The $4.4tn Climate Investment Opportunity:

A spotlight on the sustainable bonds investment pipeline from a sample 12 climate leader countries — and how investment opportunities in those countries are growing

Australia
Brazil
Costa Rica
Denmark
Dominican Republic
France
Japan
Kenya
Rwanda
Singapore
Spain
United Kingdom

Climate Bonds INITIATIVE

Prepared by Climate Bonds Initiative

Executive Summary

The climate transition is capital intensive

- Twenty first century economies face enormous challenges with the need for decarbonisation and having to address increasing climate change impacts, all the while providing economic and social growth and opportunities for citizens.
- As the atmosphere warms, avoiding catastrophic climate change means emission reduction targets get tougher, not weaker. At the same time, the consequences of past emission growth — substantial climate impacts — must be managed. It also means potentially severe secondary effects — social, economic, health and nature. This will get progressively more severe over the next 25 years.
- Vast capital resources are required to address these challenges. According to McKinsey Global Institute, for example, some USD9.2tn a year of investment is required to meet necessary climate goals and avert catastrophic climate impacts over this century: USD92tn over 10 years.[1]
- Capital availability is not the issue. Global investment pools have expanded profoundly over the last 50 years, with the total value of global financial wealth increasing from tens of trillions to over USD305 trillion by 2024.[2]

Building on the success of the USD6tn sustainable bond market

- Over the past 10 years a USD6tn sustainable bond market has developed, focused on climate and social investments. Investor demand remains strong, with healthy over-subscriptions being usual.
- This market includes green, sustainable, social and sustainability-linked bonds, commonly referred to as GSS+. It has spawned an equally large GSS+ loan market, but harder to track and so outside the scope of this report.
- The interest in GSS+ bonds is tied to investor concern about the impacts of climate change on their investment universe and on the investment choices now coming before them.[3]
- This has both negative impacts- such as investments being disadvantaged by state policy action or increased default risk of companies and governments affected by increasingly severe climate incidents- as well as positive impacts, where companies or governments are benefiting from measures to address climate change. For example, electric mobility and clean energy and their supply chains have boomed in recent years.
- Investors are increasingly exploring measures to take advantage of climate-related opportunities. For examples, see Nippon Life's Transition Finance Framework[4], Prudential Asia's Climate Transition Investment Framework, and La Caisse's 2025–2030 climate strategy.[5,6,7]
- A common issue among institutional investors is the uncertainty of "pipeline" — the future availability of climate-related investments that would allow them to plan to increase their relevant allocations of capital.
- Governments, on the other hand, frequently assert that they are brimming with climate-related efforts that need investment. But bankability remains a concern.

Contents

In the next decade we expect a USD4.4tn pipeline of creditworthy, climate-related investment opportunities from just 12 climate leader countries

- This report examines the GSS+ debt pipeline for 12 "climate policy leader" countries, as a sample of the global pipeline: Australia, Brazil, Costa Rica, Denmark, Dominican Republic, France, Japan, Kenya, Rwanda, Singapore, Spain and the UK. It finds USD4.4tn of issuance expected over the coming 10 years.
- Critically, these are investment opportunities from creditworthy institutions (see appendix) with an existing history of successful debt issuance.
- Climate-related measures being taken by the 12 countries examined are expected to deliver significant further increases in climate-related investment opportunities.
- As these 12 countries account for just 23% of the total sustainable bond market, an even larger creditworthy pipeline of USD18tn would emerge if the same assumptions were applied to the wider market, with green equity and other asset classes on top of that.
- If we use McKinsey's figures, as a rough guide the world needs to quintuple climate related investment. On that measure the world is 20% of the way there.
- The report also covers the wide range of areas of further growth that will deliver increased momentum in the climate investment universe in coming years.
- For COP31 next year we plan to widen to pool of geographies taking action on climate to include China, the EU, India, and others.

Climate investment includes mitigation *and* resilience

- "Climate-related" investment means more than those consistent with emission reduction. It also means investment material to addressing climate impacts — adaptation and resilience. While physical adaptation is a first order of action, for societies, economies and ecosystems to be able to survive what will now be a century of volatility and extremes they must become much more resilient that at present.
- Development challenges become even more important, as economies and societies need to be wealthy and strong enough to be able to bounce back from what will now be a constant cycle of climate crises. That development has to be calibrated around climate impacts, while taking advantage of new opportunities from the global shift to clean energy and other climate solutions.
- Accordingly, we include all the theme represented in the GSS+ universe as being climate-related.

Policy change is creating economy opportunity

- Policy measures already taken in China, Europe and other countries have spurred growth in clean energy, electric mobility, industry and the built environment.
- They are driving huge economic changes that are presenting new opportunities, whether with critical minerals for the transition, or with dramatic reductions in the cost of energy generation in countries with clean energy resources.
- We present these as part of a set of "global megatrends" driving the investment pipeline.
- Resilience investment is accelerating, with new instruments enabling broader sectoral inclusion and linking sustainable finance to infrastructure, health, and housing. The Tokyo Metropolitan Government's recent highly successful "resilience bond" is an example.
- This response to climate change is reshaping the global economy and global debt markets. Transition policy, growing resilience needs and technological disruption – alongside geopolitical shifts – are all creating opportunities.
- Financial sector policy measures are an accelerator. Requirements for transition plans, taxonomies, planning change, and supportive monetary policy are amplifying and quickening capital shifts to climate-aligned assets.

The forthcoming pipeline of sustainable investments is sizeable and shows that the momentum is there.. This has been, and will be, driven by enabling policy measures.

The question for investors is what to focus on and where, and that includes understanding which countries are leading in creating investable opportunities.

Creditworthy GSS+ bond issuance is a straightforward place to start.

12 climate policy leaders that are driving investment opportunities

This report assesses the sustainable investment pipeline from 12 countries that together represent a broad range of climate leadership examples. Together, these first movers, major transitioners, or green-first growers demonstrate the breadth of climate action possible in very different types of circumstances.

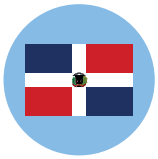
These countries demonstrate the variety of paths that countries can take to develop climate investment opportunities. They represent a sample of climate leadership.

Australia: with a booming solar and home battery sector and a target of 82% renewables by 2030, the country is rapidly converting from a fossil-based economy to a renewables-based economy. The country also has a pioneering carbon and farming trading scheme and support for clean industrial manufacturing.[8]

Brazil: already a clean energy giant, the country is demonstrating global leadership on nature, rapidly reducing the rate of deforestation of the Amazon.[9] It is using its COP30 Presidency to highlight the interaction between climate and nature and call for significantly increased climate finance, particularly for adaptation. The government has also developed a Brazilian Investment Platform (BIP) to link more than USD20bn of climate-aligned projects with domestic and international capital. It's part of a broader strategy that ties together Brazil's new industrial and ecological policies, showing how green transition can drive economic growth.

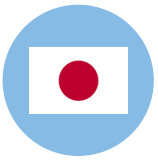
Costa Rica: 100% of its electricity is generated from renewables[10]; it has a national decarbonisation plan for transportation and agriculture; and it was the first tropical country to reverse deforestation. It now has 60% forest cover, having been as low as 40% in 1987.[11]

Denmark: a world leader with its exemplar GHG reduction target of 70% by 2030, highly coordinated municipal and national climate action plans, massive development of offshore wind and green hydrogen, and methane-to-energy plans for the country's huge pig farming industry. In fact, its Green Tripartite Agreement is one of the most ambitious climate-agriculture plans globally.[12]



Dominican Republic, a Small Island Developing State (SIDS), is one of the most exposed countries to climate change in the world. It is demonstrating strong commitment to adaptation and climate mitigation by developing a pilot Emissions Trading System (ETS) – a pioneering initiative in the Caribbean - to cap and reduce emissions from high-impact sectors like electricity and cement, aligning market-based mitigation with its national climate goals.[13]

France: has been a leader on climate action since the Paris Summit, investing heavily in mass transit, solar, and energy efficiency, bolstered by detailed sectoral transition targets. Nearly 50% of its EU Recovery and Resilience funding is dedicated to climate measures.[14] It also pioneered national green budgeting in 2020 and has a National Climate Change Adaptation Plan with over 200 actions focused on adaptation.



Japan: the Green Transformation (GX) programme is an exemplar national industrial transition plan, aiming to mobilize JPY150 trillion (USD1 trillion) in public-private investment over 10 years.[15] Japan issued the first sovereign climate transition bond in 2024.[16]

Kenya: nearly 90% of electricity already come from renewables[17] and a Climate Change Act supports enforceable climate policy and coordination across regions and sectors. Kenya also convened the Africa Climate Summit in 2023, culminating In the Nairobi Declaration on advancing green growth across the continent.

Rwanda: its climate action plan has an ambitious GHG reduction target, strong reforestation measures, incentives for electric vehicles, and even a national strategy to promote energy efficient cooling. The country is also working to mobilise international finance for climate action through its Climate and Nature Finance Strategy[18] including the development of a Green Taxonomy, interoperable with other international taxonomies.[19]

Singapore: The Green Plan 2030 is boosting solar energy and green transport, cutting landfill waste and planting a million trees. The Monetary Authority is driving the development of sustainable finance and the country's sovereign wealth funds are investing to support national climate goals, including providing concessional finance for climate action in Asia.[20]

Spain: a comprehensive climate action plan that includes getting to 81% renewable electricity by 2030, support rapid take-up of electric vehicles, and a programme to renovate 1.4 million buildings to improve their energy efficiency. Spain has also developed just transition measures that range from support for communities affected by coal phaseout to programmes to enable vulnerable communities to transition.[21]

United Kingdom: the first country in the world to set a legally binding emissions target and has maintained consistent momentum on climate, recently committing to a clean industrial strategy aiming to double investment in clean energy industries to GBP30bn/yr by 2035.[22] The City of London is one of the world's green financial centres.

The Baku to Belem Roadmap

The COP30 "Baku to Belem Roadmap" plans a policy boost for climate investment in emerging markets

For emerging markets, there is increasing focus on the need for interventions to secure the capital flows required to meet climate goals.

One of the key outputs of COP30 will be the Baku to Belem Roadmap for mobilising USD1.3tn in annual external financial flows that Emerging Markets and Developing Economies (EMDEs) need to deliver their climate and nature goals by 2035.

The roadmap will set out the key areas for investment (such as clean energy and resilience), the policy frameworks (such as country platforms and real economy reforms) and the main investment mechanisms (such as MDBs and private finance).

The Roadmap is expected to be a significant strategic booster for project deal flow across the Global South, including in the key countries set out in this report.

Overall, USD3.2tn is required in EMDEs each year by 2035 of which more than half is expected to be mobilised domestically from public and private sources.

Much of this domestic investment could result in deal flow both in terms of sovereign and SOE issuance as well as private sector investment which is projected to grow over nine times to USD650bn per annum in a decade's time (see IHLEG for deeper analysis).[23]

Under the Roadmap, MDBs will need to increase their climate investments nearly fourfold to cUSD300bn a year by 2035. But the biggest leap must come in terms of private finance, where the IHLEG has projected a 21.7-fold increase to USD650bn a year. Much of this will need to be enabled through various forms of blended finance (for example through first loss or guarantee structures). Finally, c. USD300bn in concessional financial flows will be needed in the form of grants and below market rate loans, which will be particularly important for overcoming energy poverty, supporting those in informal economies, resilience, loss and damage, as well as just transitions.

