Manulife

Our Journey to *Net Zero*

As a business, we are stronger when people and the planet thrive. By addressing climate change, we move closer to fulfilling our mission and giving our customers the confidence to plan for the future. We recognize the link between environmental and financial stewardship. Our vast natural resource holdings have enabled us to realize net zero emissions in our operations, and we are positioned in our sector to accelerate the use of nature-based solutions in the fight against climate change. This includes how we manage our operations, how we make investments decisions in our General Account and how we develop and offer financial products and services.

For implementation details on Manulife's Climate Action Plan, please refer to **Manulife's Climate Action Implementation Plan Report (manulife.com)**

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

Our Operations[1]

Reducing emissions to lessen our footprint

To be an active contributor in the transition to a world where net zero carbon emissions are a reality, we will continue to take action to reduce the carbon footprint of our operations.

We are developing solutions to reduce absolute scope 1 and 2 emissions by 40% by 2035[2], with an immediate focus on decarbonizing assets we both own and operate.

Our Owned Investments

Actively investing for a sustainable future

We strive to measure the financed emissions of our general fund and know these investments play an important role in our enterprise-wide climate impact.

We are mapping out a pathway to a net zero General Account investment portfolio by 2050 and working to achieve near-term improvements to our carbon footprint in line with science-based pathways for key asset classes representing 42% of General Account Assets Under Management[3,4].

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 $kgCO_2e/kWh$.

Listed debt and equity:

- 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

Contributing to climate change mitigation and resilience

As a global life insurer and asset manager, we understand the connection between our environment and human health. We're in a position to provide nature-based solutions to mitigate climate change.

We are creating investment products that solve investor needs and contribute to a more sustainable future. We are enhancing the resilience of our products in light of climate change and taking steps to better understand the connection between our environment and human health.

Updated as at December 2023

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 emissions of our business should be reflected not just in improvements to our own emissions but be felt across the real economy. This approach focuses our decision-making towards better outcomes for our business at the same time as contributing to deployment of solutions across the economy.

Playing Our Part

Our Climate Action Implementation Plan is the next step forward in our journey to net zero and Manulife’s transition plan remains in progress and will involve iterative and incremental improvements. Science-based targets support our alignment to credible pathways to net zero. We expect that not only these pathways, but also the best metrics against which to measure our alignment, may evolve over time. We intend to adapt our approach accordingly to reflect changes in the real economy and the best available information.

The scientific basis of global pathways to limit warming requires an unprecedented scale of cooperation and collaboration among actors. It requires fundamental shifts in how governments, organizations and communities function. The financial sector acts as a catalyst in the path to decarbonization through ways such as 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 significant 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 World Business Council for Sustainable Development. Finally, we depend on the support of Manulife investors, clients, peers, and regulators, who understand the urgency of global climate efforts and encourage a sustained focus on our Climate Action Plan.

We expect to employ a variety of methods to manage the decarbonization of our operations and investments alongside evolving trends and requirements to transition to a low carbon economy.

Our Operations

Among many other activities, Manulife is a steward of real assets (real estate, timberland and agriculture assets), including assets owned by third-parties. 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 decarbonize our General Account portfolio of real assets. The decarbonization of these assets can be accelerated. Across our scope 1 and 2 emissions, our targeted climate interventions in assets will focus on the 47% of emissions in assets that we both own and operate[5]. As we make progress on our decarbonization commitments, we plan to expand and iterate on our approach, and gradually address the full scope of our operational emissions, including those beyond our direct influence.

While mitigating absolute emissions is critical addressing climate change, the full story of Manulife's climate impact would be incomplete without consideration of emissions removalss. Today, Manulife removes more carbon from the atmosphere than it emits in its operations[6].

We are focused on:

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), integrating carbon into logging transportation decisions, and precision silviculture, amongst other opportunities.

We believe finding new and better ways to operate has potential benefits that extend beyond climate mitigation. 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 demand for fossil fuels is key to the net zero transition. Electrification and fuel switching will reduce our reliance on high-carbon 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, particularly in real estate.

