

A thematic framework for investing in the nature and climate transition

We've identified five broad investment themes that comprehensively address the challenges of climate change and nature loss.



Brian J. Kernohan
Chief Sustainability Officer
Manulife Investment Management



Brandon Lewis
Senior Director,
Sustainability, Real Assets
Manulife Investment Management



Regan Smith
Managing Director, Climate Action
Manulife Investment Management



"Nature is the essential algorithm for the future of humanity."
Inger Anderson, Executive Director, UN Environment Programme

Key takeaways

- We believe the urgency of the nature and climate transition will continue to present a broad and deep investment opportunity set, which we've categorized into five distinct themes.
- We view these five themes as being truly global in scope, collectively extending to virtually every asset type, market sector, investment style, and geographic region.

As sustainable asset management has grown exponentially over the past decade or so, it has sometimes struggled to keep pace with the world's rapidly evolving scientific knowledge of climate change and nature loss. At different times and to varying degrees, it's also been subject to changes in the global regulatory and legislative backdrop. Meanwhile, there has been (and continues to be) no shortage of divergent perspectives on the often-controversial topics of climate change, nature loss, and sustainable investing.

Nonetheless, there is a growing consensus that the

inexorable nature and climate transition taking place across the globe will have profound implications for the entire world. Indeed, we'd argue that it constitutes a paradigmatic shift in how we power the global economy, how government policy can help accelerate this shift, and how the value of nature will figure more prominently in prevailing economic equations. As political leaders, businesses, and individuals alike are beginning to realize, the stakes are simply too high not to foster a comprehensive nature and climate transition agenda that addresses the myriad risks we face on this front.

From where we sit as a global asset manager, the multipronged nature and climate transition also has the potential to provide a vast and rich spectrum of opportunities—many of them still emerging—for discerning asset allocators. With that in mind, we've identified five investment themes that we think encompass the various challenges and opportunities arising from climate change and nature loss. We believe the investable universe associated with these

five themes is enormous, cuts across the global capital markets, and offers a long-term runway that all investors should explore.

1 Natural capital

An unfortunate consequence of modern industrialized human activity is that it has done much to degrade the earth's natural capital, including its forests, agricultural soils, grasslands, and wetlands. Approaches to investing that aim to halt—and in many cases, reverse—this degradation are central to the thematic opportunity in natural capital. From a purely investment vantage point, sustainably managed natural capital assets can improve portfolio diversification, provide an inflation hedge, and boost long-term return prospects, all while promoting vibrant ecosystems.

Surprisingly, despite these attractive and well-documented benefits, society as a whole has historically underinvested in natural capital assets, but that's yet another reason why we believe the global investment opportunity looms so large and merits investor attention. As just one illustration of the upside potential, it's estimated that investments with nature-positive outcomes could represent new business opportunities worth up to \$10 trillion annually.

Natural capital by the numbers

Global annual finance flows to nature-based climate totaled \$200 billion in 2022 but need to reach \$542 billion by 2030.

2 Water-related risks

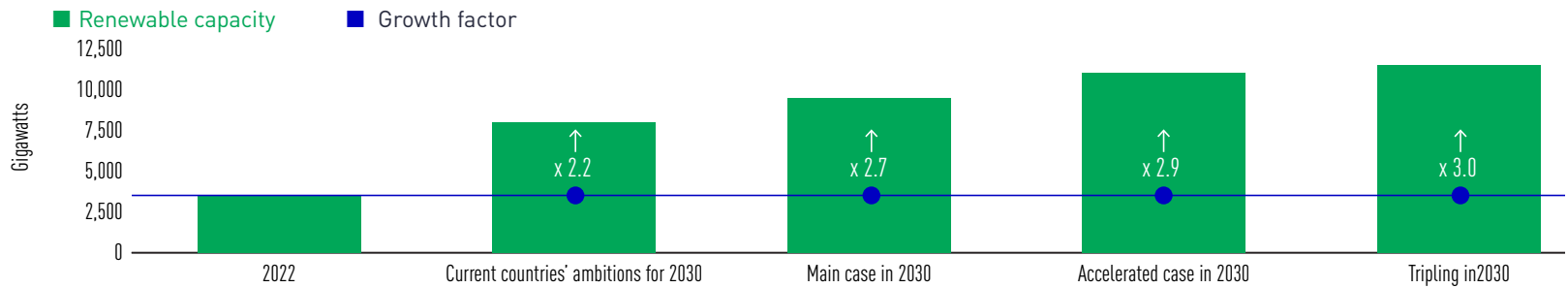
Climate change is primarily a water crisis, as the attendant risks are often realized in the form of water scarcity and weather events such as hurricanes. Governments attempting to deliver clean water and sanitation while reducing the risks overcome funding shortfalls, which opens the door to substantial

Five themes for investing in the nature and climate transition



Source: Manulife Investment Management, 2024. For illustrative purposes only.

Renewable capacity growth and the gap to global tripling, 2022-2030



Source: IEA, 2024

opportunities to generate investment alpha through sustainable management, development, and use of water resources, infrastructure, and technology, as well as natural hazard mitigation.