One example of a mechanism that will expand deal flow as part of the Baku to Belem Roadmap is the IDB's proposed Reinvest+ 'green securitisation' initiative.[24]

The first step is to identify existing performing sustainable loans on the books of EMDE banks (an estimated USD500bn exists in Latin America alone). These loans are purchased, aggregate into diversified instruments and credit-enhanced.

The result? Investment-grade, hard-currency green securities designed to meet the risk/return requirements of institutional investors. Finally, the banks commit to reinvest the proceeds into projects aligned with national climate goals creating a "self-reinforcing loop of capital".

This model could be used in all regions and could become a major engine of new green deals including in the countries that are the focus of this report.

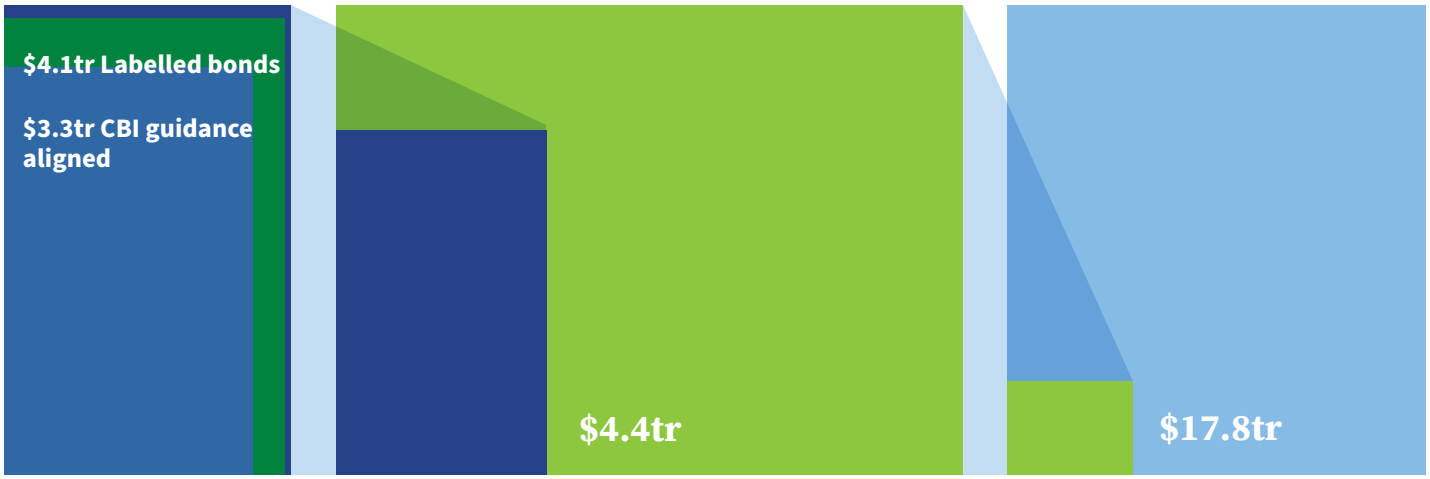
The Roadmap is a recommended framework. It will still depend on action by governments, international institutions, financiers and business. But there is a strong sense that the USD1.3tn target is deliverable with a few reforms.

1. In just 12 countries we will conservatively have a pipeline of USD4.4 trillion to 2035

$4.4tr
Sustainable bonds 12 climate leaders

$17.8tr
Total projected sustainable bonds worldwide

$150tr
Size of the global bond market



Recent years have seen rapid issuance growth of green, social, sustainable and sustainability-linked (GSS+) bonds.

The GSS+ market has expanded at an accelerated rate, with issuance growth of almost 30% over the over the past five years, compared to a 3.3% annual growth for the global bond market (i.e. all bonds; not just limited to GSS+). For our twelve leader countries, the GSS+ growth rate was even higher, at just under 40%.[25]

Projected issuance per country over 10 years

Australia	USD**287.00bn**
Brazil	USD**185.00bn**
Costa Rica	USD**0.74bn**
Denmark	USD**165.00bn**
Dominican Republic	USD**10.00bn**
France	USD**1,293.00bn**
Japan	USD**920.00bn**
Kenya	USD**5.00bn**
Rwanda	USD**0.30bn**
Singapore	USD**161.00bn**
Spain	USD**416.00bn**
United Kingdom	USD**693.00bn**
Unlabelled global (e.g. electric rail)	USD**238.40bn**
Total global	USD**4.372 trillion**

Climate-related means more than investments consistent with emission reduction. It also means investment material to addressing climate impacts — adaptation and resilience. While physical adaptation is a first order of action, for societies, economies and ecosystems to be able to survive what will now be a century of volatility and extremes, they all must become much more resilient that at present. Accordingly, we include all the theme represented in the GSS+ universe as being climate-related.

USD4.4tn represents a conservative ten-year projection for the investment pipeline from our twelve climate policy leaders. Pipeline projections have been based on a 5% annual growth rate scenario over the next ten years, applied to baseline issuance levels for 2024. This is in line with projections for growth of the global bond market, but below recent GSS+ market growth, as referenced above.[26] Applying the growth rate scenario yields an investment pipeline between USD3.3tn (considering only bonds which align with the Climate Bonds Methodology) and 4.4tn (widening the definition to include a wider set of potential GSS+ bonds).[27,28] However, given the outperformance of GSS+ compared to the wider bond market in recent years, there is good reason to believe that this could end up much higher. In terms of the pipeline characteristics, the largest issuers in ten of our climate leaders (i.e. all bar Kenya and Rwanda) are repeat issues, which is also supportive of continued momentum.

Further investment opportunities will come from beyond our twelve chosen countries. This report focuses on twelve leader countries in the climate policy space, chosen as a broad sample of different climate leadership examples. However, these countries account for just over a fifth of the global GSS+ market. Applying the above scenario to the global GSS+ market corresponds to a pipeline of between USD14tn (narrow set aligned with the Climate Bonds methodology) and USD17.7tn (wider potential pool of finance, as above).

While the pipeline projection represents around a fifth of the capital needed to meet global climate goals, it shows there is reason for optimism. McKinsey Global Institute estimates that USD9.2tn in annual global investment is required to avoid catastrophic climate impacts this century, equating to roughly USD92tn over ten years.[29] Climate Bonds' global pipeline estimate of USD17.7tn covers about a fifth of that benchmark. Notably, McKinsey's figure does not focus on the role of adaptation, suggesting the shortfall may be even greater. In addition, McKinsey's estimate is based on the pre-COVID-19 policy environment and climate pledges as at COP26 in 2021.

The USD17.7bn pipeline is based on conservative growth assumptions. Those are set out above. Section 2 of this report shows how seven global megatrends are and will continue to accelerate climate investment beyond these projections. And Section 4 of this report outlines how policy can provide an important lever to further channel climate investment, as well as suggesting further policies available to governments which will accelerate investment (without significantly impacting on government resources) and we expect policy development to keep accelerating in key jurisdictions.

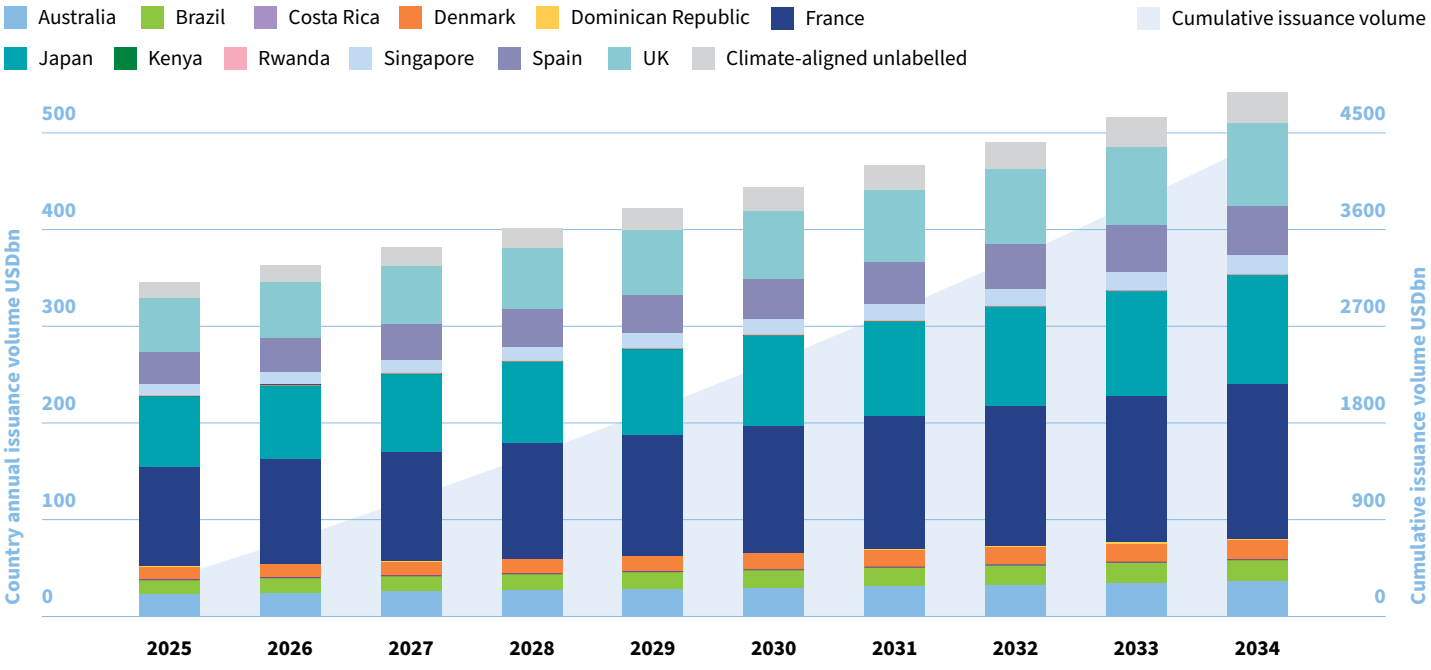
The transition will be financed by a mix of instruments, beyond issued debt. This USD 17.7bn pipeline reflects only the bond market, whereas the transition will be financed through a mix of instruments, including the equity market, government spending and concessional finance. While McKinsey does not break down its estimate by instrument, the Climate Policy Institute finds that debt financing comprises of around 50% of public climate finance and around 60% of private climate finance.[30] Other types of finance are therefore likely play an important role in providing the much-needed capital and the role of non-debt markets is returned to later in this report.

We expect that policy action in key jurisdictions will continue to accelerate. Section 3 of this report outlines how policy can provide an important lever to further channel climate investment, as well as suggesting further policies available to governments which will accelerate investment (without significantly impacting on government resources).

In sum, the capital set to come from our twelve climate leaders should be seen as a credible lower bound of financing as a proportion of the total financing needs.

Figure 1

Cumulative GSS volume of 12 climate leaders from 2024 to 2034 at 5% annual growth



Source: Climate Bonds Initiative data and analysis.

1.1. Pipeline Profile

Credit profile of the leading issuers – among the 12 climate leaders there are five countries (Australia, France, Japan, Spain, and the UK) in which the leading issuers have all achieved an investment grade rating. 80% of Denmark's leading issuers have an investment grade rating and for Singapore and Brazil it is 60% and 40% respectively. The average across the group of twelve is 57%. This compares positively with the investment grade profile of all countries as assessed by S&P and Moody's, which are 53% and 49% respectively, demonstrating the higher creditworthiness of the leading issuers within the 12 climate leaders.

