

## Sustainable investing

# Megatrends shaping sustainable investing themes

## Executive summary

Sustainable investing has changed considerably from its early days as a niche strategy focused on exclusionary screening. It has shed the generic “ESG” label and matured into a more sophisticated and nuanced landscape, offering a wide range of strategies with the potential for both diversification and alpha generation. Key drivers of this evolution include:

- **Policy catalysts:** Stronger regulatory frameworks and government support have accelerated the integration of sustainability into mainstream investing.
- **Global wake-up calls:** The COVID-19 pandemic and social justice movements have spotlighted systemic risks, the role of companies in shaping societal outcomes, and the financial and reputational consequences of failing to respond effectively.
- **Rising climate costs:** Investors are increasingly attuned to the financial consequences of climate degradation, biodiversity loss and resource scarcity — issues that are disrupting supply chains, damaging assets and reshaping long-term risk models.
- **Demographic shifts:** Millennials and Gen Z, who are more inclined to align investments with their values, are gaining influence through wealth accumulation and intergenerational wealth transfer.



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## The next chapter: sustainable investing in the Decisive Decade

We are now halfway through the “Decisive Decade” for climate action, and sustainable investing stands at an inflection point. From macroeconomic headwinds and a distraction of capital to AI, to ESG backlash in the United States and steering through a regulatory maze in Europe, the complexities of navigating a global energy transition and the drive for a more inclusive society have become evident. Simultaneously, a wave of transformative policies, including the European Green Deal, should continue to provide tailwinds for the deployment of clean energy technologies. If there is one lesson to be taken, it’s that the next stage of the journey is likely to be an unpredictable one.

Over the remainder of the decade, investors will need to stay nimble for what’s to come. We have identified several high conviction sustainable investing themes, underpinned by powerful secular megatrends, that we believe will shape the evolving sustainable investing landscape and expand the available opportunity set. While the energy transition should remain at the forefront, developing themes such as ageing and longevity, cybersecurity and data privacy, biodiversity, and the circular economy are gaining momentum. While not a directly investable theme, the “just transition\*” is becoming more influential in capital allocation decisions, particularly in sectors like mining, where worker rights, Indigenous rights and community engagement are increasingly material. As the energy transition accelerates, we anticipate growing investor

interest in financing adaptation and resilience solutions, driving flows toward climate/environmental solutions and transition funds. The magnitude of the role AI will play in the energy transition should also become clearer in the coming years. While its energy footprint is significant, placing strain on already aging electricity grids, it may also become part of the solution through enhanced environmental monitoring, grid optimization and load balancing, and predictive maintenance.

We believe it’s important to keep pace with this dynamic landscape, adapting to emerging trends and technologies and embracing new themes. The concept of sustainability has always been about the ability of countries, societies, and companies to adapt and remain resilient in the face of constant change. Therefore, it’s only natural that sustainability itself must also evolve. We believe the trends and themes outlined here are likely to shape that evolution over the coming decade.

This hasn’t been a linear journey. The clean energy transition represents the greatest structural shift in our society since the Industrial Revolution. Systemic change of this magnitude is messy and complicated, and as new pieces are added to the puzzle, there will be transitory headwinds to contend with, as well as a vast array of new opportunities for investors who are willing to escape the herd and take a long-term view. Making informed, forward-looking choices will be essential to navigating what comes next.

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\* More recently, the importance of ensuring a “just transition” has garnered increased attention from governments, companies and investors, as issues such as worker rights, indigenous rights and local community support for permitting gain traction, particularly for mining companies.



# The six megatrends shaping sustainable investing themes

In a market driven by the continuous pursuit of new return opportunities, short-term thinking often prevails and chasing the latest “good story” doesn’t always translate into successful long-term investments. Some fads may temporarily misdirect investor attention and investment flows but they are short-lived and quickly fade. As such, our investment teams are seeking to capitalize on the following transformational megatrends that are expected to play out over decades, reshaping

the future of the global economy, society and ecology. As these megatrends play out, they may unlock a vast array of investment opportunities for investors with the conviction, patience and investment horizon to see them through. While each of these megatrends is linked to at least one sustainable investment theme, most overlap and contribute to several themes, reinforcing their interlinkages.

