint of power generation project finance and listed debt and equity investments^{4,5}.

Power generation project finance:

- 72% in per Kilowatt-hour (kWh) reduction in emissions intensity from project financing activities by 2035 and/ or in line with a 2035 International Energy Agency (IEA) target intensity of 0.14 kgCO₂e/kWh.

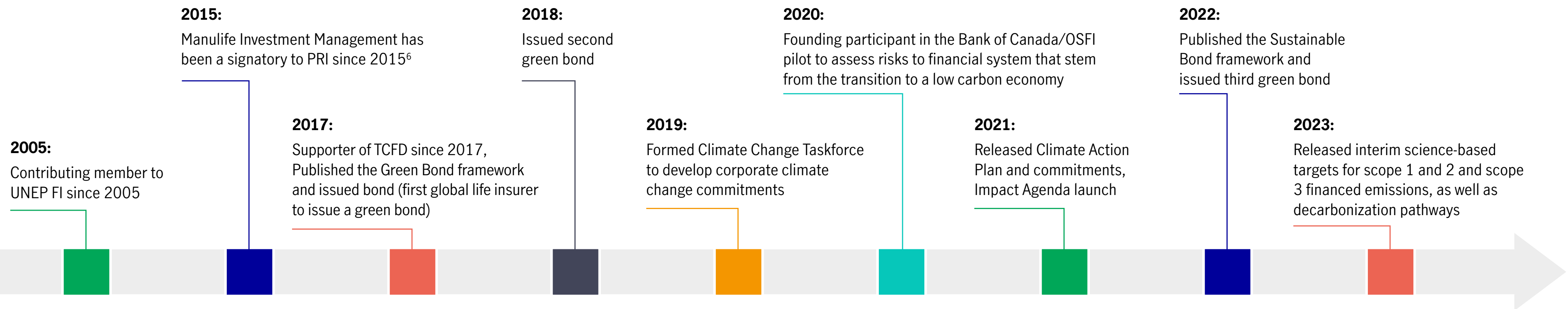
Listed debt and equity, excluding sovereigns, in all other sectors:

- Reducing portfolio temperature from 2.9°C in 2019 to 2.5°C on a well-below 2°C pathway by 2027, based on issuer's total value chain activities (scope 1, 2, and 3 emissions).
- Reducing portfolio temperature from 2.7°C in 2019 to 2.3°C on a well-below 2°C pathway by 2027, based on issuer's operational activities (scope 1 and 2 emissions).

Our Products and Services:

Build solutions to climate challenges

We are creating investment products that solve investor needs and contribute to a more sustainable future. We are enhancing the resilience of our life and health insurance products in light of climate-related risks and are evaluating necessary steps to better understand the impact of climate on morbidity and mortality.



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A just transition imperative

Despite the urgency of action on climate, the transition to net zero will not follow the same pathway in every sector, across every region, and in every economy⁷.

In practice, managing climate risks in the real economy may mean we make decisions that grow our emissions footprint in the short-term, such as providing funding to emissions-intensive utilities to implement abatement technologies. Transitions are never easy and in the short-term, can be inflationary, impacting everyday families in terms of jobs, bill payments, and costs of goods. We are aware of the risk of “short-termism” and collateral damage or counterintuitive impacts on climate, as financial institutions face increased pressure to do more.

At the same time, setting aside climate considerations, improvements in energy independence and security, enabled by technologies like solar photovoltaics (PVs), have significant long-term potential to reduce exposure to volatile commodity prices. A just transition seeks to minimize the impact on affordability and accessibility of energy and optimize social and economic opportunities.

It is imperative our decisions consider our presence in emerging markets, where we have a substantial and growing presence. The pace of change in emerging markets compared to Organisation for Economic Co-operation and Development (OECD) countries, the societal impact of a transition and its impact on consumers and labour, and existing inequities in financing are factors we consider as we work in these regions.

Our approach to transition considers our presence in emerging markets

Manulife’s global footprint is growing. Beyond insurance, we support individuals and families across Asia in building and preserving wealth. Consideration of regional contexts in the achievement of our Climate Action Plan is necessary – as our business grows in Asia, the relatively high-emissions intensity of local grids and lower disclosure overall will have implications to our emissions, including the emissions of our investments. Expectations that are considered standard in North America and Europe may not translate into actionable change across our Asia footprint. Energy markets are unique, with typically higher levels of government ownership and control of key utilities and infrastructure, and assets are younger, meaning early retirement is more costly. Nonetheless, acting to avoid the worst impacts of climate change is critical to countries most vulnerable to climate change-related risks and highly disaster prone. This involves both mitigation and adaptation efforts.

Manulife is committed to exploring transition and climate resilience risks and opportunities in Asia markets and we are actively engaged with our local regulators. Many countries in Asia are already investing in cleaner power generation technologies. Renewable energy is becoming increasingly cost competitive to traditional power sources. More than half of newly installed onshore wind and solar capacity globally comes from mainland China. In Singapore the government has set a progressive schedule for carbon taxation, the proceeds of which will be used to support decarbonization efforts, the transition to a green economy and to minimize the impact on businesses and households. Manulife is already investing in the transition efforts of emerging markets – like in Vietnam, Cambodia and Indonesia, where we have invested in green bonds targeting energy efficiency and emissions reductions efforts, in sectors like steel and infrastructure.

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Net zero takes everyone

The financial sector acts as a catalyst in the path to decarbonization by investing in and providing products targeted towards greening our economy. However, we do not act alone.

First and foremost, we rely on the ability of policymakers and technological innovators to drive reliable, cost-effective, and transformative interventions in the real economy. Secondly, we need access to reliable, credible, and timely information and data from our operating partners and investees on key metrics of decarbonization. To this end, we are a member of several global sustainability networks, including the Sustainable Finance Action Council, ESG Data Convergence Initiative and the WBCSD. Finally, we depend on the support of Manulife investors, clients, peers, and regulators, who recognize the importance of a just transition and encourage a sustained focus on our Climate Action Plan in line with our core business objectives.

We continue to believe our time is best spent focusing on the work of achieving our goals.

Several factors led us to exit the formal validation process and ultimately end our commitment to the Science-based Targets initiative (SBTi) in 2024.

Nevertheless, we maintain our ability to reference science-based practices and principles, including SBTi guidance, as we progress against our targets going forward. We remain committed to our climate targets, in both our operational emissions and investments, developed in line with the guidance of the SBTi for relevant asset classes.

It is our belief that the SBTi guidance for high-emitting sectors can continue to inform the credibility of investee companies' commitments, given the sector pathways are grounded in IEA and Intergovernmental Panel on Climate Change (IPCC) models. Though achieving the scale of corporate ambition required to align with fixed and singular pathways for global decarbonization remains a challenge, we are keen to see progress against emissions targets in the decade ahead.





Our Path to Success

Front and center to all decision-making with respect to our climate objectives is the goal of “real-world” decarbonization. What does this mean? Simply put, the actions we take to manage our emissions should be reflected in both benefits to our business and be realized in the real economy. This approach focuses our decision-making towards better outcomes for our customers and shareholders at the same time as contributing to deployment of solutions across the economy.

We recognize the significance of the role we play and continue to evolve in alignment with the latest science. This implementation plan outlines several steps forward in our journey to net zero, and our approach to decarbonization. That said, as a plan dependent on many factors beyond our direct control, it remains in progress and will evolve with iterative and incremental improvements.

Our Operations

Among many other activities, Manulife is a steward of real assets (real estate, timberland and agriculture assets). Manulife Investment Management is the asset manager of our operated real assets, owned by both our general account and third parties⁸.

In the near-term, we are focused on targeted climate interventions in assets where we are able to exercise the greatest degree of influence – namely, the assets we directly own and operate, which are responsible for close to half of our real assets’ scope 1 and 2 emissions. Taking this degree of influence approach,

we are able to take effective actions to invest in the decarbonization of our General Account portfolio of real assets. The decarbonization of these assets can be accelerated in our current decarbonization pathway, as informed by long-term asset value appreciation, resilience, and productivity opportunities.

Across our scope 1 and 2 emissions, our targeted climate interventions focus on the emissions in assets that we both own and operate⁹.

Whether through explicit contractual terms, such as the Sustainable Building Standards for our global real estate portfolio, or through corporate collaboration, we seek to be partners in helping decarbonize tenant-operated as well as third- party owned assets. As we make progress on our decarbonization commitments, we plan to expand and iterate on our approach.

The following resources provide further details on our journey to date and on our approach to climate-related risks and opportunities management at Manulife and Manulife Investment Management:

- [Sustainability Strategy | Manulife](#)
- [Sustainable investing | Institutional | Manulife Investment Management](#)
- [Real Estate | Manulife Investment Management](#)
- [Timberland | Manulife Investment Management](#)
- [Agriculture | Manulife Investment Management](#)

Greening where we work

Manulife occupies a significant number of leased premises around the globe and rely on our landlords and property managers to support decarbonization efforts. For properties such as Manulife’s Global headquarters at 200 Bloor Street East, and other corporate locations owned by Manulife, operated by Manulife Investment Management, and for which day-to-day property management is supported by a third-party, we have partnered to develop and implement asset specific decarbonization plans.

To address emissions associated with our broader rental footprint, where we may have less direct control over key operating decisions, we have begun utilizing green leases across the globe including in Canada, the United States, and the Philippines. These leases outline expectations including aspects such as green building certification, energy performance ratings, and sustainability programs.



Thinking beyond emissions boundaries

The Greenhouse Gas (GHG) Protocol guides our emissions accounting inventory, in line with best practices. The inventory divides emissions based on a control approach – in our case, Manulife utilizes the operational control approach, which can include third-party owned assets we operate.