Issuance by country - France, the UK, Japan and Spain have been the largest contributors to the issuance volume.

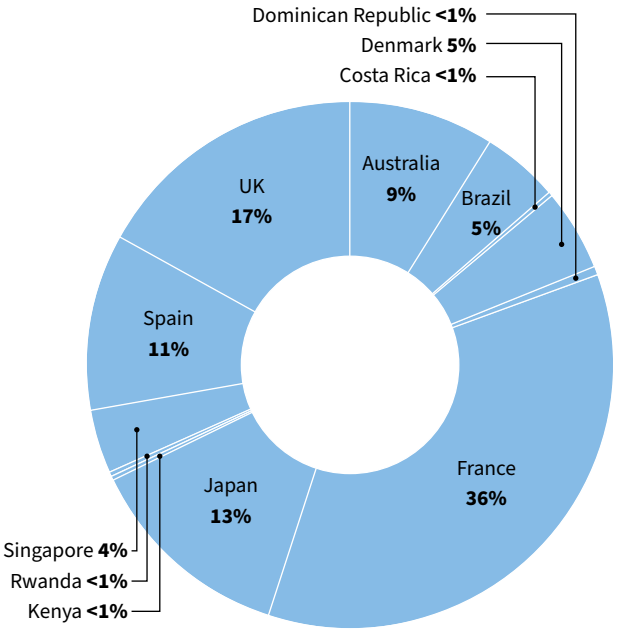
Historical cumulative thematic breakdown (12 climate leaders)

Instrument theme – the themes of the aligned GSS+ instruments deployed by the selected countries in 2024 showed an increased preference for the green, followed by sustainability, social and lastly SLBs, this is closely aligned with the overarching trend in the wider aligned GSS+ market.

Issuer type – Government-Backed Entities, Non-Financial Corporates, and Financial Corporates account for 75% of the issuance volume.

Figure 2

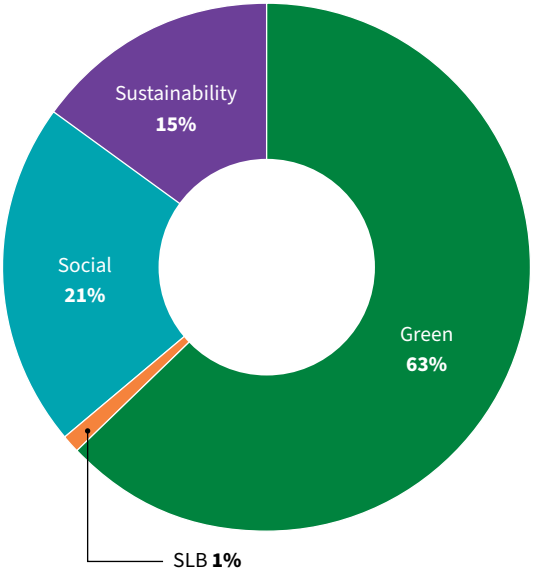
Share of aligned GSS+ volume in 2024 (12 climate leaders)



Source: Climate Bonds Initiative data and analysis.

Figure 3

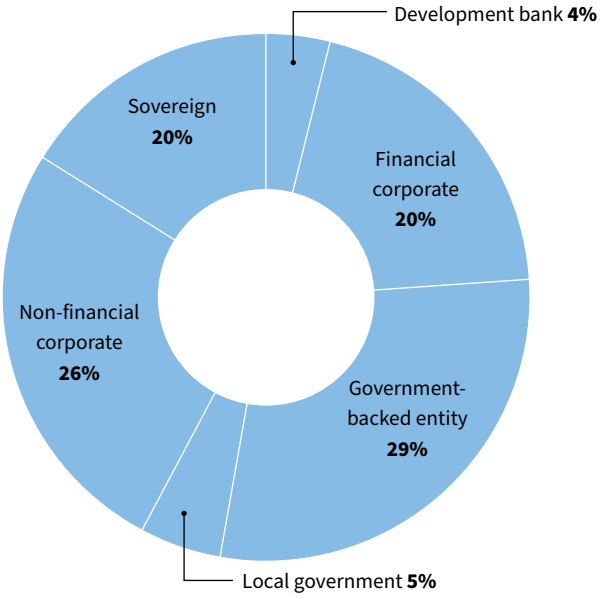
Historical cumulative thematic breakdown (12 climate leaders)



Source: Climate Bonds Initiative data and analysis.

Figure 4

Historical cumulative issuer types (12 climate leaders)



Source: Climate Bonds Initiative data and analysis.

Use of proceeds (UoP) – the use of proceeds for all captured years for the 12-country group is very similar to that of the wider aligned GSS+ market with energy, buildings, and transport featuring in that order at the top of the list; accounting for 21%, 17% and 14% of the use of proceeds determined at issue.

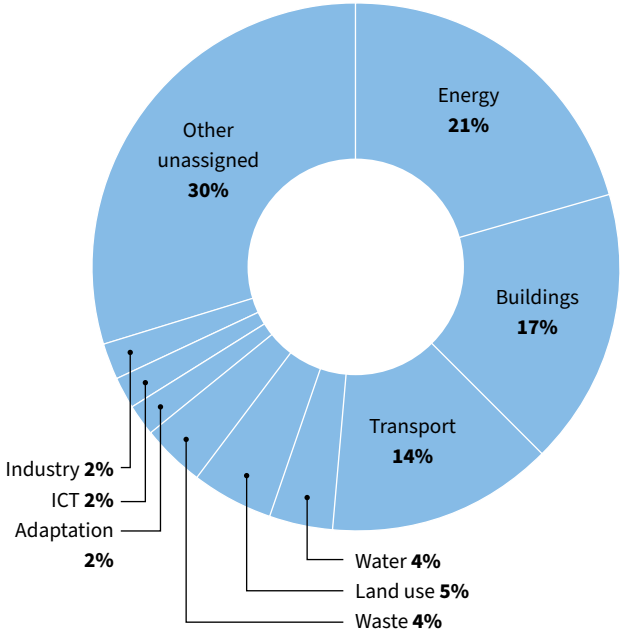
1.2. Looking beyond debt, equity markets will also add to the financing pool

While the debt market is currently by far the most dominant source of financing for climate finance, there is a huge amount of room for expansion in markets outside of debt.

The Climate Policy's (CPI) recent Global Landscape of Climate Finance 2025 report analysed debt, equity, concessional and unknown instruments.[31] While across eight of the nine sectors covered, debt instruments accounted for the largest source of finance, equity finance accounts for 48% of private and 19% of public finance.[32] According to a recent Morningstar report, fund flows into global sustainable funds in Q2 2025 were largely positive (with the exception of the US and Australia/New Zealand).[33] Global sustainable funds saw net inflows of USD4.9bn in Q2 2025 and assets stood at USD3.5tn at the end of the quarter.[34] There were also optimistic signals from a product development perspective, with 72 new sustainable launched in the second quarter. All of this points to an additional source of sustainable finance via equity markets, before even considering the wider net of asset classes - such as private equity, private debt, the loan market and venture capital - where data is more difficult to obtain.

Figure 5

Historical cumulative Use of Proceeds breakdown (12 climate leaders)



Source: Climate Bonds Initiative data and analysis.

Country platforms to showcase investments

Country platforms offer a streamlined approach for innovative projects with an ambition to drive transformative environmental change to gain recognition and attract investment.

A highly supportive and progressive initiative in **Brazil** by the Ministry of Finance has developed a country platform that supports three main sectors and eight subsectors, with the purpose of driving ecological change. Currently there are 15 confirmed projects and USD22.6bn of potential investment identified.[35] The three main sectors are: Nature-Based Solutions and Bioeconomy, Industry and Mobility, and Energy. Examples of projects under the sectors include:

Nature-Based Solutions – Atlas Agro, Brazil's first industrial scale green fertiliser plant; NewAg, a cocoa plantation in Bahia that aims to restore native vegetation; Biomas, The Green Branch, and Future Climate Group, all of which focus on the recovery of native vegetation.

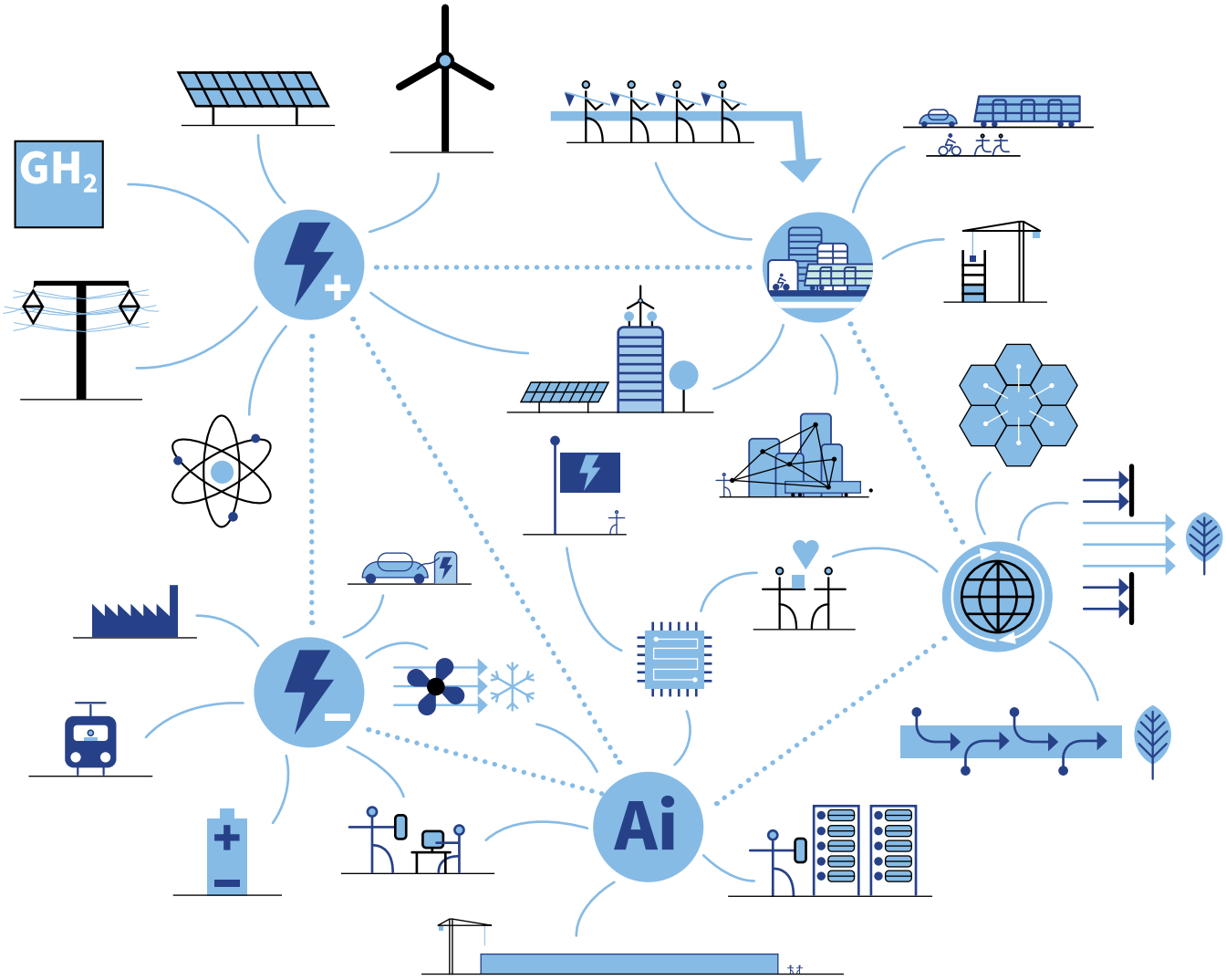
Industry and mobility – Vale, Green Energy Park, the construction of industrial hubs for green hydrogen and hot briquetted iron; Circlua, the production of activated clay as a SCM to substitute clinker in cement; Meteoric Resources, development of low emission extraction methods for rare earth elements.