## Megatrend

### Demographic changes

Around the world we are living longer and there are more of us. The United Nations (UN) projects the world’s population to increase by over a billion people over the next 25 years, reaching 9.7 billion by 2050,<sup>1</sup> while the global population aged 60 years and older is projected to double by 2050, reaching approximately 2.1 billion.<sup>2</sup>

### Urbanization

World Bank projections indicate that the urban population will double by 2050, with nearly 70% of the population expected to be living in cities.<sup>3</sup>

### Climate change

The physical risks of climate change continue to intensify and reshape daily economic and social realities, with record-breaking heat waves, intense wildfires and hurricanes causing billions of dollars in damage annually. Insured losses from natural catastrophes globally exceeded \$100 billion for a fifth consecutive year in 2024.<sup>4</sup>

Climate degradation is also having adverse impacts on the agriculture sector, contributing to water stress globally, and altering marine and terrestrial ecosystems resulting in the loss of species. The interlinked crises of climate, nature and human health are costing the global economy between \$10 trillion and \$25 trillion annually.<sup>5</sup> Over 50% of global gross domestic product (GDP) is dependent on nature,<sup>6</sup> putting global food systems and global supply chains at risk.

### Resource scarcity

The world has roughly 50-60 years of natural gas and oil reserves left<sup>7</sup>, based on current levels of production, compounding the need to move to renewable forms of energy. IEA projections indicate that existing mines and projects under development will only cover 80% of the required copper supply by 2030, and 50% of forecasted lithium and cobalt requirements.<sup>8</sup>

### Societal changes

The COVID-19 pandemic and social justice protests in the US in 2020 kickstarted a growing focus on how companies influence societal outcomes through fair labour practices, diversity, equity and inclusion, and employee well-being.

The pandemic also kickstarted a shift to remote/partially remote work and virtualized IT environments, which, in turn, increased vulnerability to cyber-attacks and data breaches.

### Technological innovation

As new technologies emerge, the average cost of clean technologies (solar, batteries, etc.) should continue to decline. Moreover, technological innovations in food and water solutions should create investment opportunities across the value chain.

Simultaneously, the widespread adoption of artificial intelligence (AI) has raised concerns regarding the ethical implications surrounding the collection, storage and use of personal data. At the same time, the rapid expansion in data centres is placing further strain on aging global electricity grids due to significant energy needs.



# Sustainable investing themes

## The energy transition

The clean energy transition signifies the greatest structural shift in our society since the Industrial Revolution, reshaping the entire energy supply chain as it transforms how we produce, distribute and consume energy. It will play out not over years, but over decades, with accelerating intensity, driven by rising demand for electricity from industrial activities, the transportation sector, heating/cooling needs for buildings and to power data centers. With a required annual spend of \$4.5 trillion<sup>9</sup> on clean energy by 2030, the investment opportunity is immense for investors seeking to gain exposure to this multi-decade theme.

**Our high conviction energy transition theme is anchored by three megatrends:** climate change, population growth and resource scarcity.

As population growth continues to accelerate energy demand on a planet of finite resources, we are pushing Earth up against its ecological limitations. As the economic toll of climate-related events builds up, financial markets can no longer treat climate-related risks as a distant concern and the urgency to accelerate the energy transition will intensify. To limit global warming to 1.5°C, clean energy transition-related investment must increase from \$2.1 trillion in 2024<sup>10</sup> to approximately \$4.5 trillion annually by 2030, according to the International Energy Agency (IEA).

The energy transition is also being driven by basic economics. Falling costs, technological breakthroughs and encouraging clean tech learning curves have reduced the cost of clean energy below that of fossil fuels in most regions. Roughly 81% (382 GW) of newly installed renewable power projects in 2023 were cheaper than fossil fuel alternatives.<sup>11</sup> Moreover, the global shift towards renewables is also a strategic move to enhance energy security, through energy autonomy, amid geopolitical uncertainties and supply chain disruptions. This backdrop creates a multi-trillion-dollar opportunity for companies enabling the energy transition through the products and services they provide.

While investors seeking exposure to the energy transition might face a confusing range of options, equity based mutual funds and ETFs that are focused on the energy transition fall into three broad categories:

- **Climate / environmental solutions funds:** these funds invest in companies enabling or advancing the energy transition through the products and/or solutions they provide. While clean energy producers are undoubtedly the most visible part of the energy transition, they represent just one facet of this seismic change. The clean energy transition will reshape the entire energy supply chain as it transforms how we produce, distribute and consume energy. As a result, this space also includes sectors that aren't typically considered "green" but are nevertheless crucial in driving the transition. These sectors range from the companies producing the metals required for electrification, such as copper and rare earth metals, to the infrastructure companies building out and refurbishing the world's aging electricity grids, the producers of power semiconductors which optimize energy efficiency and energy storage specialists. This has created an attractive investment universe of underappreciated, and often overlooked, companies and sectors, each with their own unique set of risks and rewards.
- **Low carbon funds:** some climate-focused investors opt to focus on portfolio decarbonization, by avoiding high-emitting sectors and overweighting companies in low-emission sectors such as finance and health care — sectors that, for the most part, have marginal relevance to, or impact on, the energy transition. These funds will generally focus on assessing portfolio carbon emissions reduction targets compared to reference benchmarks.