While we may have operational control of third-party forests, farms, and buildings, as a trusted steward to our clients, we have a responsibility to consult with these asset owners on strategic decisions impacting their portfolios. Decarbonization initiatives can come with near-term costs. Certainly, these costs can be complementary of long-term asset value appreciation, management of transition related risks, and have potential to improve the productivity of assets. The investment time horizons and objectives of our clients additionally determine implementation of decarbonization initiatives. Prioritizing the assets we have greatest influence over in the near-term comes with clear benefits. Lessons learned from decarbonization of our owned and operated real assets can support the establishment of partnerships and demonstrate the feasibility of early-stage climate solutions.

Get to know the assets we operate

Timberland and Agriculture

Land assets under our operational control represent over 2 million hectares. The management of these assets involves over 600 operations professionals, including foresters, farmers, and property management staff. As stewards of a key component of the low-carbon transition – wood – unlocking further value for a low-carbon, renewable, recyclable building material is a priority. 100% of our managed forests are certified as sustainably managed against independent third-party standards, as are 100% of our managed farmland assets in the United States and Australia.

Scale of the challenge

Day to day management of timberland and agriculture investments is highly customized to a range of factors such as type, scale, and environment. This results in a variety of emissions sources, including prescribed burns, fertilizer use, fuel use, and electricity, as follows:

- Our timberland operations have de minimis scope 2 emissions, and the vast majority of scope 1 emissions are biological (fertilizer and controlled burns).
- Understanding of the risk mitigation resulting from biogenic emissions (fertilizer and controlled burns) is evolving. Fertilizer increases tree growth rates (and resulting carbon sequestration), and controlled burns are designed to reduce the probability and severity of catastrophic wildfires. We are monitoring climate science and the broader impacts and benefits associated with these biogenic emissions.
- Our agriculture operations have scope 1 emissions from fleet vehicle fuel combustion and fertilizer use. Scope 2 emissions in our agriculture operations are from electricity consumption.

Given the complexity of these operations and limited existing pathways upon which to build, we are actively pursuing “ solutions such as fuel switching to renewable diesel, incorporating biochar into soils, and converting irrigation pumps from diesel to electric, where possible.

Real Estate

Our global real estate portfolio operates across 10 geographies in over 100 cities. Our managed portfolio includes office, industrial, multi-family, and retail assets that Manulife Investment Management actively manages. The majority of our global real estate portfolio is certified by leading bodies such as Leadership in Energy and Environmental Design (LEED), Building Owners and Managers Association (BOMA Best), Energy Star.

Scale of the challenge

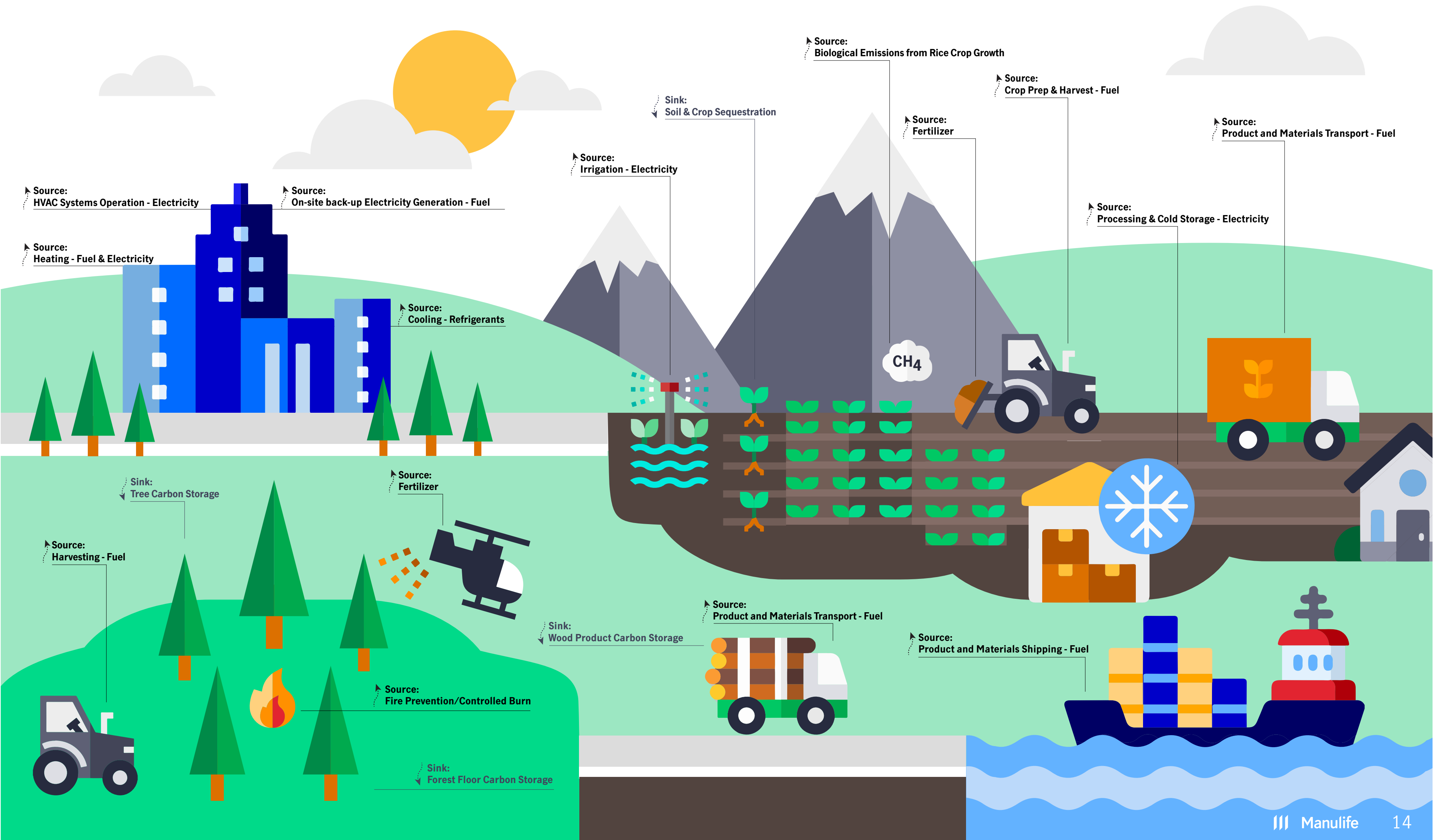
For real estate, scope 2 emissions come from electricity consumption, steam, and chilled water use, while scope 1 emissions result from fossil fuels for heating (i.e., natural gas, diesel) and fugitive emissions from refrigerant leaks associated with cooling systems.

Our real estate portfolio will benefit from anticipated grid decarbonization as global electricity grids increase renewable generation and invest in efficiency improvements.

While more immediate solutions to decarbonize real estate operations are available compared to our forest and farm operations, most combustion-based space heating and hot water equipment installed to date in North America could, under normal circumstances, remain in operation beyond 2035.

Replacing building equipment before their end of life would require real estate businesses to allocate capital ahead of the projected replacement timelines. These equipment operating cycles are often incompatible with climate goals.

GHG sources and sinks¹⁰



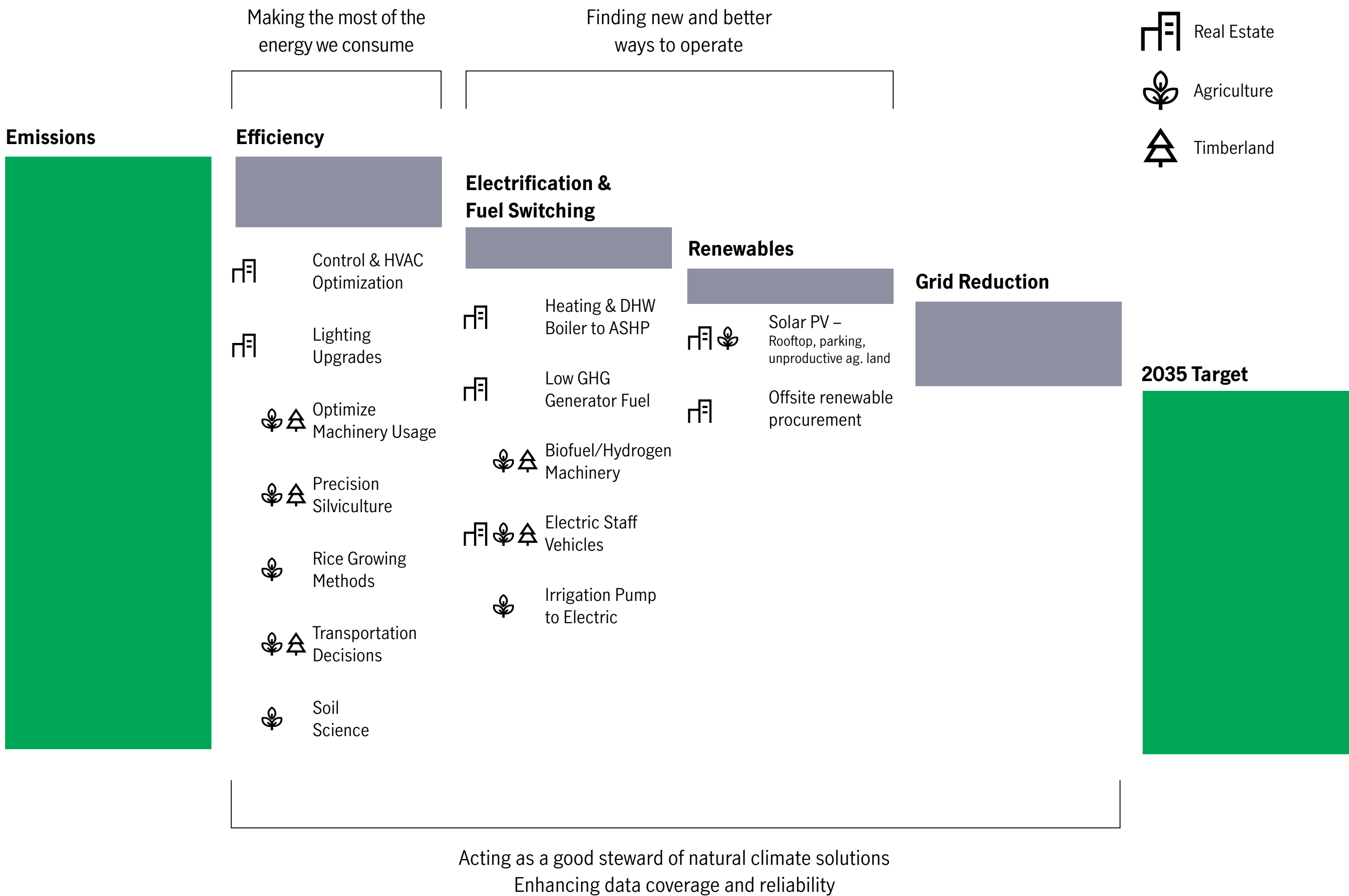
Decarbonization pathway and plan

In pursuit of emissions reductions in our real estate, timberland, and agriculture assets, we are focused on a suite of methods. Our primary levers of decarbonization include efficiency, electrification and fuel switching, and renewables, as well as advancing natural climate solutions. These opportunities have been identified and evaluated on the basis of relative cost and potential impact at the asset class level and will inform asset-specific plans to support decision-making and ongoing progress monitoring. Further, we continue to prioritize enhancing our data quality to support these business decisions.