As "hard to abate" sectors, our forest and farm operations will also explore the cost-effectiveness of earlier-stage technologies, such as biofuel and hydrogen-based heavy equipment operations. We will also find better ways to optimize how we use fertilizer and undertake prescribed burns.

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.

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, which to date has issued over 6 million tonnes of carbon credits[7].

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.

iv. Enhancing data coverage and reliability We require reliable data to make good decisions in alignment with our decarbonization plan.

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), which we currently collect at regional level and allocate pro-rata to individual properties. We are in the process of onboarding high-level agriculture operations management software that will enable us to consider emissions-relevant operational metrics at the property and individual field level. With field level data, we will monitor assets and build emissions inventories with greater precision, which we believe will allow for greater context and strategy in our decarbonization efforts in the future.

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 expect that pathways to net zero including the best metrics against which to measure our alignment to this ambition, may evolve over time[8].

We believe that the transition to a low-carbon economy is underway, and we expect our portfolio footprint to benefit from decarbonization trends evident across all sectors. To achieve our targets in line with real world decarbonization objectives and at the lowest possible cost, will utilize a variety of strategies within our transition toolkit.

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. 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.

We are focused on:

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's General Account has a long history of financing key infrastructure and power generation projects in North America, Asia, and Europe. This includes C$11billion in financing to renewable, zero-carbon energy projects, such as wind and solar. We have also established an initial C$690 million commitment of funds dedicated to deploying capital to transition -related equity investments, with a focus on solutions for high-emitting sectors and are pursuing scalable opportunities with attractive risk-adjusted returns provide an appropriate match to our liabilities.

ii. Aligning portfolio management decisions to credible climate pathways in the real economy ("SBTs")

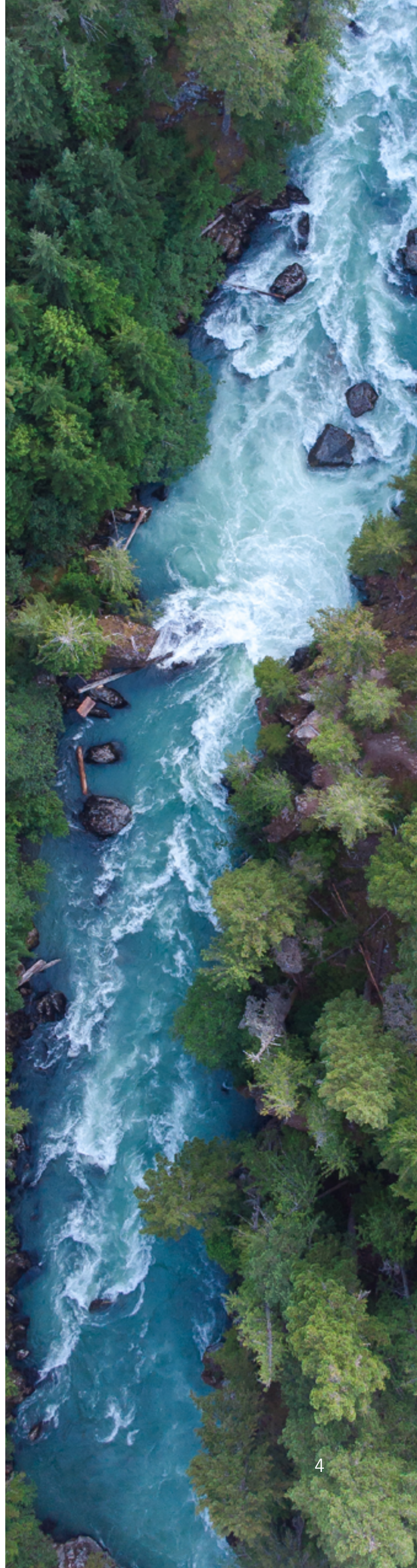
Science-based targets, in line with the ambition of the Science-based Targets Initiative (SBTi), have been developed for 42% of our invested assets, covering just under half of our estimated baseline financed emissions footprint.