### Megatrends that support it:

- Demographic changes
- Climate change
- Resource scarcity



- **Transition or “improver” funds:** these funds are also an emerging area of interest for investors seeking exposure to the energy transition. In contrast to traditionally “green” or low-carbon strategies, these funds invest in transition leaders in “grey” sectors: companies that operate in emissions-intensive, hard-to-abate sectors, but have stepped up decarbonization efforts and set credible emissions-reduction targets. While holding such higher-emitting companies can negatively impact the weighted average carbon intensity (WACI) of a portfolio, markets and regulators have increasingly begun to acknowledge that decarbonization of the planet requires solutions that may have higher emissions over the short term.

## Sustainable agriculture and water solutions

The interlinkage of three powerful megatrends — demographic changes, climate change and resource scarcity — are creating attractive investment opportunities in companies providing food and water solutions, including utilities, water and wastewater treatment, desalination, fertilizer companies and farming equipment manufacturers.

A growing population will place further pressure on finite water resources for energy, food production and industrial use. Approximately 50% of global drinking water resources have already been significantly degraded due to population growth, land use and climate change. By 2030, the gap between global freshwater demand and supply is expected to surpass 40%,<sup>12</sup> underscoring the urgent need to tackle water scarcity. This creates attractive investment opportunities in companies providing water solutions such as water and wastewater treatment, desalination, infrastructure, utilities and smart irrigation equipment.

Feeding a growing population will also require a 60% increase in food production, despite limited potential to expand agricultural land.<sup>13</sup> Climate-related events will further exacerbate food production challenges over the longer term, on the back of changing rainfall patterns and drought-induced crop failures, water scarcity and livestock shortages. As a result, food systems will need to evolve and innovate to meet food goals while adjusting to a changing climate. This structural shift will open opportunities for investors across the food value chain, including fertilizer companies, farming machinery and equipment manufacturers, and crop protection.

### Megatrends that support it:

- Demographic changes
- Climate change
- Resource scarcity



## Equitable societies

The case for investing in more inclusive and fair societies is grounded in financial materiality, not ideology. While the political discourse around workplace fairness and social inclusion has become more polarized, particularly in the US, the underlying drivers of this theme remain intact. Companies that manage these issues well are often better positioned to attract and retain talent and mitigate reputational and litigation risks which can impact their bottom lines and share price performance. From class-action lawsuits over pay equity to community opposition delaying major mining projects, the costs of inaction are real. Consequently, we believe “equitable societies” will remain a durable investment theme for investors focused on building resilient portfolios.

### Megatrends that support it:

- Societal changes

In 2019, a former female employee filed a lawsuit against The Walt Disney Company (Disney) accusing the company of underpaying her compared to her male counterparts. What was initially an allegation made by a single ex-employee grew into a class-action case involving around 9,000 former and current female employees, with Disney eventually agreeing to pay around \$43 million to settle the lawsuit.<sup>14</sup> The Disney lawsuit served as a wakeup call to companies, underscoring the financial materiality and reputational risks of neglecting workplace pay equity. While backlash against DEI initiatives has gained momentum in recent years — particularly in the US — with companies such as Walmart, John Deere and Ford scaling back their programs, this has yet to translate into meaningful investor support. In 2024, anti-DEI shareholder resolutions averaged just 2% support, compared to 18.5% for pro-DEI proposals. As recently as February 2025, Apple shareholders overwhelmingly rejected an anti-DEI proposal, with 97% of outstanding shares voting against it.<sup>15</sup> Similar outcomes were seen at Costco and Levi’s, where shareholders also opposed anti-DEI measures.<sup>16,17</sup>

But the investment case for equitable societies as a theme extends far beyond workplace diversity. Beyond the corporate boardroom, the concept of a “just transition” is gaining traction as the global economy shifts away from fossil fuels. This transition is not only about decarbonization; it’s about ensuring that workers, Indigenous communities and local stakeholders are not left behind. In Canada, for example, where many resource projects intersect with Indigenous territories, failure to engage meaningfully with communities can delay or derail projects altogether. For investors, this presents both a risk and an opportunity. Companies that secure and maintain a social license to operate, particularly in sectors like mining, energy and infrastructure, are more likely to deliver stable, long-term returns. Conversely, those that ignore community concerns may face costly delays, stranded assets or reputational damage.