In our forests and farms, we are focused on the efficiency of vehicles, heavy equipment, and irrigation; fertilizers and prescribed burning; and the soil science of regenerative farming and other sustainable agricultural practices, such as rice cultivation methods that emit less methane. As we plan trials for these pre-feasibility stage technologies, we expect to adjust our roadmaps in line with their gradual maturation.

In our buildings, we are focused on aligning equipment replacement cycles, including heating, cooling, ventilation and lighting, with the objective of finding cost effective low-carbon solutions. Manulife Investment Management has engaged its property management partners to support our decarbonization roadmap. Over 75% of our global real estate emissions footprint has detailed decarbonization plans to guide asset managers’ decision-making.

The following is illustrative of the relative scale of potential decarbonization levers across our real estate, timberland, and agriculture assets¹¹



i. Making the most of the energy we consume

Our efficiency efforts focus on continuing to reduce energy inputs through retrofits. Several aspects across real estate, timberland and agriculture offer solutions, including upgrading to energy efficient alternatives (such as LED lighting, variable speed pumping, enhanced scheduling, improved motor efficiency, etc.), low-carbon logging transportation decisions, and precision silviculture, amongst other opportunities.

Reducing consumption of energy can mitigate climate transition risk in the long-term, particularly in jurisdictions contemplating added costs on carbon.

ii. Finding new and better ways to operate

Reducing reliance on fossil fuels is key to the net zero transition. Electrification and fuel switching will reduce our reliance on carbon intensive fuels such as diesel and gasoline, with a preference for lower carbon alternatives. Technology plays an important enabling role. We intend to take advantage of proven technologies, such as heat pumps in real estate.

Our forest and farm operations will also explore the cost-effectiveness of earlier-stage technologies, such as biofuel, low carbon options for heavy equipment, and enhancing fertilizer efficiency. We belong to several university cooperative research programs related to forest tree improvement, forest productivity, forest health, and growth and yield, all of which inform our management practices using current science.

We will also look to invest in onsite renewable energy sources across our assets to further support decarbonization.

A key aspect of potential real estate decarbonization resides outside our direct control—in the decarbonization of the electric grid. Rapid upscaling of renewables by utilities in North America, are expected to benefit all users of electricity. In the United States, 45% of electricity generated is expected to be from zero carbon, renewable sources by 2030 and a reduction of nearly 40% in tCO₂e emissions from electricity is anticipated by 2030, relative to 2005 levels¹².

Our General Account is an active provider of capital to these utilities providers and is supporting ongoing grid decarbonization efforts.

Growing the good

While absolute emissions reductions are an important aspect to addressing climate change, global net zero goals will not be achieved without emissions removals due to limited alternatives to decarbonization in some sectors.

Removals include direct air capture through technological and nature-based solutions. Plants and soils in terrestrial ecosystems currently absorb approximately 20% of human-derived GHG emissions¹³. Harnessing this capability represents 37% of the opportunity to cost-effectively sequester carbon, which is what is needed by 2030 to keep global warming below 2°C¹⁴.

Manulife’s sustainably managed timberland and agriculture assets are unique to many other financial services companies in their potential for GHG removals where carbon is stored in forests and soil. Removals do not count toward absolute emissions reductions and mitigation remains a key priority.

However, without consideration of emissions removals alongside reductions, the full story of Manulife’s climate action and impact would be incomplete, particularly in light of the important role of forests in preserving biodiversity and other natural capital services which support adaptation to changing climatic conditions.





iii. Acting as a good steward of natural climate solutions

Forestry and agriculture are recognized as natural climate solutions (NCS) for their ability to provide one-third of the cost-effective climate change mitigation required to achieve the Paris Agreement. The co-benefits of NCS to climate and nature are increasingly evident. In agriculture, regenerative practices such as growing cover vegetation that lead to healthier soils, are recognized as critical for capitalizing on agriculture’s potential not only to feed the world, but to combat climate change and nature loss. Most NCS pathways are focused on carbon removal and storage (e.g., reforestation, improved forest management). This is reflected in our business, through our issuance of carbon credits¹⁵.

We believe that carbon will become a more integrated value driver of timberland and agriculture in the transition to net zero. Measurement practices continue to evolve and demand for credible nature-based solutions is growing from investors and companies. The value of carbon removal and other ecosystem services is increasingly tangible. These factors are creating the opportunity for new timberland investment strategies that are focused on climate change with co-benefits and carbon value that build on sustainable management practices.

Due to our management approach, many of the properties we manage have demonstrated the opportunity to develop carbon offsets and insets that can help clients meet climate goals and generate incremental revenue. Carbon credits generated from carbon projects such as improved forest management and afforestation, or reforestation, can be sold as carbon offsets into voluntary and certain compliance markets. Carbon credits can also be transferred directly to companies whose value chains include carbon projects and to investors in underlying assets included in carbon projects— these are carbon insets.

In our timberland operations, we continue to manage 100% of our global forests to achieve independent third-party sustainability certifications under the Sustainable Forestry Initiative® (SFI®) and/ or Forest Stewardship Council® (FSC®). Within Australia and New Zealand, some of our forests carry dual FSC® and PEFC (Programme for the Endorsement of Forest Certification) certifications.

iv. Enhancing data coverage and reliability

We require reliable data to make good decisions in alignment with our decarbonization plan and investment objectives. Emissions accounting guidance for forests and farms continues to evolve and relies on our ability to collect data from operations that are not always well-equipped to provide accurate information. As these are biological rather than purely mechanical assets, relatively few of their constitutive chemical processes are metered. This requires us to focus on novel measurement methods, including advanced LiDAR (Light Detection and Ranging) and remote sensing technologies, as well as emerging solutions such as hydrogen-powered heavy equipment and nitrogen-inhibiting fertilizers that mitigate nitrogen loss and enhance soil health.

We are working to attain accurate property-level data for fuel use (diesel, gasoline, propane, and natural gas). As field level data quality and coverage improves, we are better positioned to monitor assets performance and evolve our strategy to help inform our decarbonization efforts in the future.



Investing in new technologies

We are piloting decarbonization technologies in select markets in pursuit of our emissions reduction goals:

- **Timberland:** In many areas, fertilizer is essential for cultivating healthy and productive forests. However, it also represents a significant expense and contributes to greenhouse gas (GHG) emissions. Our goal is always to apply fertilizer efficiently to minimize environmental impact and reduce costs. Inspired by precision agriculture technology, our team in the U.S. Southeast partnered with North Carolina State University to test a precision nitrogen fertilization approach for forestry, specifically focusing on mid-rotation (post-thinning) fertilization. Traditionally, we have used broad fertilizer application methods in the U.S. Southeast that didn't account for variations in forest health. For this trial, we used satellite imagery to calculate Leaf Area Index (LAI) measurements, which helped us assess forest health. Thicker canopies indicate healthier forests that require less fertilizer. By processing the LAI data, we identified areas where we could reduce nitrogen fertilizer application rates—either across entire forest stands or within sections of a stand using variable rate application. The trial demonstrated that by applying fertilizer variably and according to need, we could effectively reduce the amount of nitrogen fertilizer used, leading to a more sustainable and cost-effective operation.
- **Agriculture:** When growing crops, there are almost always opportunities to apply climate-smart, best management practices. Not only do these practices help us adapt to the effects of climate change, but they also help support water retention and contribute to our Leading Harvest certification. As part of the quest to regenerate healthy soils, a biochar/compost blend was applied to one vineyard. The results from this study generated interest in biochar/compost applications in viticulture. Responding to this growing demand, our manager formed a partnership to develop custom biochar solutions. Through this collaboration, biochar is now custom-made for specific soils using a unique slow pyrolysis process. This method allows for the creation of biochar with varying pH values tailored to meet the needs of different soil types, making it a versatile tool for managing soil pH levels, improving soil health, and promoting regeneration.