Globally, the need for water-directed investment is acute: Water scarcity affects more than 40% of the world's population, while around 1.5 billion people lack access to basic sanitation services such as toilets. Such statistics highlight the necessity of making water availability, infrastructure, and resource protection top international priorities. Put another way, water issues make up a pressing investment theme that demands swift, coordinated action to alleviate human suffering over the long term.

Water: thematic investment opportunities

- Water technology and efficiency
- Water infrastructure
- Water resource protection
- Natural hazard mitigation
- Blue bonds

Water need by the numbers

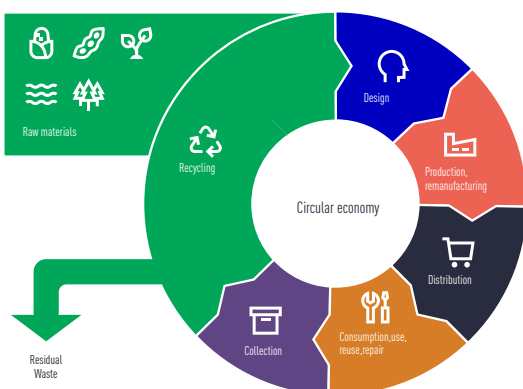
The estimated global investment needed for water infrastructure, including treatment and reuse, is \$6.7 trillion by 2030 and \$22.6 trillion by 2050.

3 Circular economy

So-called megatrends such as changing demographics, ongoing digitalization, and resource deficiencies are helping to fuel the global transition to a more circular economy. At its core, a circular economy limits the need for continual extraction of raw materials, creating a closed loop that maximizes efficiency of the design, manufacture, distribution, consumption, collection, and recycling of many goods. This is critical because we're currently expending the earth's resources at a clip of over 1.7 times its ability to biologically regenerate.

The circular economy is an integral piece of the strategy for lowering global greenhouse gas (GHG)

The circular economy limits the need for continual extraction of raw materials



Source: European Commission, 2020

emissions and, therefore, a key aspect of sustainable agricultural practices. It has also become "big business" in terms of potential solutions—and corporate profitability—across a number of other economic sectors and industries, from automotive, clothing, and electronics to real estate, packaging, and, perhaps most notably, plastics.

Circular economy: thematic investment opportunities

- Resource efficiency
- Waste reduction/management
- Sustainable/recycled materials
- Natural capital supply chains

Circular economy by the numbers

By 2040, China alone could reap annual benefits of up to \$10 trillion from key sectors of its economy adopting circular economic principles.

4 Clean energy

We see the production, storage, and management of clean energy from recurring natural sources as a generational opportunity for sustainably inclined investors.

Renewable energy is readily recognizable as being emblematic of climate- and nature-oriented investment themes. Undeniably, this is an industry in which tremendous amounts of capital have been spent to date in trying to evolve the global energy system. The International Energy Agency has described several areas of momentum in clean energy development, including climbing electric vehicle sales, which are contributing to increased energy efficiency across the economy and sponsoring pathways for investments to aid the clean energy transition. While these are already a not-insignificant component of the overall global energy mix, they'll likely require massive capital inflows going forward, particularly if governments in Europe and elsewhere are to meet their stated ambition of helping to triple renewable energy capacity by 2030.

Clean energy: thematic investment opportunities

- Energy storage
- Renewable energy sources
- Power transmission
- Energy efficiency
- Clean and low carbon fuels

Clean energy by the numbers

It's estimated that for 2024 alone, total spending on clean energy technology and infrastructure could amount to around \$2 trillion.

5 Decarbonization

A crucial part of forging a low-carbon future for the world lies in supporting traditionally high-emitting

sectors of the global economy in their long-term transition to net zero carbon. For this reason, we see a wide range of decarbonization investment opportunities across asset classes and market segments. Some of these are tied to innovations that, in one way or another, involve reimagining the already-built economy and environment.

Among high-emitting sectors, a large portion of all GHG emissions comes from buildings, making the real estate sector a prime target for decarbonization efforts. While the devil's in the details of implementing tougher controls over buildings' energy efficiency and power sources, there are strong incentives to help facilitate the decarbonization transition in this sector. Beyond real estate, we also see numerous decarbonization investment opportunities in transportation (e.g., electric vehicles) and heavy industry (e.g., steelmaking).

Decarbonization: thematic investment opportunities

- Green buildings
- Green transportation
- Climate transition technologies
- Green and transition bonds

Decarbonization by the numbers

In 2021, the percentage of total global carbon emissions caused by buildings was approximately 40%.

Final thoughts for investors

We live in a time of climate change, which means living with a global complex of risks that's painfully visible in worsening droughts, fires, and storms, as well as in large-scale community displacements. We also live in a time of disappearing nature, which poses threats to the world food system and a dangerous decline in global biodiversity. Accordingly, we believe that nothing less than the fate of our planet and the future of human welfare depends on ensuring a robust, successful global nature and climate transition in the years to come.

But while we view the negative potential here as being too great to ignore, from an investment standpoint, the upside potential may be equally too compelling to overlook. For forward-thinking investors, understanding the dimensions and dynamics of the global nature and climate transition is where sustainable investing may offer an array of active opportunities to make a lasting positive impact on the world while at the same time helping to build portfolio value for the long term.

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