Ultimately, “equitable societies” should not be viewed as a niche or values-driven theme, but as a lens through which to assess operational risk, stakeholder alignment and long-term value creation.



## Cybersecurity and data privacy

As cyber threats grow in scale and sophistication, companies are significantly increasing their cybersecurity budgets to protect operations, data and reputations. This surge in enterprise and government spending is creating a powerful tailwind for cybersecurity solution providers, making them a compelling long-term investment opportunity. Importantly, cybersecurity spending has proven resilient even in economic downturns, with many firms treating it as a non-discretionary expense.

In November 2023, the municipal water authority of a small Pennsylvania town became the unlikely target of a cyberattack when hackers disabled a system responsible for monitoring and regulating water pressure.<sup>18</sup>

While the authority was able to switch to manual operations and avoid service disruption, the incident underscored the broader public safety, health and national security risks posed by inadequate cybersecurity infrastructure. This was not an isolated case. Just months later, a ransomware attack on Change Healthcare compromised the personal data of over 100 million Americans, disrupted hospital and pharmacy operations, and resulted in more than \$870 million in business interruption costs.<sup>19</sup>

These events are part of a broader trend. The shift to remote and hybrid work, the proliferation of AI and the digitization of critical infrastructure have dramatically expanded the number of vulnerable digital entry points. In 2024 alone, cybercrime is estimated to have cost the global economy over \$9 trillion, equivalent to the world's third-largest economy if measured by GDP.<sup>20</sup>

In response, organizations are treating cybersecurity as a strategic priority — no longer a discretionary IT expense, but a core operational requirement. This shift is fueling robust and sustained demand for cybersecurity providers across software, hardware and managed services. For investors, this represents a high-conviction opportunity to gain exposure to:

- **Structural demand growth**, as digital transformation accelerates across industries.
- **Recurring revenue models**, offering earnings visibility and pricing power.
- **Resilience in downturns**, with cybersecurity budgets often protected even in cost-cutting environments.
- **Tailwinds from regulation and geopolitics**, as digital defense becomes a national and corporate imperative.

### Megatrends that support it:

- **Technological innovation**
- **Societal changes**



## The circular economy

The shift to a circular economy could carve out an increasingly larger share of the sustainable investing market over the next decade. The circular economy is centered around the opportunity for companies providing solutions to address overconsumption and bridge the resource gap, ranging from waste collection and recycling to sustainable packaging and sustainable timber/forestry. As the world runs out of natural resources and creates too much waste, this is creating a multi-trillion-dollar opportunity for companies furthering the transition to a circular economy through the products and solutions they provide.

### Megatrends that support it:

- Demographic changes
- Urbanization
- Resource scarcity

An expanding population and burgeoning middle class will create significant waste management challenges and drive increased water stress, food insecurity and extraction of natural resources, which is responsible for over 80% of biodiversity loss. We currently use 60% more resources than the planet can regenerate, creating a widening demand-supply gap. Meanwhile, we discard over 50 million tonnes of electronic and electric goods each year, valued at more than \$62 billion, including copper and rare earth minerals required for electrification.<sup>21</sup> Insufficient recycling of waste is creating more demand for virgin natural resources, while improper waste disposal is negatively contributing to climate change, biodiversity loss and pollution. This forms the basis of the circular economy theme, which is centered around the opportunity for companies providing solutions to address overconsumption and bridge the resource gap, ranging from waste collection and recycling to sustainable packaging and timber/forestry. The transition to a circular economy will be fueled by the imperative to decouple economic growth from resource extraction. It will require a paradigm shift from our existing linear “take-make-waste” consumption model, to a “take-make-reuse” approach, that focuses on reusing and recycling resources rather than disposing of them.

Consequently, companies operating in the circular economy have the potential to deliver attractive growth and returns over the long-term. Recycling of electronic waste is likely to become increasingly critical as the world faces a looming shortfall of copper and other critical metals required for the energy transition. Research by Accenture indicates that the circular economy has the potential to boost economic output by \$25 trillion by 2050.<sup>22</sup>

## Conclusion

Megatrends have shaped the world throughout history and will continue to do so. As the trends we outlined at the start of this paper play out, they will unlock a vast array of investment opportunities for investors with the conviction, patience and investment horizon to see them through.

[Explore Mackenzie’s sustainable investment solutions >](#)



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