Energy – Fortescue and Casdosventos, green hydrogen plants; Refinaria de Petroleo and Acelen, sustainable fuel development.

Projects interested in joining the platform can apply and will be screened to determine their eligibility for project qualification.

Brazil's initiative is a very constructive way of engaging with focus industries and their stakeholders, supporting the ambition to channel investment into the priority areas for that country.

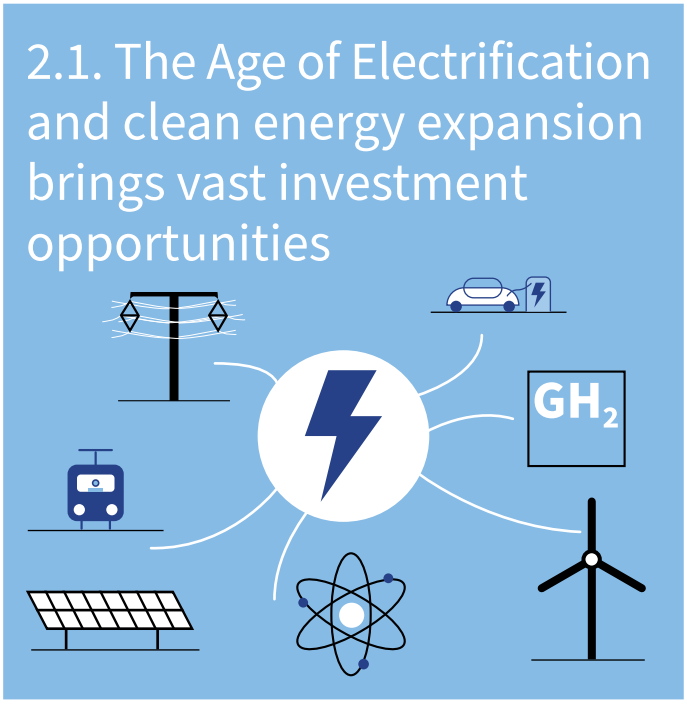
2. Global megatrends tilting global investment flows to green



Seven global megatrends are likely to drive an increase in GSS+ bond issuance, far beyond the labelled USD3.1tn as projected above. These megatrends are the electrification of industry and increased use of renewables, the rapid rise of urbanisation across the globe, changing global trade dynamics, digitalisation and the growth of AI, the growing importance of the critical minerals sector, the transitioning of hard-to-abate sectors and rising climate-resilience requirements. These trends are already and will continue to catalyse investment, as shown in the following sections.

Understanding these trends is even more important against the current backdrop of declining FDI and increasingly constrained public budgets. For emerging markets in particular, there is increasing focus on the need for major intervention to secure the capital flows required to meet climate goals, as international project finance is crucial to emerging market infrastructure development.[36] The Baku to Belém Roadmap (see Box 1) is a key global effort to unlock these levels of capital. Within this context, the megatrends encapsulate a pipeline of investment across multiple sectors.

2.1. The Age of Electrification and clean energy expansion brings vast investment opportunities



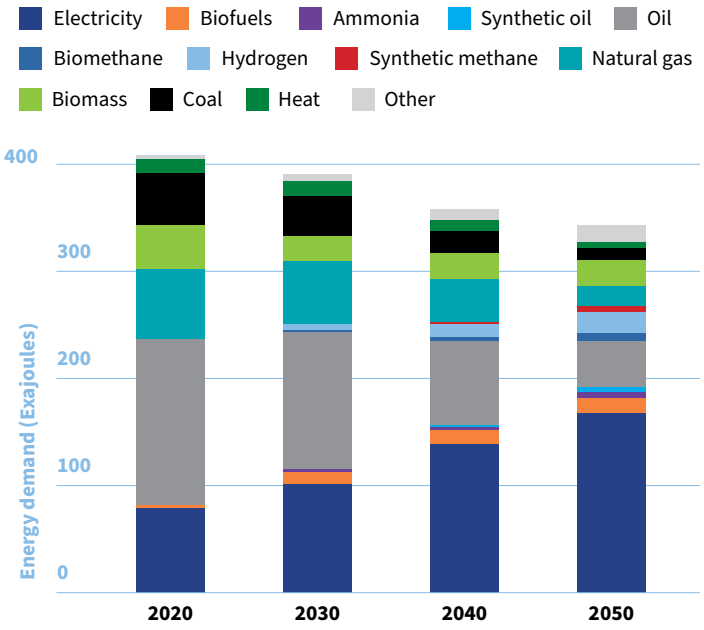
In 2024, clean technology already dominated energy investment, reflecting the rapidly shifting energy investment landscape. Around USD2.2 trillion went collectively to renewables, nuclear, grids, storage, low-emissions fuels, efficiency and electrification in 2024, twice as much as the USD 1.1 trillion going to oil, natural gas and coal.[37] Clean energy investment overall will reach USD26-30.2 trillion by 2035, accounting for approximately 69% of total energy investment.[38]

The 'Age of Electricity', a period marked by unprecedented growth in global electricity demand, will drive exponential increases in investment across the energy sector.[39] Electricity consumption is expected to double over the next decade, with growth concentrated in emerging markets, but demand projections continue to swell.[40] This growing demand for electricity is driven by factors such as the increasing use of air conditioning in heat-stricken regions like India, the expansion of power-hungry data centres, new industrial facilities, and the global uptake of electric vehicles. Accelerated electrification lies at the core of the global transition toward a decarbonized energy system, fuelling unprecedented levels of investment across the energy sector.

Emerging markets are leapfrogging developed markets on both electrification and renewables expansion. In 2023, two thirds of countries are ahead of the US in solar deployment for power generation.[41] Over 90% of electricity in Kenya is produced from renewable sources, primarily geothermal and hydropower.[42] This is a far higher proportion than many developed markets (DM) and an important example of green-first growth, see Figure 7.

Figure 6

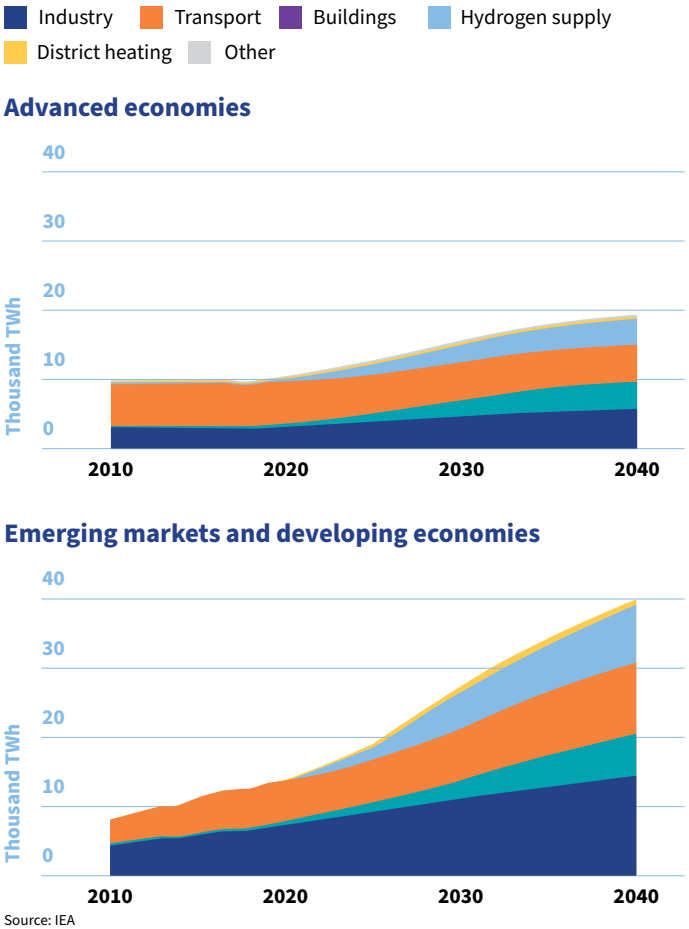
Electricity grows from a fifth to a half of energy consumption by 2050



Source: IEA, Net Zero by 2050 data, Net Zero by 2050 Scenario - Data product - IEA

Figure 7

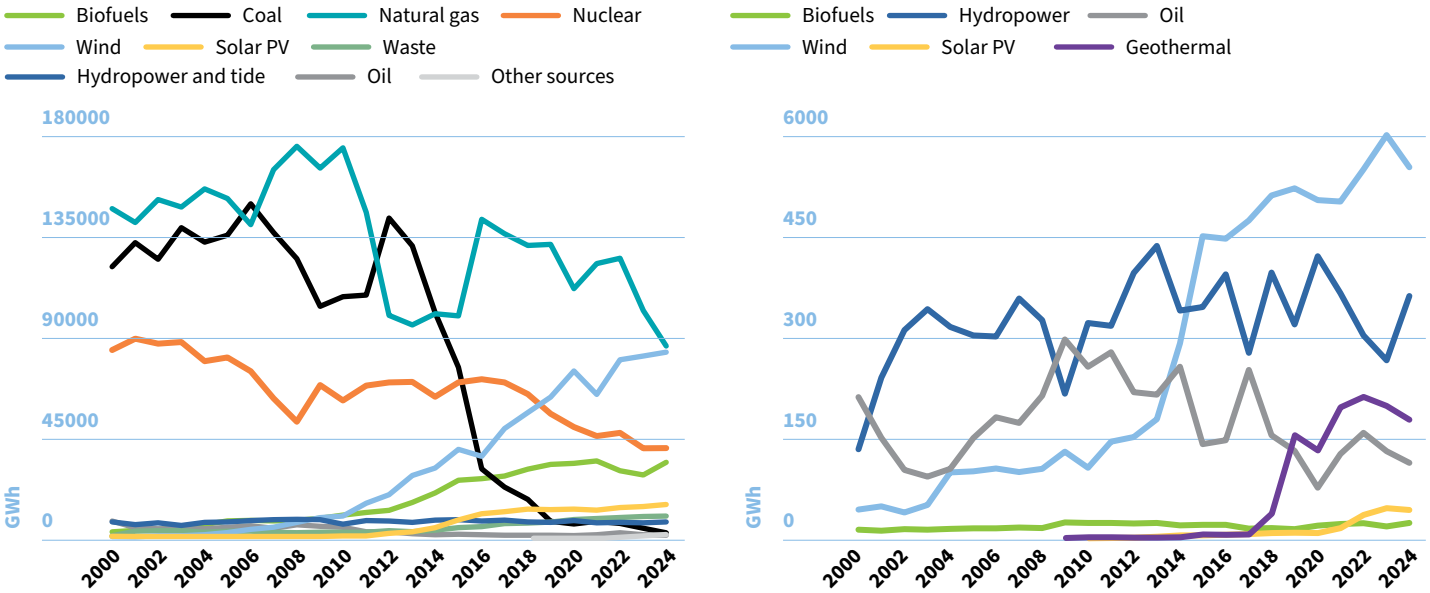
Electricity demand by sector and regional grouping in the NZE