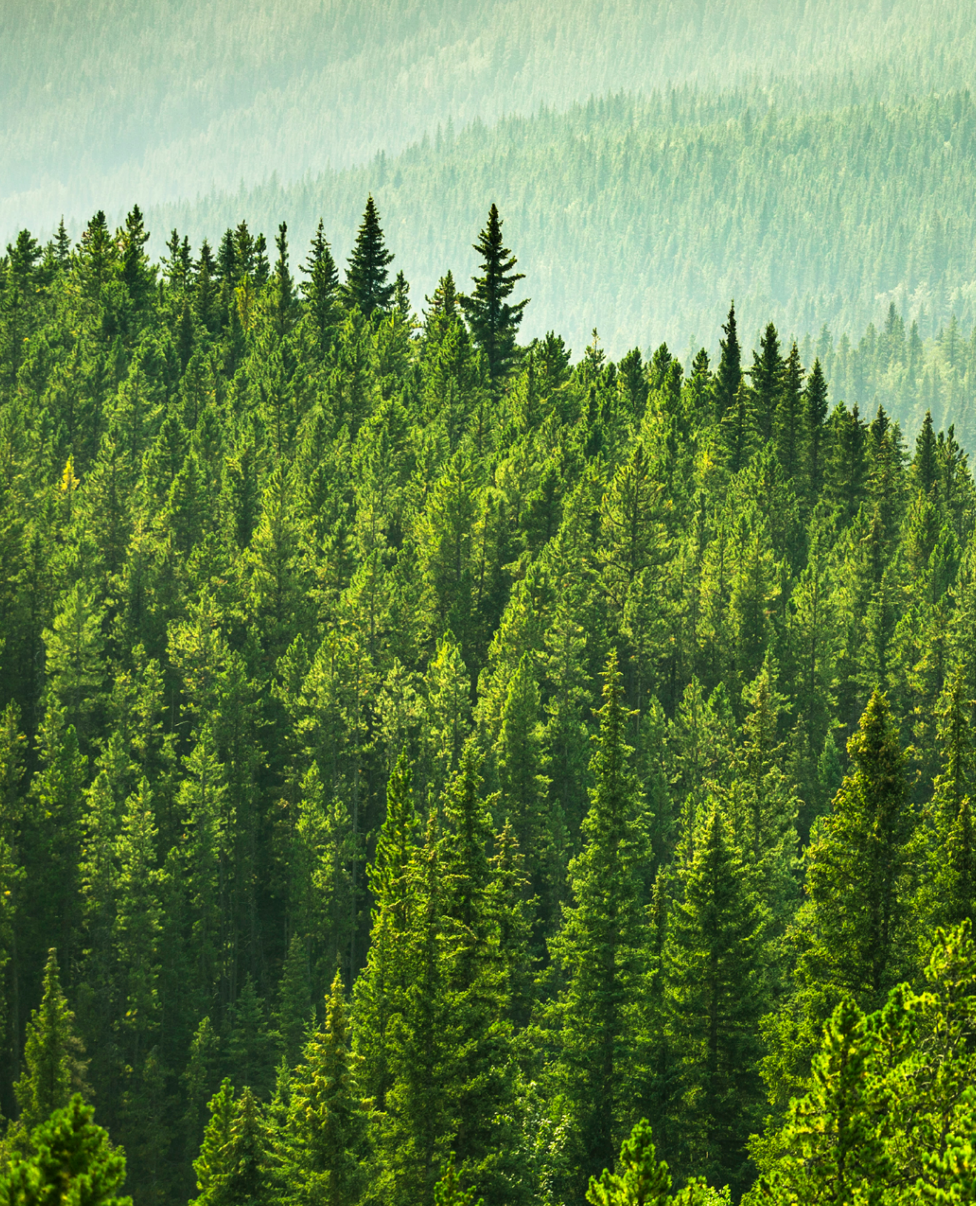
We prepare to manage long-term transition risks, we seek to tilt our portfolio towards companies that are committed to implementing their own strategies to achieve emissions reductions in alignment with credible decarbonization pathways. We favour companies disclosing targets that result in absolute emissions reductions, tailored to their sector and operations, and implement appropriate changes in their business to deliver against these targets over time. Disclosure of emissions, in line with global standards, also remains a paramount expectation.