Our Path to Success




















Our Operations

Our General Account Investments

Our Products and Services

Playing Our Part

Decarbonization opportunities¹⁶

		'23 Actions	'24-'25 Actions	'26-'30 Actions
Data Coverage	Asset Class	Inventory portfolio opportunities and close data gaps		
Decarbonization plan coverage		55% real estate emissions with a decarbonization plan	80% real estate emissions with a decarbonization plan	100% real estate emissions with a decarbonization plan
Operational buy-in	  	Bi-weekly GHG working groups	Operations ownership of asset-specific plans	Operations leadership of new initiatives
Timberland carbon inventory		LiDAR upgrades (4/7 regions)	LiDAR upgrades (7/7 regions)	HWP-carbon optimization curve all assets
Efficiency		Continue to reduce inputs through retrofit and optimization		
Retro-Commissioning		20% of high consumption real estate assets with RCx	50% of high consumption real estate assets with RCx	100% of high consumption real estate assets with RCx
Optimize machinery use	 	Investigate opportunities for efficiencies	Trial efficiency opportunities at min. 5 assets	Efficiencies deployed portfolio-wide
Enhanced fertilization	 	Study methods for enhanced fertilization	Trial enhanced fertilization methods	Scale enhanced fertilization whenever cost effective
Electrification & Fuel switching		Conversion of fossil fuel-burning equipment to low carbon alternative & Fuel switching		
Natural gas boiler fuel switching		5% Natural gas emissions in capex plan to fuel switch	15% Natural gas emissions in capex plan to fuel switch	50% Natural gas emissions in capex plan to fuel switch
Biofuel/ hydrogen	  	Investigate opportunities with low carbon fuel	Trial low carbon fuels in machinery and generation	Portion of diesel converted to low carbon substitute
Electric machinery	 	Begin inventorying existing rolling stock	Trial with a percent of assets machinery	Deploy electric machinery wherever cost effective
Renewables		Invest into onsite renewable energy		
Solar PV implementation	  	Inventory existing renewables & scan opportunity	2MW+ of onsite renewable generation in capex	5MW+ of onsite renewable generation in operation

Our General Account Investments

We invest capital to achieve returns to support the operations of our business and ensure we meet the promises we make to our insurance customers worldwide. We invest in public and private markets that support developed and growing economies, create and sustain jobs, and contribute to improvements in quality of life globally.

We believe climate change will have a systemic impact on our global economy. As investors, we intend to seize the opportunity presented by the transition to a low-carbon economy.

At the same time, we believe that transition risks will increasingly create negative market conditions for unabated, carbon-intensive activities.

Further, physical risks associated with a changing climate, such as increases in extreme weather, have potential negative impacts on our portfolio.

Continued work to measure the scale and impact of transition and physical climate-related risk drivers may influence the pace and scale of decarbonization of our portfolio.

Get to know how we invest

Understanding how we invest is key to understanding the measurement tools and decarbonization levers available to us.

Diversification

Diversification is a central tenet of prudent investment – and our portfolio spans a wide range of asset classes, sectors, and regions.

Scale of the challenge

Each of these aspects, asset class, sector, and geographic location, introduces new variables to the decarbonization equation. As an example of the nuance involved, insurance products sold to consumers in some countries must be supported by investment in the same region, where investment- grade green and sustainable assets may be less prevalent. As we learn more about how these variables interconnect, we expect our plan to evolve.

Ownership over the long-term

Our investments can span lifetimes. Effective management of the underlying liabilities of our insurance services is key to our success. We must carefully match the investments we make today, to the claims we might incur tomorrow, a decade or several decades from now.

Scale of the challenge

As a primarily buy-and-hold investor with an investing approach that contemplates staying invested through economic cycles, prudent due diligence is essential to achieving positive investment outcomes. We believe efforts to incorporate climate-related factors into our portfolio are in alignment with prudent management of our long-term obligations. At the same time, the nature of our long-term liabilities and associated regulatory requirements reduces the real-world impacts of divestment and exclusionary strategies purely based on company or sectoral carbon emissions and may not be in line with our shareholders’ or customers’ best interests.



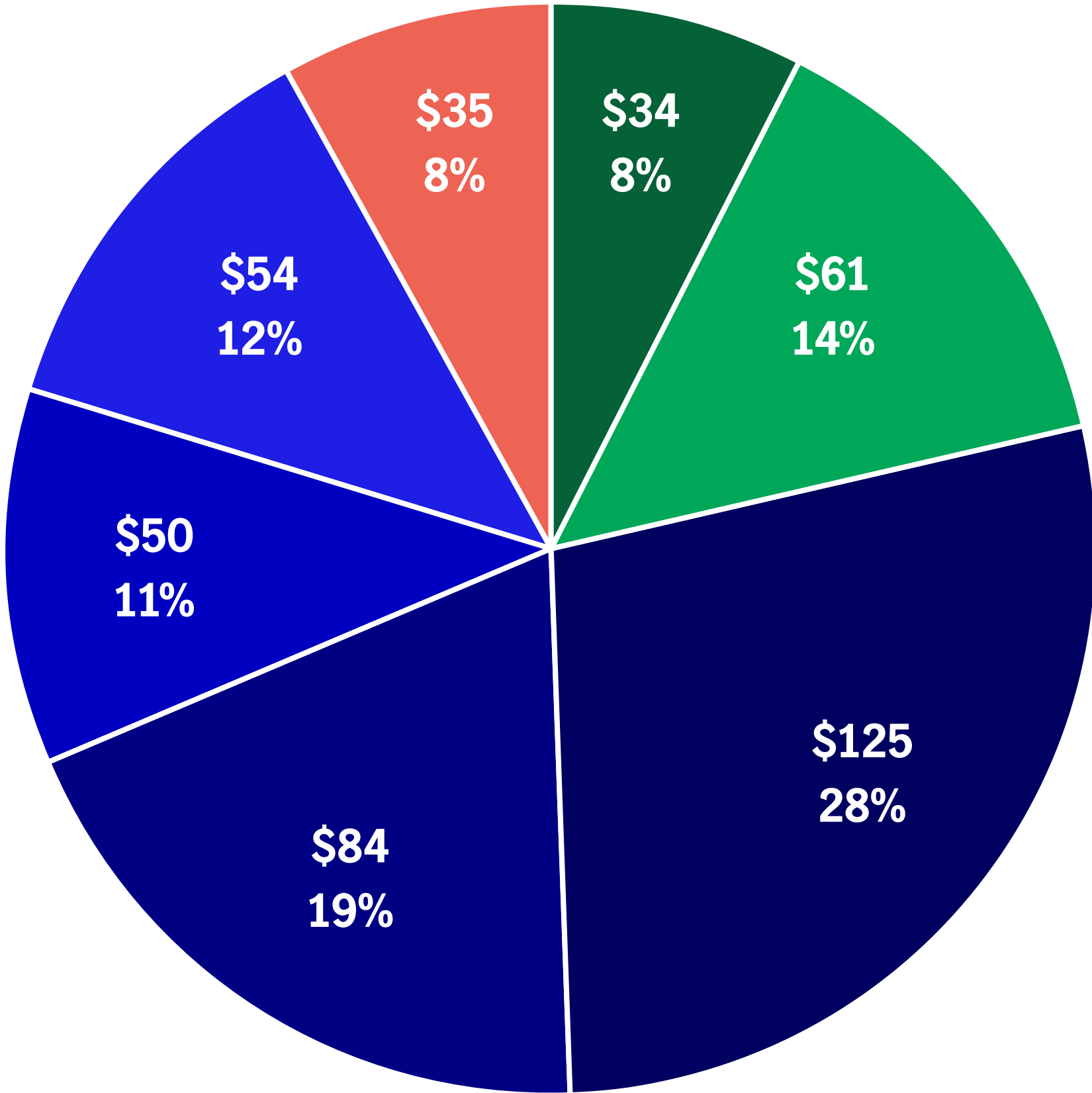
Balance

We operate in a highly regulated environment, and we must carefully balance risk and return to maintain certain capital requirements and have limited appetite for aggressive, high risk, or speculative investment strategies. This dynamic leads to a portfolio concentrated in debt instruments, which constitute approximately 75% of the General Account’s total investment portfolio¹⁷.

Scale of the challenge

The debt-weighted composition of our portfolio means that we face unique challenges relative to entities with a higher concentration of equity-related investments. For example, issuer-level information regarding emissions or decarbonization targets is often much more limited, and our direct ability to engage management teams’ is impacted by the fact that debt investments do not have voting rights typical for equity investors. That said, we seek to participate in an active dialogue with management teams regarding their decarbonization activities, especially for those in higher-emitting sectors. Additionally, despite the importance of financing early-stage investments in yet-to-scale technologies, our ability to participate in this area is highly limited, as the risk profile is not an appropriate fit for our business.

\$442 billion in assets invested by General Account
(CAD \$B, as of December 31, 2024)



- Listed equity
- Alternative long duration assets
- Listed debt
- Sovereign & sub sovereign debt
- Private placement debt
- Mortgages
- Other

Decarbonization pathway and plan

Three key performance indicators lay the groundwork for managing our portfolio in line with our climate commitments and investment objectives. We expect that not only these pathways, but also the best metrics against which to measure our alignment, may evolve over time.

A General Account Sustainable Investments Committee provides oversight of our evolving strategy. The Committee meets quarterly, and representatives include our Chief Investment Officer, Chief Sustainability Officer, and leaders across the General Account in Compliance, Credit Risk, Portfolio Management and Finance.

As we perform due diligence in our ongoing investment analysis, which includes material - related risk factors, the General Account maintains ESG Guidelines and incorporates internal ESG scores into annual review processes.