Source: IEA

Figure 8

Evolution of the U.K.'s (left) and Kenya's (right) energy mixes in GWh



Source: IEA data[87,88]

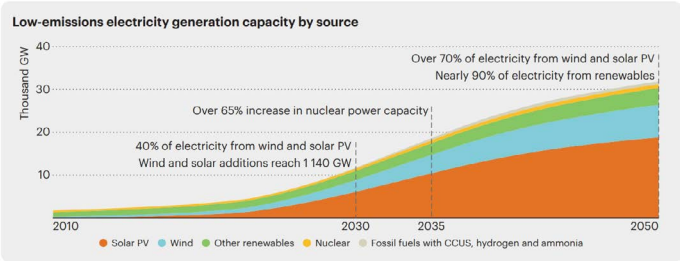
Four areas of opportunity will drive most of future investments in the energy sector. Those are: i) Scaling up renewable generation capacity,[43] ii) Electrifying end-use sectors—including industry, buildings, transport, and data centres—to drive demand-side decarbonization,[44] iii) Enhancing power market interconnectivity through expanded transmission infrastructure to improve grid resilience and efficiency,[45] and iv) Accelerating battery storage deployment to stabilize supply, enable flexible dispatch of renewables, and reduce price volatility.[46]

Policies and opportunities in scaling up renewable generation capacity, and investment

Renewable energy generation is rapidly expanding, driven by technological innovation, policy support, and a push for sustainability. In 2024 alone, global renewable power capacity increased by 585 GW[47], marking a record 15.1% annual growth. Renewables accounted for a record 92.5%[48] of global power additions, largely due to significant growth in solar and wind power. Global installed capacity is expected to reach 11.2TW by 2035.[49] Regarding electricity, the IEA projects that renewable electricity capacity will grow by nearly 4,600 GW between 2025 and 2030, which is double the deployment of the previous five years (2019–2024).[50] The levelized cost of electricity for clean technologies is expected to fall 22-49% by 2035.[51]

Figure 9

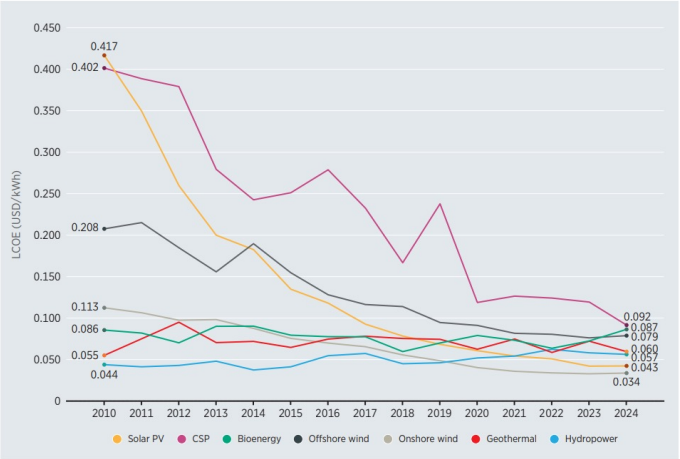
Low-emissions electricity generation capacity by source (2010-2050)



Source: IEA: Net Zero Roadmap. A global pathway to keep the 1.5-degree goal in reach

Figure 10

Renewable Power Generation Cost (2010-2024)



Notes: CSP = concentrated solar power; kWh = kilowatt hour; LCOE = levelised cost of electricity; PV = photovoltaic; USD = United States dollar.

Source: IRENA. Renewable Power Generation Cost in 2024.

By 2030, investments in these sectors are forecast to hit USD657.16 billion and policy initiatives support the growth of this pipeline, as seen also in the 12 climate leaders.[52] The 12 climate leaders all have some form of renewable energy strategy. To list only two examples:

- **Australia** aims for 82% on-grid renewable electricity and 32 GW new clean energy capacity by 2030 with its Capacity Investment Scheme (CIS), which has been expanded to support more large-scale solar, wind and storage.[53] There is a strong focus on streamlining tender processes, with regular tender cycles enabling greater participation. The CIS tenders have seen large oversubscription, with one 6GW tender attracting 25 GW of capacity, enabling a 25% increase to the CIS.[54] In addition, the Australian government green bond programme is focused on issuing green bonds to finance renewable energy, green hydrogen, community batteries, EV charging points and residential home efficiency.[55]

- **Costa Rica** already derives almost all its electricity from renewables and aims to further increase renewables capacity in its Generation Expansion Plan (2022-2040). The country is also developing a National Green Hydrogen Strategy targeting up to six million tons/year of hydrogen production by 2050 to serve domestic energy, agricultural, and industrial uses, and potentially for export.[56,57]

Green hydrogen is fuelling an investment boom

Low-emissions fuels, critical elements of decarbonisation, will drive multi-fold increases in market sizes, driving investments, supported by ambitious policies. Low-emissions fuels such as green hydrogen and Sustainable Aviation Fuel (SAF) are emerging as critical components of the decarbonization strategy.

- **The green hydrogen market is projected to grow from USD1.5 billion in 2025 to USD125.3 billion by 2035.[58]** Green hydrogen will play a key role in industrial decarbonization, long-duration energy storage, and fuel cell mobility. The EU has promoted development of Hydrogen Valleys through the Clean Hydrogen Partnership since 2016, mobilizing EUR1.3 billion for 21 Valleys across 19 countries, cumulatively producing 30,000tH2/yr.[59] Global electrolyzer capacity is expected to grow by a factor of nine by 2030.[60] It grew from 0.6 GW in 2021 to around 5.2 GW in 2024 and is expected to reach 230-520 GW by 2030.[61]

- **The SAF market is projected to grow from USD1.61 billion in 2024, to USD25.62 billion by 2030, a remarkable projected CAGR of 65.5%.[62,63]** In terms of volume, SAF production is expected to increase from 0.91 million metric tons in 2025 to 11.15 million metric tons by 2030 and 18.1 million metric tons by 2035. Even so, this exponential growth is likely to fall significantly short of forecasted demand, which is expected to exceed 41 million metric tons, leaving a gap of over 23 million metric tons. Increasing investments, supportive regulatory frameworks, and global collaboration will be essential to bridge the supply-demand gap and unlock SAF's full potential as a scalable climate solution. Increasing investments, supportive regulatory frameworks, and global collaboration will be essential to bridge the supply-demand gap and unlock SAF's full potential as a scalable climate solution.

Nuclear power is enjoying renewed growth prospects in support of decarbonisation

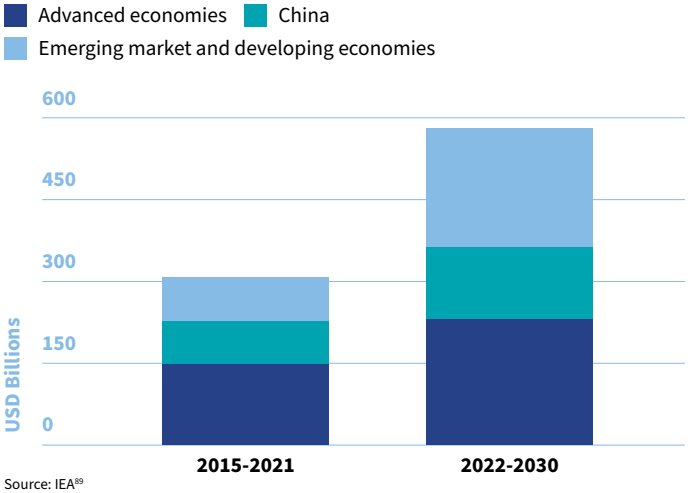
Global nuclear power is entering a period of renewed growth after years of stagnation, driven by energy security concerns, decarbonization goals, and technological innovation.[64] Asia – particularly China and India – will lead new capacity additions, accounting for most of the planned reactor builds, while many OECD countries focus on lifetime extensions of existing plants to maintain low-carbon baseload supply.[65] Overall – and with the right policy and regulatory support – nuclear power is positioned for moderate but meaningful growth, contributing to global decarbonization and energy security.

Governments are strengthening policy and financial support to nuclear across countries. They are doing this via different policy tools such as inclusion in clean-energy tax credits, sustainable finance frameworks, and national energy strategies, improving the investment outlook. Yet, challenges persist such as construction delays, supply-chain bottlenecks, and an emerging uranium supply constraint that may limit the pace of expansion.[66]

The AI boom and the exponentially increasing need for data centres further drives demand for nuclear power. In recent months, 'hyperscalers' and cloud computing companies have signed multiple contracts for nuclear power, with SMRs. The small modular reactors (SMRs) and advanced nuclear designs offering scalable solutions promise lower costs, faster construction, and flexibility to help meet the soaring energy demand of data centres, which is projected to grow over 160% by 2030 due to AI expansion.[67] However, commercialization and licensing hurdles remain significant, and first-of-a-kind projects will test cost and performance claims. While nuclear power could help meet this demand, current projections suggest it will provide less than 10% of the additional capacity.[68] Despite regulatory and commercialization challenges, addressing AI-driven energy needs will require a diversified, collaborative strategy that combines nuclear, renewables, and other technologies

Figure 11

Projected average annual investment spending on electricity grids by groups of countries



Source: IEA[89]

Grids are in urgent need of upgrade, creating an important investment pipeline

Grid investment remains too low and yet has reached a record USD390 billion in 2024 and projected to surpass USD400 billion in 2025, a 20% increase compared to a decade ago.[69] Investment in electricity grids is struggling to keep pace with the accelerating demand for power and the rapid deployment of renewables. While global spending on generation assets now exceeds USD 1 trillion annually, grid investment remains lower despite unprecedented growth. And the gap between generation and grid investment is widening. In 2016, approximately USD0.60 was invested in grids for every dollar spent on new generation capacity; today, less than USD0.40.[70] This imbalance is exacerbated by rising costs for grid components such as transformers and cables, and by the declining costs of renewable technologies.

Grid investment is the necessary accelerator for investment in renewable power generation. Grid bottlenecks and permitting delays have left around 1,650 GW of solar and wind capacity awaiting connection globally, equivalent to six times Germany's total generation capacity.[71] This underscores the urgent need for grid reform and accelerated infrastructure investment to sustain the momentum of renewable energy deployment and ensure electricity security.

Several regions are taking the lead in grid investment. Recognizing the importance of long-term planning, countries like India, Brazil, and South Africa have extended their grid development horizons to nearly a decade. Notably, India has approved USD 110 billion in transmission infrastructure investment between 2024 and 2032, reflecting the scale and urgency of its energy transition goals.[72]

Technological progress and cost reductions: storage is ripe for investment

In 2024, global installed BESS capacity reached approximately 150 GW / 363 GWh, with China and the U.S. together representing nearly 70% of total deployments. The market also saw a record 200 GWh of new capacity added globally, with China contributing over 100 GWh and the U.S. adding 35 GWh.[73,74] According to Goldman Sach's latest projections, the average cost of battery packs is forecast to drop from over 150 USD/kWh in 2023 to below 60 USD/kWh by 2030.[75] Looking ahead, the International Energy Agency (IEA) projects that global battery storage capacity must increase sixfold to 1,500 GW by 2030 to support the tripling of renewable energy capacity agreed at COP28.[76] Batteries are expected to account for 90% of this growth, with utility-scale and behind-the-meter systems playing key roles. Investments of USD1.2 trillion in battery energy storage systems (BESS) will be required to support the installation of over 5,900 GW of new wind and solar capacity globally through 2034, according to Wood Mackenzie.[77] The deployment of grid-forming technology (GFM) needs to accelerate over the next decade to facilitate the projected USD5 trillion global expansion of renewable energy. Technological advancements, particularly in lithium iron phosphate chemistry, and declining costs, down 40% year-on-year in 2024, are making BESS increasingly competitive with traditional peaking power sources.