iii. Accelerating the transition of high-emitting assets

Manulife is supportive of targeted strategies that assist in the managed phaseout of high-emitting assets. We also acknowledge the need for supportive enabling conditions to facilitate investment to transition toward a lower-carbon global economy, such as a sufficiently accommodating and stable policy environment, and the availability of cost-effective alternatives and financial mechanisms.

We are evolving our underwriting assessment of fossil fuel investments in light of climate change and continue to evaluate our investment approach toward higher-emitting sectors such as power generation and fossil fuels on an ongoing basis. We support companies with credible plans to reduce emissions and track records of decarbonizing their operations in North America and Europe. We currently do not directly lend to, or have equity in, new projects for thermal coal mining or coal-fired power generation and have no appetite for future investment in new unabated projects in this area.





Our General Account Investments Transition Toolkit

Allocate

Tilt investments towards lower emissions intensity, green or transition factors.

Engage and influence

Proactively and constructively provide feedback and support portfolio companies to encourage transition and enhance minimum due diligence expectations.

Advocate

Sell or avoid specific portfolio companies based on criteria such as target achievements, emissions performance and sector exposure.

Divest

Directly and/or indirectly lobby and advocate for policies that are supportive of net zero.

Offset

Own carbon offsets or net negative carbon assets (e.g. forests) and invest in projects.

Take advantage of natural decarbonization in the real economy and through the inertia of portfolio roll off.

Informed by Net Zero Investor Playbook, GFANZ, SBTi, and UNPRI guidance.

Our Products and Services

Recognizing the benefits of a transition to a net zero world and a healthier planet, the products Manulife offers can empower customers to make their own sustainable choices and build resilience in the face of climate change.

We are focused on:

i. Helping clients meet their own climate objectives

A range of products are designed for clients to help meet their own climate objectives, alongside financial goals. 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 the effort to attain 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 change[9]. Unique to Manulife, our forest climate strategy offers qualified investors the ability to participate in natural climate solution markets, amplifying their potential benefits.

ii. Understanding climate risk in the context of our business

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

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. We continue to evaluate how climate risk may influence product design and pricing in a manner that best supports our customers.

Manulife

[1] 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
[2] 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
[3] 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.
[4] Relative to a 2019 baseline estimate. Near-term targets include interim targets for 2035 and 2027.
[5] The remaining 53% of scope 1 and 2 emissions are of assets operated by Manulife Investment Management, and owned by Manulife Investment Management clients.
[6] Because carbon removals may fluctuate from year to year based on a variety of factors including harvesting activity, which itself is related to fluctuating prices for wood products in dynamic markets, we consider our carbon removals over a longer time period (a five-year trailing average) to smooth out these natural fluctuations. In reference to emissions removals against our operational carbon footprint, we only include direct removals from investments owned by Manulife's General Account and not the timberland and agriculture investments owned by third-party investors.
[7] As of December 31, 2022
[8] Manulife is both an asset owner and asset manager for third-party clients – our net zero financed emissions commitment is solely focused on our asset ownership activities through our general fund. General fund investments are overseen by our General Account and support the policyholder liabilities while also achieving risk-adjusted returns to support the operations of our business. Details of the invested assets in our general fund are reported in our regulatory filings and underpin Manulife's financed emissions.
[9] Impact varies by strategy and is unique to its own designed structure. There is no guarantee of financial performance or returns on investments.

MP1482957E 01/24 AODA