Measure	Why it matters	Target (if applicable)
Financed emissions The actual emissions of the assets we own, as allocated based on our ownership percentage and guided by the accounting standards of the Partnership for Carbon Accounting Financials (PCAF) – these are estimated utilizing publicly available disclosures by issuers and industry averages where data does not exist and is not inclusive of all asset classes at this time.	Provides insights on scale and scope of issuers. Tracked over time, this enables the identification of leading and lagging performers on carbon. Focuses efforts on most material sources of emissions.	Net zero financed emissions by 2050 72% reduction in emissions intensity per kWh of power generation project finance activities or maintenance of portfolio intensity in line with 2035 IEA target intensity of 0.14 kgCO ₂ e/kWh ¹⁸
Portfolio temperature score The projected trajectory of emissions for the assets we own, converted into a temperature score – this score is developed in line with science- based methodologies and based on the forward-looking emissions targets of our issuers and reflects their alignment to possible warming scenarios.	Enables monitoring of issuer progress on climate risks and/or opportunities, and where appropriate, seek to engage and/or modify the investment approach. Provides insights into the long-term alignment of portfolio to global goals, such as the Paris Agreement, using a metric that is forward-looking and comparable across sectors. Enables decision-making at a portfolio level.	16% reduction in listed debt and equity portfolio temperature (°C) by 2027, targeting 2.3°C (scope 1 + 2) and 2.5°C (all emissions scopes) ¹⁹
Sector exposure Our exposure to sectors most exposed to the transition risks and/or opportunities presented by the low carbon economy – including green investments (e.g., renewables, sustainable forests) and high-carbon sectors (e.g., coal).	Indicates relative exposure to climate transition risks and opportunities enabling us to incorporate these risk factors in future deals (e.g., pricing, tenor).	No specific target, we seek new investment opportunities on an ongoing basis and evaluate the individual merit of investment opportunities in line with our core investment objectives

Data quality and reliability continues to be a significant barrier to appropriate integration of climate factors in investment decision making and limits our ability to accurately project future emissions trajectories of our portfolio over the long-term. Future regulations on emissions disclosure may improve access to reliable issuer emissions data but we expect that it will take time for these improvements to be reflected in reliable, verified, and comparable data from our investees.

Where emissions data is not available for investees, we rely on third-party estimated GICs (Global Industry Classification Standard) industry averages. At this time, nearly all scope 3 investee emissions from listed equity and debt are based on data modelled by third-party data providers on the basis of revenue, further limiting data reliability, particularly for commodity companies where revenue is highly variable to market factors unrelated to emissions.

In part due to data reliability and availability challenges, we will need to address known gaps in coverage of our targets and decarbonization plans going forward. As an example, acceptable target setting methodologies for sovereign bonds remain outstanding. Sovereign bonds made up 19% of our baseline portfolio of invested assets and were estimated to contribute up to 50% of our baseline emissions footprint ²⁰.

Further, we are primarily focused on the appropriate management of the largest constituents of our investment portfolio and its financed emissions. We have deprioritized some asset classes to enable us to focus our time and attention on the highest impact areas of our portfolio. For example, despite making up 13% of our AUM, commercial mortgages made up less than 1% of our estimated baseline emissions footprint, with limited strategies immediately available to us at this time for investor engagement.



i. Financing the development and scaling of real-world decarbonization solutions

In practice, this means dedicating and deploying capital to encourage the expansion of low-emitting technologies and services, to replace high-emitting ones, facilitate emissions removals from the atmosphere and ultimately, accelerate the net zero transition. Given the large and growing pool of such potential investments, these opportunities can often be at varying stages in terms of scale, scope, and risk.

Manulife continues to grow our portfolio of green investments²¹.

Manulife’s General Account has a long history of financing key infrastructure and power generation projects in North America, Asia, and Europe. This includes financing renewable energy projects that produce zero carbon emissions during operation, such as wind and solar.

Manulife has established an initial C\$690 million commitment of funds dedicated to deploying capital to transition-related growth equity investments, with a focus on solutions for high-emitting sectors.

Globally, the transition to net zero is in its initial stages, with interventions in the energy sector, such as hydrogen or carbon capture and storage projects at early stages of commercialization. We are pursuing scalable opportunities with attractive risk-adjusted returns that provide an appropriate match to our liabilities.

We continue to assess these investments through due diligence and engagement in real energy transition opportunities and focus investment towards activities for which economics are not reliant on specific incentives structures.

We finance power generation projects to keep our portfolio in line with IEA targets for emissions intensity per kWh.

The power generation sector is a critical and central enabler of the decarbonization of any consumers of energy. With increased electrification of road transport, as one example, demands on our electrical grids are expected to grow substantially in the transition to a low carbon economy. Electricity is generated by a diverse mix of energy sources, and geography and technology play important roles in defining the conditions for the financial viability of projects utilizing cleaner energy sources. Projects can range from conversions of thermal coal facilities to natural gas to development of new wind farms.

The power generation sector, and project financing activities in particular, are a primary area of focus for immediate decarbonization. As a long-term investor, the sector is a significant target for investment.

New growth in energy transition

Our investment teams are applying existing expertise and relationships in the energy sector to finance critical energy transition solutions such as hydrogen, battery storage, and pure-play carbon capture and storage. We are actively screening opportunities across several asset classes, from funds to co-investment to private equity, to drive new growth in energy transition investments.

This work is paying off. Building on existing relationships with partners in the United States and Canada, Manulife is investing in what will be the largest green hydrogen platform in the world. Upon completion, the ACES Delta hub - taking advantage of local renewable energy resources to split water into hydrogen and oxygen, resulting in zero-carbon hydrogen which will be stored for future use on demand.

Hydrogen as a fuel can play a vital role in companies’ emissions reductions plans and will be supportive of meeting the current intermittency challenge of renewables by providing “on demand” zero carbon options for existing power facilities.

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ii. Aligning portfolio management decisions to credible climate pathways in the real economy

Science-based targets, have been developed for 42% of our invested assets, covering just under half of our estimated baseline financed emissions footprint²² and in line with a well-below 2 degrees of warming pathway. To achieve these targets for our listed debt and equity investments, the largest portion of our portfolio, we invest in companies that are already well-aligned to net zero, either by virtue of setting their own ambitious decarbonization commitments or already operating as low carbon emitters. Further, as we prepare to manage long-term transition risks, we seek to tilt our portfolio towards companies that are committed to implementing their own strategies to achieve emissions reductions in alignment with credible decarbonization pathways. This approach supports our management of climate-related transition risk and positions us to capitalize on emerging opportunities.

We incorporate emissions reductions commitments of issuers into investment decision-making.

In practice, aligning to credible climate pathways for well-below 2 degrees of warming means management of our portfolio with consideration of the forward-looking decarbonization trajectories of our investees. We seek to invest in issuers with trajectories for forward-looking emissions that reflect sufficiently ambitious and achievable reductions in absolute emissions for the scope and scale of their operations.

This approach means we seek to invest in companies that are well positioned for the transition to the low-carbon economy, including management of potential transition risks associated with future costs on carbon.

We seek to invest in issuers who disclose targets that result in absolute emissions reductions, tailored to their sector and operations, and make appropriate investments in their business to deliver against these targets over time. Disclosure of emissions, in line with global standards is also a core expectation.

In the net zero transition, all companies and issuances are not equal. We are more heavily focused on high-emitters of scope 1 and 2 emissions in the real economy, with lower emphasis on lower-emitters, such as services companies.

Our team remains in the early stages of incorporating assessments of value chain emissions into investment decision-making processes. Investment grade data will be required to appropriately consider value chain emissions. Disclosure requirements in our key markets enhance our ability to effectively assess company emissions

iii. Investing in the transition of high-emitting assets

Manulife acknowledges the need for supportive enabling conditions to facilitate investment to transition toward a low-carbon global economy, such as a sufficiently accommodating and stable policy environment, and the availability of cost- effective alternatives and financial mechanisms. We evaluate our investment approach toward higher-emitting sectors on an ongoing basis. Energy affordability and reliability concerns may constrain our ability to act in the absence of a supportive policy environment. A sufficiently accommodating and stable policy environment and the availability of cost-effective alternatives and financial mechanisms is critical to the transition of high-emitting assets.

We continue to phase down investment in thermal coal, where local contexts enable us to do so.

Unabated thermal coal power generation is the largest single source of GHG emissions globally²³, and represents the “lowest hanging fruit” for decarbonization globally. In 2023, for the first time ever, there were no new coal projects under construction anywhere in either North America or the European Union, and no new coal plants have entered into construction across the OECD/EU since 2019.

Manulife is a source of public and private lending to the utility sector across the globe, with many utilities continuing to earn revenue from coal-fired power generation. We continue to support companies with credible plans to reduce emissions and track records of decarbonizing their operations in North America

and Europe. Our targeted thermal coal restrictions policy limits new investment in issuers lacking credible decarbonization plans in these regions. This is with the recognition that all viable science-based pathways depend on abatement of emissions from thermal coal and a move towards fuels with lower emission intensities.

We currently do not directly lend to, or have equity in, new projects for thermal coal mining or coal-fired power generation and have limited interest in pursuing future investment in new unabated projects in this area. In line with our focus on real world decarbonization, we can make specific exceptions for projects that are intended to reduce or replace coal consumption.

Regions which are not currently on track to meet IEA timeframes for a phase out of coal include many Asian markets. With a growing middle class and the energy demands of industrial growth, Asia plays a critical role in the carbon transition. India, China, and Indonesia are the only countries to have seen their coal power project pipeline grow in recent years, with the role of coal power long-term likely becoming limited to fill specific grid capacity needs, such as peaking capacity to support high renewables penetration, under relatively stable economic conditions.

At the same time, the relatively short operating age of plants in the region compared to OECD countries necessitates the use of policy and market incentives to retire coal-fired assets early. Manulife is participating in consultations by bodies such as GFANZ on viable pathways for investment and is chair of the Energy Transition Working Group, an initiative of the Asia Investor Group on Climate Change.

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We are evolving our underwriting assessment of investments in fossil fuels in light of climate change.

Today’s economies continue to rely on fossil fuels. The transition to net zero will take time and is on a disorderly, non-linear path.

Manulife continues to invest in high-quality companies using industry environmental best-practices that are well-positioned to navigate the transition to a net zero carbon economy. Investment teams expect oil and gas sector participants across the value chain to adequately address scope 1 and 2 emissions through appropriate decarbonization and abatement strategies for their operations, with a particular focus on methane, for which emissions reductions have an immediate and measurable impact on reducing long-term warming trends. We encourage the sector to improve disclosure of targets beyond emissions intensity reductions to real absolute emissions reduction commitments. Technological solutions to abate emissions from combustion of fossil fuels are supportive of the shared goals of energy abundance and net zero, particularly as natural gas plays an increasing role in bridging the expansion of renewables, maturation of energy storage technology and long term build out of zero carbon (i.e., nuclear) energy sources.