Global investment in battery energy storage systems (BESS) continued its strong growth trajectory in 2024, increasing by 45% compared to 2023.[78] The United States, Europe, and China remained dominant, accounting for over 90% of total investment.[79] This expansion has been driven by supportive government policies, evolving business models, and rising wholesale market volatility. In 2024, battery prices saw their biggest annual drop since 2017 as Lithium-ion battery pack prices dropped 20% from 2023 to a record low of $115 per kilowatt-hour.[80]

Electric Vehicles are now everywhere and investment in EVs keeps growing

Annual investment in electric vehicles (EVs) has increased fivefold since 2015, and is China's USD143bn investment between 2014-2025 has driven the market.[81,82] Global EV sales exceeded 17 million in 2024, accounting for over 20% of new car sales, with China leading the market, representing nearly half of all EVs sold worldwide.[83] By 2030, EV sales are forecast to more than double, reaching 40.1 million units annually, with Europe and China expected to dominate market share, at 63% in Europe and over 60% in China.[84]

The expansion of EV manufacturing capacity, supported by cross-border investment and policy incentives, is also driving the electrification of transport beyond passenger cars. This includes buses, trucks, and two/three-wheelers. This has major implications for oil demand. EV deployment is expected to displace over 5 million barrels per day of gasoline and diesel consumption globally by 2030, with China alone accounting for half of that reduction.[85] In France, as another example, the Societe des Grands Projets has a low carbon infrastructure EUR35bn Green MTN (Medium-Term Note) Programme that focuses on transport.[86]

2.2. As urbanisation rates climb, sustainable investors can look to EMs in particular

With the global population expected to reach 70% urban by 2050, and likely much higher, cities represent a huge potential sustainable investment opportunity, particularly in EM countries. Around USD15tn in urban infrastructure investment is required by 2040.[90] Cities today account for around 75% of global energy consumption and roughly 70% of global greenhouse gas emissions.[91] Greening existing cities and developing resilience presents huge investment opportunities - particularly in EM countries where urban populations are still proportionately low - but faces major investment gaps, with retrofit programs underfinanced compared to large-scale commercial developments, despite their high returns in emissions and energy savings.[92]

The green buildings market is valued at approximately USD0.65tn and projected to expand to USD1.09tn by 2030. The green buildings and sustainable construction sector have emerged as one of the fastest-growing pillars of the global urbanisation and climate transition agenda. Real estate alone, representing two-thirds of global real assets, accounts for a significant amount of sustainable investment opportunities and is forecast to have a robust compound annual growth rate (CAGR) of 10.8% between 2025-2030.[93,94] The buildings sector operations (heating, cooling, lighting, appliances) represent about 30 % of global final energy consumption, with an even larger portion (≈ 34 %) when including embodied energy in materials like cement and steel.[95]

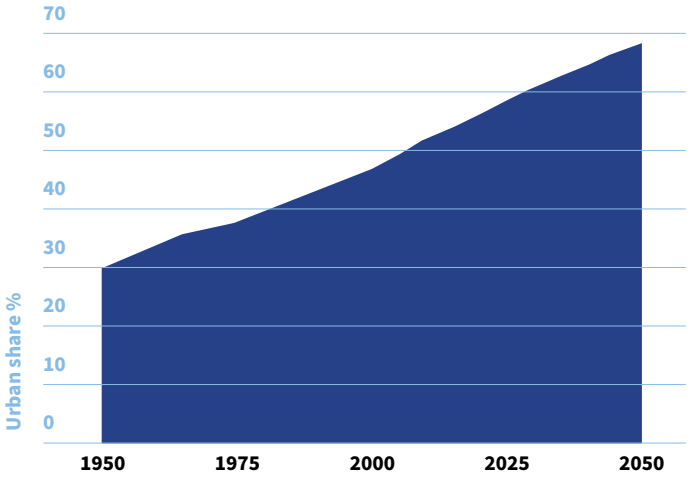
This growth is driven by large-scale investments in various urban systems, including public transportation. Such systems are digital mobility systems, advanced energy management, connected urban infrastructure, and municipal data platforms that enhance operational efficiency and urban resilience.[96] The global public transportation market is estimated to be worth approximately USD273bn and expected to reach USD421bn by 2030**.** [97,98] Transition of the transport sector, which still sees growing emissions (3 % in 2022) and heavy reliance on fossil fuels (oil represents 91 % of energy consumption) will require doubling or transit capacity by 2030.[99]

Urbanisation is fuelling growth of diversified investment opportunities often supported by policymakers. Across the 12 climate leaders, buildings account for 17% of GSS+ UoP, similar to the broader market. Policy support ranges from direct public investment, such as that financed by sovereign issuance by the Dominican Republic, France, Spain, and the UK or development bank issuance in Brazil; to blended finance and capital mobilisation efforts in Australia and Rwanda; to enforcement of green buildings standards. Other examples include, but are not limited to:

- France's RE 2020 sets strict limits on both operational energy and embodied carbon, regulating the carbon footprint of construction materials and processes, and incentivising low-carbon materials, modular construction, and design innovation.[100]
- Singapore's Built Environment Transformation GFA Incentive Scheme encourages greener buildings by granting developers up to 3% additional floor area for meeting advanced sustainability, digitalisation, and productivity targets, turning environmental performance into economic value and offsetting higher upfront costs.[101]
- Minimum Energy Performance Standards in the EU set a clear regulatory pathway to decarbonise Europe's building stock by requiring improvements of the worst-performing assets, mobilising investment for large scale energy efficiency upgrades.[102]

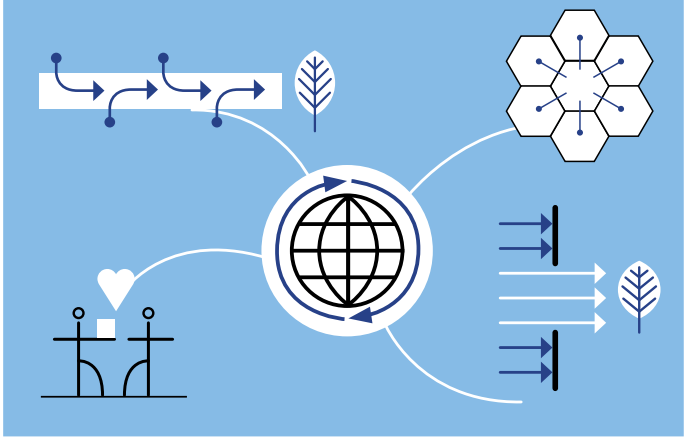
Figure 12

Projected global urban population share (1950-2050)



Source: UN World Urbanization Prospects[103]

2.3. Changing global trade dynamics present new opportunities in green trade and investment

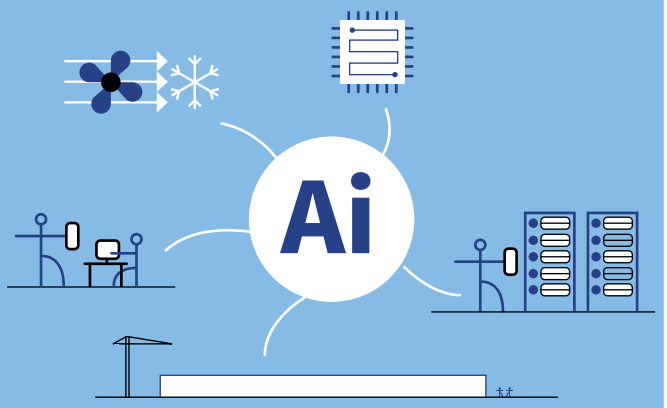


Global trade is seeing the emergence of green trade corridors. As global trade patterns are being reshaped by geopolitical changes, such as near-shoring and friendshoring or tariff changes, it is also being reshaped by the impact of the transition. Green trade corridors, whereby governments or trading blocs reduce tariffs on environmentally friendly goods and services, to stimulate the flow of green capital and goods, have the potential to both reshape global trade and accelerate clean investment. The Regional Comprehensive Economic Partnership, the world's largest free trade agreement, facilitating trade between 15 ASEAN and Asia-Pacific countries, or the upcoming update, due to be signed this year, to the China-Asean Free Trade Area, will include additions related to the green economy.[104,105]

In addition, free trade agreements focused specifically on sustainability goals are becoming more commonplace. For example, Australia and Singapore signed a Green Economy Agreement in October 2022, which focused solely on environmental goods and services and decarbonising key industrial sectors.[106] More recently, the plurilateral Agreement on Climate Change, Trade and Sustainability signed by Switzerland, Costa Rica, Iceland and New Zealand in November 2024, represents an innovative step forward as it is intended to be a living agreement, with its membership and scope growing over time.[107]

Green trade corridors are likely to grow in importance, as countries seek to align their domestic transition policies with their trade policies. Such alignment can offer protection of transition at home while encouraging transition abroad. For example, the upcoming implementation of the EU's Carbon Border Adjustment Mechanism from 2026 (which will apply the EU carbon price differential to imports of goods such as steel, cement and aluminium) will act as a strong incentive to carve out green trade windows for lower-emission alternatives.

2.4. Digitalisation and growth of AI is reshaping energy demand

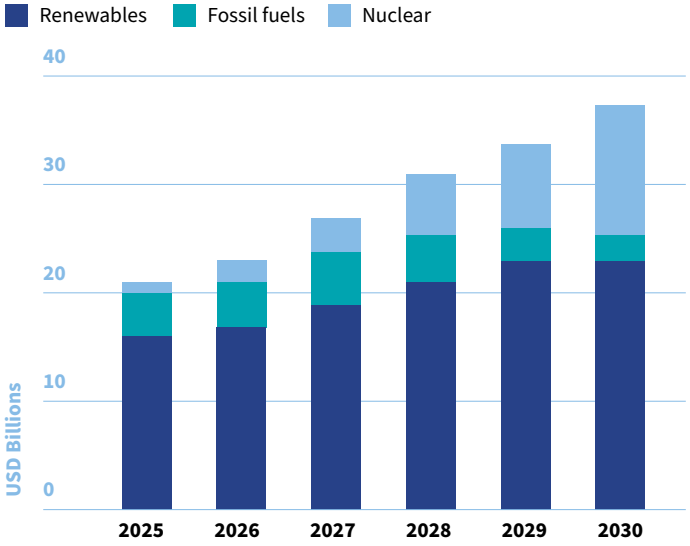


The digital sector is becoming the primary growth engine for global investment and attention is turning to how to make it green. FDI in digital sectors (AI, cloud computing, data centres, semiconductors) has been doubling in value. Looking ahead, global data centres will require USD6.7tn in capital investment 2025-2030, with USD5.2tn of this for AI workloads alone.[108] Annual investment in data centres has surged by 67% over the past two years, reflecting the rapid expansion of digital infrastructure globally.[109] Technology firms now account for over 20% of revenues among top multinational enterprises (MNEs).

Meeting data centre energy demand will require over USD170bn in investment for new generation capacity by the end of the decade.[110] Electricity consumption from data centres expected to double to 950 TWh by 2030.[111] This represents a major sustainable investment opportunity, given the policy and corporate drive to meet this demand with sustainable generation. In addition, the speed of installation of RE generation is key to meeting the rapid development of demand from these centres. In total, the power demand from AI is likely to come from a mix of sources, including nuclear energy (notably from extending the operating life of existing reactors, and possibly Small Modular Reactors in the future).[112]

Figure 13

New power generation investment for data centres (2025-2030)



Source: IEA, World Energy Investment 2025[117]

H1 2025 saw a surge in green bond issuance targeted at funding data centres, with green asset-backed securities (ABS) reaching USD7bn, up from USD2.6bn in H1 2024.[113] ICT/data-centre deals accounted for around 46% of aligned green ABS issuance, compared to just 17% a year earlier. Climate Bonds recorded eight transactions, five of which had tenors exceeding 20 years, reflecting the long-term, infrastructure-like nature of data-centre investments. Notable 2025 issuers included:

- Switch Inc. (USD 2.4bn, 100% renewable-powered facilities)
- Compass Datacenters (USD885m across two tranches)
- Vantage Data Centers Germany (USD732.6m).

Data centres are well-suited for investment, and their greening is supported by policy. Data centres' stable lease revenues and long-dated cash flows make them well-suited to investment and securitisation, while investors increasingly assess green credentials such as renewable-energy sourcing and energy-efficiency metrics. The Climate Neutral Data Centres Pact was developed by the European Commission and EU data centre industry in 2021, committing to make data centres in Europe climate neutral by 2030. The Pact now accounts for 85% of EU capacity.[114] A similar coalition has been established in India.[115] The US Data Center Coalition promotes use of clean energy but has not set specific targets.[116]

2.5. The boom in critical minerals demand represents an investment opportunity that policymakers must carefully manage to ensure net benefit

For the purposes of this paper, critical minerals are defined as the minerals that are essential for the transition to a low carbon economy. While there is no definitive list, it includes lithium, nickel, cobalt, manganese and graphite which are critical for batteries, rare earth elements which are essential for the permanent magnets used in wind turbines and EV motor and copper which is essential for electricity networks.

The IEA forecasts demand for critical minerals to soar. For example, while demand for copper is already expected to go up by 40%, lithium's demand is expected to increase by 700%, both by 2040.[118,119] The increased demand means that over USD500bn in investment is required globally by 2040 to meet expected critical mineral demand. While investment requirements in processing are estimated at around USD90-210bn from 2022-2030. The current combined market value of critical minerals is around USD370bn.[120] Of these, copper accounts for the largest share of market value at USD242bn, set to grow to USD548bn by 2034.[121]

The increased demand, in turn, is expected to stimulate the USD6.72billion critical mineral recycling market, with the support of policy. In addition, the critical mineral recycling market reached USD6.72 billion in 2024, with a compound annual growth rate of 15.8%, expected to hit USD20.13 billion by 2033.[122] Recycling could supply up to 40% of global critical mineral demand by 2050, significantly reducing reliance on primary mining.[123] Policymakers will play a key role in minimising the environmental impact of mining, through safeguards and circularity efforts. This not only reduces adverse impacts of mining but can also represent a growth opportunity and deliver energy security. European GDP could increase 11% by 2030 and 27% by 2050 under a circular economy scenario, compared with 4% and 15% in the current development scenario.[124]

Critical minerals shortfalls and investment trajectories are likely to shape RE investment trajectories. As announced mining projects are expected to cover only half of the total investment needed by 2030 and only USD70-160bn in processing investment is expected. In addition, major supply shortfalls are expected in the near term, at 30% by 2035 for copper for example.

Significant policy interventions are being made to accelerate green investment opportunities in critical minerals. This is spurred by concerns over supply shortfalls, lack of market diversification, and social and environmental consequences of mining practices. Several of the 12 climate leaders are increasing investment in critical minerals, including Brazil, the UK, Japan, France, and Australia.[125] The growth of US offtake agreements for critical minerals in 2025 demonstrates that this sector is also a crucial example of green investment that will boom despite headwinds for labelled green investment. Examples of other policy support include:

- **Australia, which accounts for 35.2% global lithium production, has developed an ambitious 2023-2030 Critical Minerals Strategy**. The strategy aims to develop the country's critical minerals production, processing and supply chains while maintaining ESG standards.[126] In addition, Australia's sustainable finance taxonomy includes green criteria for mineral mining and processing, and a Critical Minerals Production Tax Incentive will run from 2027-2040.[127] These key policies, alongside growing investment flows, suggest Australia will see strong growth of sustainable investment opportunities in the critical minerals sector in the near future.

- **The EU's Critical Raw Materials Act aims to ensure that at least 25% of the EU's annual consumption of critical raw materials comes from recycling and 10% from domestic extraction.** This signals a strong policy commitment to build up European capacity across the entire value chain and facilitate long term investment. The Act streamlines permitting procedures for designated Strategic Projects and these are eligible for EU-level public investment and MS-level guarantees. Clear environmental and social safeguards aim to enhance investor confidence. The Act also supports the development of industrial alliances and cross-border value chains, connecting mining and refining activities with offtakers, and fostering partnerships with third countries to further diversify supply.

- **Four of the 12 climate leaders are part of the 2022 Minerals Security Partnership (MSP)**. This was formed in 2022 by Australia, Canada, Finland, France, Germany, Japan, the Republic of Korea, Norway, Sweden, the United Kingdom, the United States, and the European Union. The aim of the MSP is to encourage investment in critical minerals supply chains by providing financial and diplomatic backing for strategic projects across the entire value chain from mining and extraction to secondary recovery, processing, refining, and ultimately recycling. It prioritises lithium, cobalt, nickel, manganese, graphite, rare earth elements, and copper.[128] ESG standards and recycling and reuse are two of the four pillars of the MSP, a crucial area given the risk posed to biodiversity by critical mineral extraction.[129,130]

2.6. Hard-to-abate sectors' transition represent significant investment opportunities

Hard-to-abate sectors, such as steel, cement and chemicals, will keep growing and their role in the transition is important. By 2050, global demand for steel and cement is expected to rise by over 30% and 45% respectively, in large part due to population growth, urbanisation and infrastructure developments in emerging markets.[131] These sectors will also provide crucial inputs for the wider economic transition to net zero. For example, cement is a crucial component of installations providing renewable energy, such as wind turbines and hydroelectric dams.[132] Meanwhile, the global chemicals sector (which creates materials required to produce many industrial and consumer goods, including plastics and fertilisers) is expected to roughly double by 2030, compared to 2017 levels, and could quadruple by 2050.[133]

Accordingly, these sectors represent a significant share of the investment pipeline. For steel, an estimated USD47bn annually is required to meet growing steel demand by 2050 while maintaining existing facilities, with an additional USD9bn per year required to transition the steel sector to net zero.[134] The capital required to transition the global cement industry could reach USD70bn annually between 2030 and 2040 (double current levels).[135] In the EU alone, the transition of the chemicals industry will require over USD1tn by 2050, representing an increase of capital expenditure by 50% over business-as-usual levels.[136] As well as opportunities arising from the growth and transition of these sectors, opportunities will also arise from the inevitable re-shaping and disruption of global supply chains, modes of production and use of technology that goes alongside this, as set out in Sections 3.1 and 3.4 above.

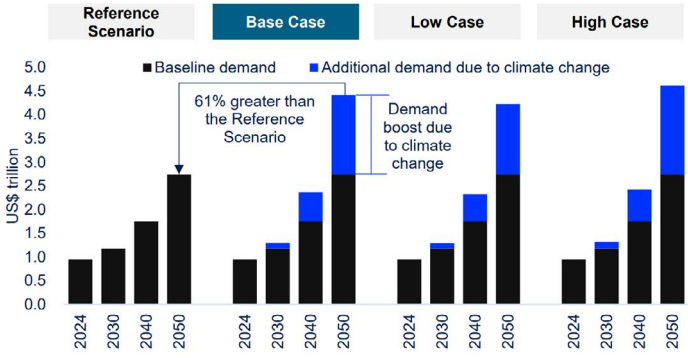
Progress in transition, and the financing of it of hard-to-abate sectors, are being made despite challenges. While the barriers these sectors face to transition are higher than other industries, progress is being made. Sustainable debt markets are a critical source of financing for these sectors and as of June 2024, USD9.2bn of GSS+ bonds been issued in the steel and cement sectors.[137] Amongst the climate leaders, in July 2021, ArcelorMittal (one of the top five producers of global steel) and the Spanish government committed to investing EUR1bn in green steel.[138] Japan has shown leadership with the issuance of its GX bond. It also commits to issuing equivalent of $130bn in Climate Transition bonds by 2034 and has already issued $19bn so far. The projects financed span 22 different fields, including hydrogen and ammonia, next-generation innovative reactors, food, agriculture, forestry, and fisheries, among others, and cover all seven carbon-intensive sectors in the Japanese economy.[139]

2.7. Growth of resilience investment opens sustainable investment opportunities across far more sectors

Current investment flows to resilience are around USD65bn/yr, compared to the USD300bn/year required: that gap is a significant investment opportunity.[141] The need to ensure all countries, sectors, and activities are resilient to inevitable chronic and acute climate change is now well understood and is expected to result in an acceleration of resilience investment. The inclusion of resilience in green finance taxonomies will provide a framework to understand and assess resilience investment and hence boost resilience investment flows by enabling identification of credible and impactful projects for inclusion in sustainable investment products.

Figure 14

Global annual revenue projections for a select set of climate adaptation solutions



Source: GIC Sustainability Office analysis, Bain and Company[140]

Resilience investment broadens the pool of sectors that can qualify for sustainable investment, potentially enabling largescale greening of the USD27.4tn/yr global fixed income market. Building their resilience, sectors such as healthcare, real estate, and infrastructure can significantly increase sustainable issuance.[142] Increasing investment in resilience also contributes to security. NATO member states have recognised this and agreed in the Hague Summit Declaration to allocate, beyond the well-publicised 3.5% of GDP annually to defence expenditure by 2035, an additional 1.5% on resilience, including protecting critical infrastructure, networks and civil preparedness. NATO will launch the process of determining how the 1.5% should be spent in 2026.[143] Investment in sustainable infrastructure and technologies could feature prominently in efforts to build resilience in defence systems. The Declaration is an example of a growing understanding across development priorities of the need to invest in resilience.

Policy support and guidance is key and examples of how to support resilience investment are emerging quickly. The 12 climate leaders all have national adaptation plans and exemplify a range of resilience investment models, from MDB investment in Rwanda, to municipal bond issuance in Japan, to a not-for-profit flood reinsurance scheme in the UK, to blended finance vehicle in Australia.[144] In Singapore, the Ministry of Finance has announced that the Government would target issuance of up to SGD35 billion (USD27bn) of public sector green bonds by 2030. The issuance would target five pillars, including resilience investment such as “City in Nature”, “Sustainable Living”, and “Resilient Future”.[145]

Showing leadership, the Tokyo Metropolitan Government issued the world’s first Climate Bonds Certified bond that uses the Climate Bonds Resilience Criteria and Taxonomy. The EUR300m bond saw EUR2.2.bn demand, demonstrating the strength of appetite for resilience investments.[146] It will finance projects under the USD100bn TOKYO Resilience Project, which aims to strengthen the city’s ability to withstand climate-related risks such as flooding, storm surges, and typhoons.[147,148] This demonstrates the potential for municipalities, which are investing billions globally in climate resilience, to attract international private capital to finance such projects. Brazil’s Green Resilient Model Cities Program and Singapore’s USD10bn Coastal and Flood Protection Fund, could also develop similar international investment opportunities.[149,150]

3. How policymakers can further grow the pipeline and accelerate climate prosperity opportunities

To meet 1.5°C, climate finance flows must increase dramatically, with estimates ranging between USD7.5-9.2tn a year. The Climate Policy Institute estimates that climate related finance must increase fivefold, to USD7.5tn/yr between now and 2030, and over USD8.8tn/yr from 2031 to 2050, mostly from private sources.[151] The McKinsey Global Institute meanwhile estimates that between 2021 and 2050 required capital spending amounts to about USD$275tn, or $9.2 trillion per year on average.[152] Such acceleration requires strong policy guidance to the markets, as well as a policy landscape that supports a tilting of the economy to green.