As providers of energy, scope 3 downstream emissions of oil and gas issuers are significant and reflect continued reliance and need for fossil fuels in the global economy. In line with efforts to manage long-term investment risk, if and when deemed appropriate, we may recommend changes to investment limits and/or the investment duration of fossil fuel sector participants. Climate scenario analysis and energy use projections will be an important tool to inform appropriate adjustments to our approach, as necessary.

In line with the goal of achieving strong risk adjusted returns, our approach to fossil fuel investments continues to evolve:

- Adjusting tenor restrictions for select issuers and sub-sectors, including those exposed to immediate transition risks, such as changes in local construction ordinances
- Reducing new investment in oil and gas private equity opportunities, where stranded asset risk is material
- Investing in energy transition opportunities alongside responsible producers, participating in significant projects that will support direct emissions reductions in the energy value chain, such as investing in projects to sequester carbon or develop low- or no carbon fuels like hydrogen
- Limiting exposure to significant upstream exploration and production activities, if pricing is not economically aligned with the increased transition and stranded asset risks associated with these investments

De-risking early coal retirement

Countries across the world are driving forward towards the milestone of “no new coal” power plants. But what about existing plants?

Early retirement of high-emitting coal fired power plants remains a challenge, particularly for newer plants constructed past 1980. Energy demands on grids continue to grow in light of electrification and the adoption of Artificial Intelligence (AI) globally. Energy affordability and reliability are concerns, and costs to transition to new fuel sources are often passed through to ratepayers.

Meeting the needs of asset retirement under these conditions requires unique financing mechanisms. One such mechanism is securitized debt issuance. We are a user of this mechanism as a provider of debt to electric utilities for the specific purpose of supporting retirement of coal-fired assets.

Debt is uniquely structured to facilitate the near-term retirement of assets in a manner that protects the interests of both customers and service providers, supporting the continued operations of electric utility providers.

Through this structure, Manulife helped facilitated the early retirement of two coal power plants in the northeastern United States. Beyond baseline energy needs, this is an area which faces moderate heat stress as a result of a changing climate, adaptation to which may place further demands on the grid.

With debt funds in place supporting long-term financial stability in light of accelerated asset retirements, the utility can continue to make capital investments to transform a predominantly coal-fired power generation fleet into a balanced portfolio of low carbon fuel and renewable technologies.

Our implementation strategy

We believe that a long-term transition to an economy that is both abundant in energy and low in emissions is underway, albeit at a slower pace than necessary to limit warming to 1.5 degrees. We expect our portfolio footprint to benefit from decarbonization trends evident across all sectors. To achieve our targets at the lowest possible cost, we envision an “all of the above” approach which combines the following strategies:

Allocate

Pursue profitable investment opportunities that tilt investments towards lower emission intensity, green or transition factors.

We are dedicating funds to investments in this area to complement our existing lending activities in renewables, hydrogen fuels, energy efficiency improvements, and solar ground leases.

The General Account manages a portfolio of high performing investments on a variety of metrics, including climate-related factors, in support of our overall investment objective. Investment teams are encouraged to incorporate climate-related factors alongside other traditional measures of investment risk.

Engage

Proactively and constructively provide feedback and support to issuers exposed to transition-related risk, with enhanced minimum due diligence expectations.

We expect portfolio companies to work towards improvement in disclosure of their carbon footprint, starting with scope 1 and 2 emissions, and for issuers with material impacts, to set targets to achieve absolute emissions reductions in the real economy.

A small number of issuers are responsible for the majority of our measurable scope 1 and 2 emissions in our listed debt and equity holdings. Investment teams engage directly with our top 10 portfolio emitters and follow a defined engagement strategy focused on two-way sharing of plans and objectives, with escalation measures in place that can involve more targeted engagement with leadership, where appropriate.

Approach to climate-linked issuer engagement

Engaging with issuers helps investors understand costs and drivers of advancing transition plans.

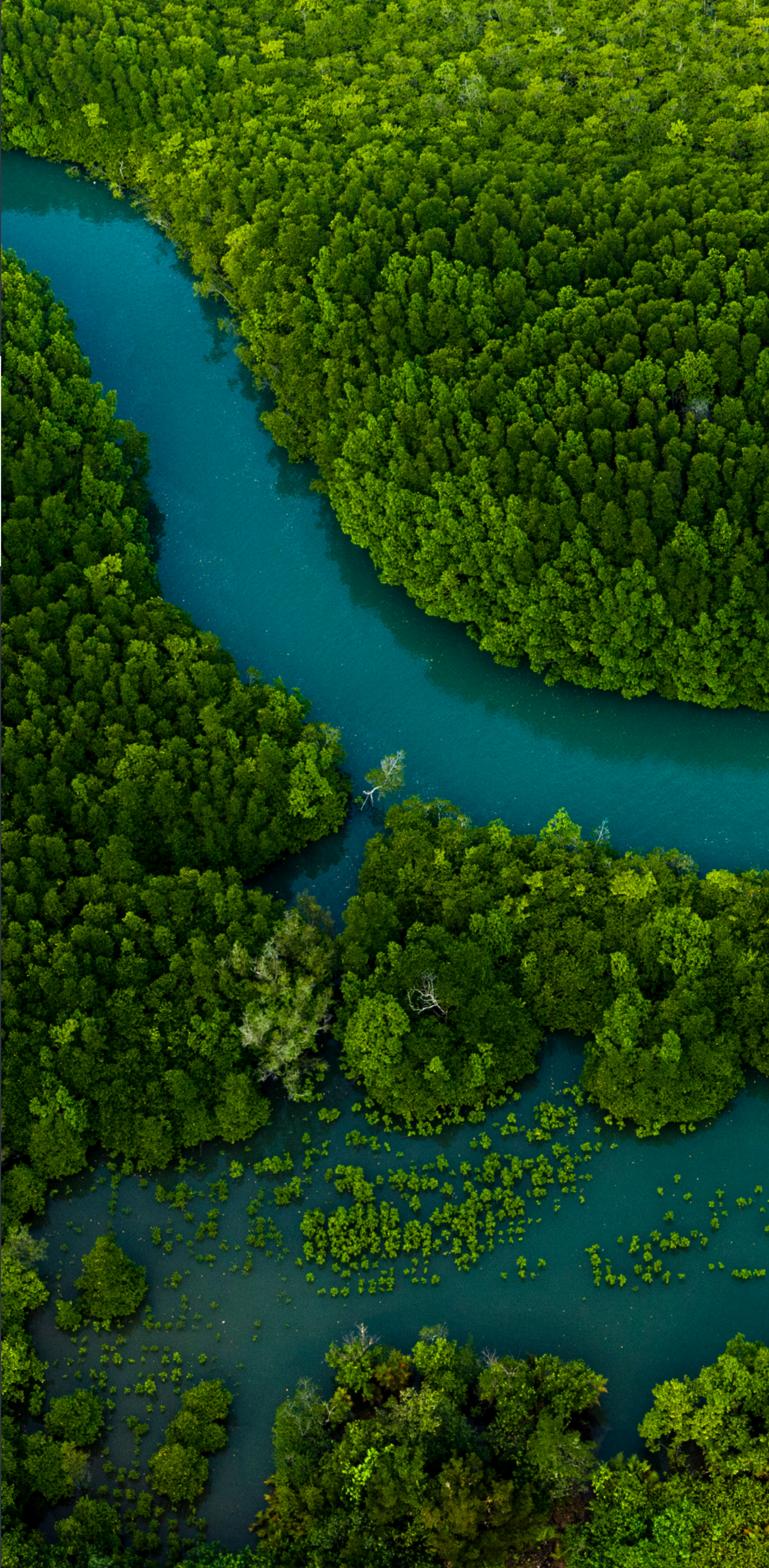
Our goal is to encourage clear and straightforward communication with investors specifically, to disclose emissions, communicate clear and actionable targets, and regularly evaluate and communicate progress against these targets.

Recognizing that issuers are at different stages in their transition journey, our engagement framework prioritizes issuers based on a combination of climate and financial metrics. With the use of financed emissions values and temperature scores, we assess issuers’ alignment with our interim targets and categorize them for tailored engagement. Engagement focuses on communication of Manulife’s climate objectives and metrics and our views on the issuer’s historical performance against relevant benchmarks. We seek to develop an understanding of the associated capital investment required to reduce emissions, barriers faced by the issuer and importantly, and potential avenues for Manulife to investment in support of decarbonization efforts.

Issuer categorization:

- Category 1: advisory based engagement to encourage issuers to broaden emissions accounting and disclosure scope, as well as exploring foundational drivers of decarbonization.
- Category 2: guidance-based engagement to encourage issuers to set targets and prioritize decarbonization, while deepening our understanding of issuer-specific investment and technological barriers.

We monitor issuers’ progress over time, focusing on key engagement milestones. Through regular conversations, we aim to understand the drivers and barriers of decarbonization. If progress is not satisfactory after three years, Manulife’s Sustainable Investment Committee will consider and recommend specific follow-up actions.



Making engagement work for us

As a primarily fixed income-oriented investor, our engagement with management teams may differ from that which is typical for public equity holders who have direct ownership stakes in a company.

In some cases, Manulife may be a passive investor, utilizing indexing strategies that optimize our risk adjusted returns. In these instances, our ability to influence investment decisions may be limited and we typically abstain from taking specific proxy positions as a result.

For emission-intensive sectors, our analysts question management teams on a variety of ESG factors, including emissions policies and decarbonization efforts, when provided the opportunity at industry conferences and on calls or meetings with management.

We also seek to gather consistent information in private placement transactions, to support more efficient, and ultimately more effective, communication with issuers.

Advocate

Directly and/or indirectly advocate for stable policies that unleash investment in transition solutions.

This includes engagement with industry peers, such as support for the development and implementation of a Private Placements Industry Association questionnaire on ESG and regular participation in peer working groups, including United States and Canadian insurance peers. For more information, please see [Engaging with industry and regulators](#).

Offset

Own carbon offsets or net negative carbon assets (e.g., sustainably managed timberland) and invest in projects that generate credible offsets in hard to abate sectors.

The General Account is a significant owner of Manulife Investment Management managed timberland and agriculture assets, offering potential natural climate solutions long-term. We continue to monitor the emergence of frameworks for financial institutions’ net zero strategies as they relate to offsetting our produced or financed emissions.

That said, we prefer that issuers in which we invest prioritize emissions mitigation strategies where feasible and that they disclose instances where they employ credible and verified offsets for hard-to-abate emissions categories.

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Exit or restrict

Exit and restrict new positions where irreversibly and significantly misaligned to investment goals and risk appetite.







We are a long-term oriented, buy-and-hold investor and so divestment is an option of last resort utilized where significant and/or irreversible investments represent misalignment to portfolio management goals and risk appetite.

We believe divestment as an immediate strategy is not the most effective approach to reducing emissions in the real economy and have seen limited academic and real-world evidence to support divestment as a primary tool for climate impact. Investment gives us the right and ability to raise concerns directly with companies’ management, either through ownership as an equity investor or in due diligence and monitoring as a fixed income investor.

Divestment does not appear to encourage companies to improve their practices and in fact, can cause companies to move away from commitments – this is particularly borne out by prominent examples of GHG emissions increases from real assets after they have been sold²⁴.

For fixed income investors in particular, divestment introduces risks related to portfolio diversification and involves costs that could put our ability to meet our long-term promises to our policyholders and shareholders at risk. Finally, divestment transfers emissions from one investor’s balance sheet to another and does not necessarily produce emissions reductions in the real economy.

Finally, we expect to benefit from **natural decarbonization**. Over time, our portfolio is likely to benefit from the maturation and roll-off of investments in high-emitting issuers and from the tailwinds emerging from long-term societal shifts in attitude towards energy consumption, stable and supportive government policies, and evolving global macroeconomic factors, that are supportive of a more energy efficient economy.

	Take advantage of natural decarbonization in the real economy and the inertia of portfolio roll off
	Allocate – Pursue profitable investment opportunities that tilt investments towards lower emission intensity, green or transition factors
	Engage – Proactively and constructively provide feedback and support to issuers exposed to transition-related risk, with enhanced minimum due diligence expectations
	Advocate – Directly and/or indirectly advocate for stable policies that unleash investment in transition solutions
	Offset – Own carbon offsets or net negative carbon assets (e.g., sustainably managed timberland) and invest in projects that generate credible offsets in hard to abate sectors
	Exit or restrict – Exit and restrict new positions where irreversibly and significantly misaligned to investment goals and risk appetite

Our Products and Services

In our wealth and asset management business, we draw on more than a century of financial stewardship to serve individuals, institutions, and retirement plan members worldwide. We continue to believe that unmitigated climate-related risks present a systemic threat to societal, environmental, and financial stability—and therefore to our businesses and our clients’ financial objectives— over the coming decades.

We believe asset managers should assess the transition risk, physical risk, and opportunities posed by climate change to the companies and assets in which they invest. Depending on the specific mandate and our clients’ objectives, we may take a variety of actions toward managing climate-related risks and opportunities across our businesses and investments to appropriately price and manage climate risk. Broadly summarized, our available actions as asset managers relate to asset allocation and selection, investment analysis and research, proxy voting, and participating in collaborative industry climate initiatives²⁵. In general, our preferred position is to engage directly with investee companies, reserving the right to divest from any investment.

In addition to prudent integration of climate-related risk management, our clients are becoming increasingly aware of the tangible opportunities presented by the transition to a net zero economy. We have designed dedicated strategies to meet this demand. These strategies can empower clients to invest in products which align with their own sustainable choices and help to enable decarbonization of the real economy and support their resilience in the face of a changing climate.

In our life and health insurance business, our focus is on research and data collection to inform products, product pricing, underwriting, claims, and actuaries as we learn more about the impact of physical climate-related risks on morbidity and mortality rates.

Get to know our climate-related products and services

Climate solutions in investment strategies

A range of products are designed for Manulife Investment Management clients to help meet their financial goals, alongside climate objectives. They include both ESG integration and dedicated thematic investment products in private and public markets.

In climate-thematic strategies, the aim is to combine the pursuit of attractive risk-adjusted returns with positive environmental attributes across a portfolio, such as lower portfolio temperature, lower carbon intensity, and higher clean technology revenues, among other attributes, and to align capital with those companies best positioned to be successful in the face of climate change²⁶. Unique to Manulife Investment Management, our forest climate strategy offers qualified investors the ability to participate in natural climate solution markets, amplifying their potential benefits.

Examples of our climate-themed strategies²⁷

Select climate-themed strategies offered to institutions and individual investors

Strategy Name	Thematic and strategic focus
Forest Climate Strategy	Promoting climate change mitigation through sustainably managed forests where carbon sequestration is prioritized over timber production.
Global Climate Equity	Using the Paris Agreement and science-based targets (SBTs) as a framework for stock selection, investing in companies that are making positive contributions to climate change.
Global Climate Bond	Investing primarily in global fixed-income securities of issuers that are making positive contributions to climate change, either through low emissions, committing to reduction targets, through the products and services they offer, or by use of proceeds for climate-themed bonds.
Sustainable Asia Bond	Investing primarily in fixed-income securities issued by Asia governments, agencies, supernationals and corporate issuers that demonstrate strong environment and/or social sustainability attributes and/or enable sustainable practices, and also ESG thematic labelled bonds.
Sustainable Asia Equity	Investing in a diversified equity portfolio of Asia companies who demonstrate stronger performance on practices and management of sustainability issues compared to their peers or whose products or services enable sustainable practices.



Climate resilience in insurance product design

Climate events are complex, interrelated, and present a dynamic puzzle for insurance underwriting.

Countries exposed to the most severe consequences of climate change are often made up of under- or uninsured populations. The complexity of chronic and transition-related risks as they relate to morbidity and mortality remains an important area of academic study.

In the midst of these challenges, we have developed a process to understand potential variations of associated climate-related risks within specific countries in which we operate. This analysis is further supported by future projection tools to help us understand short and long impacts, based on various climate scenarios.

We continue to evaluate how climate risk may influence product design and pricing in a manner that best supports our customers. Claims data remains a limitation to quantifying the financial impact of acute and chronic climate-related events on the industry.

Integrity in natural climate solutions

For carbon credits to effectively offset emissions, maintaining integrity is crucial.

In 2021, we established a carbon standards working group (CSWG), an internal team consisting of professionals across our impact investing, sustainability, valuation, and resource planning teams, that leverages carbon expertise from across our business. The CSWG’s role is to ensure that client carbon projects are of high quality and integrity, with additional co-benefits whenever possible.

One of the CSWG’s first tasks was developing our carbon principles. With external advice from leading conservation nonprofits, the CSWG created a comprehensive framework defining what it means to create a high-quality, high-integrity carbon project.

As part of our due diligence, the CSWG evaluates every potential carbon project deal against these principles, ensuring that every project is thoroughly vetted. This strategic approach distinguishes our offerings and contributes positively to global climate change mitigation efforts.

As carbon markets continue to evolve, the CSWG actively applies our carbon principles to new project methodologies. For example, the release of ACR IFM version 2.1 in mid-2024 introduced remote sensing and dynamic baselines for carbon projects, adding new dimensions for the group to consider. Ultimately, we are committed to maintaining high standards in our approach.

■ Playing Our Part

Engaging with industry
and regulators

Going beyond emissions reductions



Playing Our Part

The transition to net zero relies on stable policies, regulations, and mechanisms supportive of solutions deployment.

Developing public policies designed to support carbon intensive and hard to abate sectors, along with necessary funding mechanisms to expedite the deployments of clean energy technologies can promote the acceleration of the transition. In emerging markets, multilateral development banks and similar institutions support further de-risking of investment and can enable investors like Manulife to more effectively deploy capital where it is needed most.



Engaging with industry and regulators

Constructive engagement in public policy improves our ability to understand climate-related risks to our business, and work with customers, employees, and communities, to address issues like climate change that can impact our business. Engagement in public policy can take many forms beyond direct engagement with policymakers, to participation and advocacy through topic-specific groups convened by industry, broader industry associations, and consultation by regulators and industry standards boards.

Our engagement with policymakers is done in a manner consistent with our commitment to ethical conduct and our practice of complying with all applicable laws and avoiding potential or actual conflicts of interest and in line with our fiduciary responsibility to act in the best interests of our clients.

We engage through industry associations; regulatory consultations and standard-setting consultations; and directly with policymakers, as appropriate and where relevant to our business. Our Government Relations function manages our engagement with regulators and policymakers as well as many of our key industry and trade associations to advance our strategic objectives, including advocating for global sustainability-related reporting frameworks. The General Counsel, Global Head of Government Relations, and Segment CEOs, where appropriate, oversee our public policy activities, and the Board’s Audit Committee receives reports on significant developments.

Making the most of engagement

As part of our commitment to accelerating a sustainable future, we are active in various legislative and regulatory processes in jurisdictions where we operate.

Where opportunities for engagement are identified, we prefer to focus on climate-related topics most relevant to our businesses:

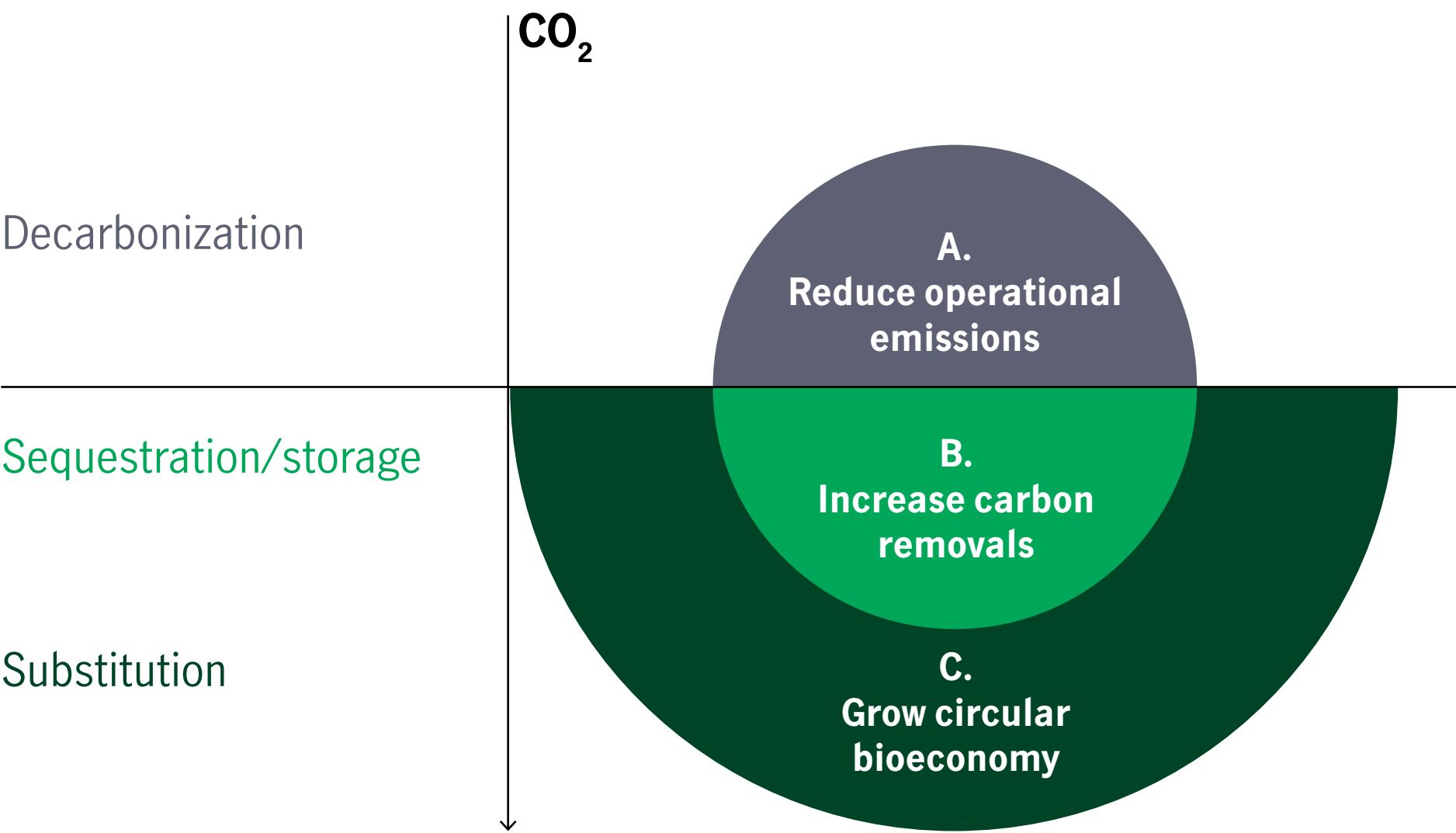
- 1. A consolidated approach to climate disclosure**
 - a. Advocating for standardization of material climate-related disclosures
 - b. Identify barriers and share solutions to bridge the gap between standard setters and regulators
- 2. A just transition of the real economy**
 - a. Encourage mitigation strategies addressing risks arising from transition to people, particularly in emerging markets
 - b. Support the use of multi-stakeholder taskforces and advisory groups to enhance the diversity of perspectives on climate change and climate-related risk
 - c. Support a commonly agreed upon definition of transition finance across jurisdictions that provides benefits to the real economy additional to emissions reductions
- 3. A role for asset managers and insurers in tackling climate challenges**
 - a. Support development of risk assessment models and actuarial methodologies incorporating climate-related factors
 - b. Advocate for innovative ways to collect and analyze climate-related health and claims data
 - c. Highlight the importance of policy stability, a level-playing field for sustainable investments
 - d. Support unleashing private sector sustainable investment through policy
 - e. Advocate for a harmonized use of finance product labels and disclosure

Going beyond emissions reductions

If companies are only encouraged to reduce inventory (induced) emissions, instead of also transforming into low- and zero-emissions solution providers, the shared goal of achieving global net zero by 2050 will fall out of reach.

The World Business Council for Sustainable Development (WBCSD) determines that assessing a company’s compatibility with a low-carbon economy requires the monitoring of three levers – induced emissions, carbon removal and avoided emissions. In this plan, we have outlined our approach to induced emissions and discussed our role in carbon removal.

We are actively working to understand our contributions to avoided emissions and explore opportunities to enhance them in our operations and investments, guided by recent developments from the WBCSD. We will follow available leading practices and ensure appropriate safeguards are in place to develop solutions and disclosures in a transparent manner.



The Net Zero Institute determines that assessing a company’s compatibility with a low-carbon economy requires the monitoring of three levers:

- **Induced emissions (A)** - a company’s carbon footprint, occurring across the full value chain of the company (including scope 3 emissions).
- **Carbon removals (B)** - The carbon sinks linked to a company’s activity.

■ **Avoided emissions (C)** - the benefits – if any – that a company provides through its products and services compared to a reference scenario, otherwise known as Substitution.

Action on all levers will require successfully navigating land-use tensions, as well as understanding trade-offs that might occur between the three levers. Reductions around operational emissions and improving removals should remain the primary strategy²⁸.



Ways to contact us:
manulife.com
johnhancock.com
manulifeIM.com

1 International Energy Agency, 2024
2 At Manulife and Manulife Investment Management, we define our organizational boundary using the operational control approach for scope 1 and scope 2 emissions, per the Greenhouse Gas (GHG) Protocol. Under the operational control approach, a company accounts for 100% of the GHG emissions from operations over which it has operational control, regardless of financial ownership of the entity. It does not account for GHG emissions from operations in which the company owns an interest but has no operational control.
3 Relative to a 2019 baseline. Our 2019 baseline year reflects a typical year for our operations. The COVID-19 pandemic resulted in a remote work scenario across our operations, as such our 2020 emissions are not representative of a typical year.
4 Project finance is defined in accordance with Science Based Target Initiatives (SBTi's) Financial Institution guidance, as an on-balance sheet loan or equity (private) with known use of proceeds that are designated for a clearly defined activity or set of activities, such as the construction of a gas-fired power plant, a wind or solar project, or energy efficiency projects.
5 Relative to a 2019 baseline estimate. Near-term targets include interim targets for 2035 and 2027.
6 Originally signed as Manulife Asset Management in 2015.
7 Our view on the just transition is informed by the International Labour Organization definition, "greening the economy in a way that is as fair and inclusive as possible to everyone concerned, creating decent work opportunities and leaving no one behind."
8 We operate within a framework defined by our clients' mandates and objectives and can only pursue investment and sustainability activities where clients have delegated that authority to us.
9 As of December 31, 2023, approximately half of our scope 1 and 2 emissions are from assets operated by Manulife Investment Management, and owned by our General Account, the other half are owned by Manulife Investment Management clients.
10 This depiction is for illustrative purposes only and actual emissions characteristics of specific assets will vary depending upon different factors and circumstances.
11 The projections are illustrative of the projected scale of emissions reductions anticipated in our directly owned and operated assets based on our current emissions inventory, with known limitations. Manulife receives third-party assurance on real estate, timberland, and agriculture emissions. Projections are based on guidance from the World Resources Institute / World Business Council for Sustainable Development (WRI/WBCSD) GHG Protocol Corporate Accounting and Reporting Standard, WRI GHG Protocol Agricultural Guidance, ISO 14064-1, and IPCC Guidelines for National Greenhouse Gas Inventories 2019 Refinement. Manulife expects the inventory to evolve as enhanced data coverage and reliability objectives are achieved specific to agriculture. Please refer to our cautionary statement regarding the use of this report and forward-looking statements.
12 International Energy Agency 2023 World Outlook
13 <https://www.pnas.org/doi/10.1073/pnas.1710465114>
14 <https://www.wbcsd.org/Imperatives/Nature-Action/Nature-based-Solutions>
15 As of December 31, 2022
16 Illustrative timeline of implementation plan. Timelines and specific actions may shift due to unforeseen technological challenges or regulatory changes that may affect the implementation of planned activities.
17 Debt instruments includes sovereign activities, public markets activities, private market activities and mortgage activities.
18 As of 2019
19 As of 2019
20 Manulife conducted an initial baseline financed emissions estimation activity in 2019. Due to a lack of third-party reported data across all asset classes, a significant margin of error is noted for this baseline activity. Manulife continues to enhance financed emissions accounting processes in line with the best available standards and information.
21 Green investments include General Account investments as determined by Manulife's Sustainable Bond Framework (green assets only) and the International Capital Market Association's Green Bond Principles (2017). Please see [Sustainability Report](#) for detailed view of green investment values.
22 Targets developed in line with the ambition of the Science-based Targets Initiative (SBTi) for Financial Institutions (version 1.0).
23 International Energy Agency, 2022
24 GFANZ and the Environmental Defense Fund, GFANZ Framework for Net Zero Transition for Financial Institutions, 2022
25 While we believe that membership in these groups, as we deem appropriate, can help mitigate financial risk and maximize investor return, we retain our independence and discretion throughout and remain attuned and committed to our duties to our clients and to applicable legal and regulatory considerations.
26 Impact varies by strategy and is unique to its own designed structure. There is no guarantee of financial performance or returns on investments.
27 Not all investments are available to all investors in all jurisdictions. For more information about specific products, please refer to their offering documents.
28 Visualization adopted from the World Business Council for Sustainable Development: <https://www.wbcsd.org/Sector-Projects/Forest-Solutions-Group/Resources/Forest-Sector-Net- Zero-Roadmap>