Climate finance is prosperity finance, as the climate agenda is a strategic agenda for a prosperous future. For policymakers, this is about making sure their country has the economic edge of the future. This is critical in a context of increasingly constrained public budgets. A fiscally efficient policy agenda is needed to deliver transition and even the most fiscally-constrained governments have a range of policies available to accelerate transition and also help improve sovereign fiscal sustainability.[153] From the breadth of climate policies available to governments, a few key initiatives, described below, will accelerate investment, without major impact on government resources.

Regulatory frameworks and taxonomies

Regulatory requirements, including taxonomies, help investors. Despite concerns of high regulatory burdens from the growth of sustainable finance regulations such as disclosure, transition planning, and climate due diligence requirements, these regulations are bringing investors' confidence to invest in green opportunities. Where regulatory burden is high, simplification and integration, and not deregulation, should be the main effort.

The growth of green taxonomies worldwide, with growing interoperability between them, is growing the pipelines for international green investment. Taxonomies have now been implemented in 34 jurisdictions, including the EU, and 10 of the 12 climate leaders covered in this report. The Sustainable Finance Taxonomy Mapper, expected to be launched at COP30, is a global public-good tool that enables users to compare, navigate, and analyse sustainable finance taxonomies across jurisdictions. It aims to support interoperability, transparency, and informed decision-making by mapping taxonomy criteria, structures, and objectives in a consistent, accessible format. It will help streamline navigation of taxonomies, improving clarity, comparability, and harmonisation of sustainable finance practices. The Taxonomy Mapper is a multi-party collaboration, supported by the German development agency Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ) and co-financed by the European Union under the Sustainable Finance Advisory Hub in cooperation with the United Nations Environment Programme – Finance Initiative (UNEP FI), Climate Bonds Initiative (CBI), Principles for Responsible Investment (PRI), and the University of Edinburgh.

As taxonomies increasingly cover sectors such as agriculture, mining, resilience, they are expanding the labelled green investable universe. For example, Rwanda's NDC covers eight sustainable agricultural practices, but its taxonomy covers over 60 practices.[154] The growth of resilience criteria specifically has the potential to unlock huge levels of green investment, particularly in EMDEs where development of resilient housing, infrastructure, and social systems is a core government priority.[155]

Climate disclosure and transition plan requirements can also stimulate green investment. They do this by encouraging and requiring financial institutions and corporates to transition. These are rapidly being introduced across jurisdictions. With most requirements referencing the ISSB standards, jurisdictions are coalescing around the IFRS S2 standards as a global benchmark. This will facilitate cross-border interoperability and reduce the regulatory burdens for internationals. Transition plan assessment criteria and detailed requirements can ensure the strength of these plans, for example the UK consultation on transition plan requirements has suggested requiring net zero 2050 alignment.[156]

Central bank monetary policy

Monetary policy tools hold enormous potential to support green investment and central banks around the world already use them to do so. Reserve requirements, open market operations, priority sector lending and discount, as well as asset purchase and collateral frameworks, could all be used to tilt lending and investment decisions to green. There is a growing understanding that attempts to conduct monetary policy along lines of 'market neutrality' can amplify market biases to high-carbon assets. Several central banks are introducing measures to align asset purchase in a way recognises the systematic under-pricing of climate risks.[157,158,159]

Alignment of subsidies and expenditure

Phaseout of fossil fuel subsidies is one of the clearest signals on climate. It disincentivises fossil fuel investment and frees up budgetary space for other investments. Government support for fossil fuels (budgetary transfers and tax breaks linked to production and use) rose above USD1tn in 2022, driven by high fossil fuel prices, returning to around USD600bn the following year.[160] Subsidy expenditure is concentrated in EMDEs, despite subsidy reform efforts, Egypt's subsidy burden reached 14% GDP in 2022, subsidy reforms could free up large levels of public resources.[161]

More broadly, tilting all government expenditure to green will promote sustainable investment opportunities across the economy. Green public financial management integrates climate considerations into budgetary decisions of all government departments.[162] This can ensure public procurement processes provide demand certainty for green products such as steel or ensure that social welfare schemes such as heating grants do not increase reliance on fossil fuels.

Planning requirements and project fast tracking

Planning and permitting policy provides a powerful and underrated tool to tilt investment flows to green without, or with minimal, fiscal impact. They can address regulatory uncertainty risks, overcome timing issues and streamline offtake agreements. For example, EU Projects of Common Interest receive accelerated planning and permit approvals.[163]

Governments could provide preferential access to permitting or planning permissions for green investments. For example, urban planning regulation could provide a higher height limit for zero carbon buildings, or grid connection granting could prioritise large renewable installations rather than take place on a first-come-first-served basis, a key policy for the UK Clean Power by 2030 target.[164]

Expanding DFI efforts on capital mobilisation

Development finance institutions (DFIs) are increasing efforts on capital mobilisation. Multi-lateral and national development banks (MDBs, NDBs) play a crucial role in growing climate investment pipelines, from project origination through to maturity. Together, they are increasing efforts on capital mobilisation, making greater use of the range of mobilisation tools at their disposal, including underutilised methods such as on-selling investments to both free up balance sheets and contribute to private sector investment opportunities. The British International Investment, for example, highlights on-selling as a mobilisation strategy and has developed Responsible Exit Guidance to ensure sustainability of impact.[165] As another example, the World Bank has upgraded its guarantees' toolkit, etc.

What next?

The projections quoted in this report are conservative.

They provide a solid foundation for asset allocation planning by fixed income investors. In 2026, the Climate Bonds Initiative will provide more detail on a global pipeline.

This report also argues that there is a very high probability of the pipeline being much larger, because of notable market developments:

- **Sovereign bond issuance is growing** much faster than the conservative projections used here; and new issuers continue to come to market. For example, 2025's new entrant, China, only issued USD830 million as a market test. In conversations with China's Ministry of Finance they were very pleasantly surprised by the positive reaction the bond received (7 times over-subscribed), and we expect a significantly larger programme going forward.

- **A rapid growth of green equity investments**, supported by stock exchanges. For example, Brazil's B3 Exchange has released Green Equity Principles, and India's National Stock Exchange (NSE) will do so before the end of 2025; NSE says that some 20% of listings in 2025 have been classified as green, in line with global taxonomies of sustainable finance.

- **Growth in opportunities to invest in companies with credible transition plans**. We are seeing this now in cement, steel, shipping and in hydrogen production. Regulatory support for corporate transition plans in Europe and Asia, and the proliferation of government-led industrial transition plans in Japan and China will quickly fuel development.

- **Growth in financing for green buildings**, supported by advances in regulation, improved cooperation and harmonisation among building certification schemes and a post-COVID market that has seen superior rental performance for green buildings in key markets. This sector will soon provide the largest slice of green investment opportunities outside of sovereign green bond issuance.

- **Growth in "green" AI data centres**. We have already seen several green bonds issued to finance data centres running on clean energy, and the emergence of public sector programmes to encourage low-carbon and resilient buildings. There is scope for large scale AI data centre demand for clean energy to support rapid scaling up and lower production costs and even better competitiveness as a result.

And because background "mega-trends" are generating a greater pool of opportunities, such as:

- **Electrification**. With the rise of China as the world's first "Electrostate", and even an "electrowar" in Ukraine, where fossil fuel powered navies and fighter jets have been forced off the battlefield by electric-powered drones of all kinds, the world is entering a new phase. Electrification is likely to quadruple globally in the next 30 years, at the same time as generation is going green – according to the IEA 90% of all investment in electricity generation in 2024 was for clean energy[166]. with major ramifications for supply chains from cable companies to critical resource mining.

- **Urbanisation**. A rapid shift to living in cities has been underway for some time, with the UN expecting at least 68% of people in urban areas by 2050, versus 58% now. But climate impacts can be expected to increase the rate of urbanization, as extremes of drought and flood drive more people off the land. At the same, cities need investments to become more resilient in the face of those extremes. There will be a lot more investment opportunities like the recent Tokyo Resilience Bond.

- **Resilience**. Investing to reduce the risk of outage from climate extremes and to disaster proof infrastructure so that economies can recover faster after an extreme, will grow fast. Resilience means much more that preparing physical infrastructure for extremes of heat and storm, it also means social and economic resilience to allow societies to recover quickly after disasters, and nature resilience with healthy ecosystems that can weather those same extremes.

To draw attention to this continuing growth and the forward pipeline of creditworthy investments, the Climate Bonds Initiative plans to host a larger Summit in conjunction with the 2026 UN COP. This is expected to feature up to 50 countries with a pipeline of bankable investments expected to amount to be well above USD20 trillion.

Appendix

A wide universe of creditworthy issuers in the 12 climate leader countries, including sovereigns

Australia

ACEN Australia
ASTRA SLR Finance
Australia and New Zealand Banking Group
Australian Catholic University
Australian Postal Corp
Bank Australia
Brambles Finance
Brighte Green Trust
Brookfield Australia Pty Ltd
Cbus Property
Cedar Pacific
Charter Hall Group
Commonwealth Bank of Australia
Commonwealth of Australia
Cromwell Property Group
Downer Group
Elliot Green Power
ETSA Utilities Finance
Firstmac Mortgage
FlexiGroup
FMG Resources
FP Turbo Series 2
Frasers Property
Genex Power
GPT RE
Hallett Group
Housing Australia
Humm Group
Investa
La Trobe University
Lendlease
Local Government Super
LWB QLD SBB
Macquarie Bank
Macquarie Group
Macquarie University
Mirvac Group
Monash University
Murra Warra
National Australia Bank (NAB)
National Housing Finance & Investment Corporation
National RMBS Trust
NBN
New South Wales Treasury Corp
NGR Project Company (QTECTIC)
Pacific Energy
Para Finco
Pepper Residential
Plenti PL
Pro-invest Group
QBE Insurance Group
QIC Shopping Center
Queensland Treasury Corporation
Reliance Rail
SGSP Australia
South Australian Government
Stockland Trust Management
Treasury Corp NSW (TCorp)
Treasury Corp Victoria
Uniting Church NSW
Western Australian Treasury
Westpac Banking
Woolworths

Brazil

Aço Verde do Brasil
Adami SA Madeiras
AEGEA (Aguas do Rio)
Aegea Finance
Aegea Saneamento e Participacoes
AES Brasil
Albion Capital - Origo Energia
Alex Energia e Participações
Algar Telecom
Alianca Geracao de Energia
Amazônia Solar Companhia Securitizadora de Créditos Financeiros (Solfácil)
Ambipar
Anemus Wind
Apollo 17 Participacoes
Athon Energia
Atlas Renewable Energy
Attend Ambiental
Auto Geração (SolarGrid)
AXS Energia
Banco ABC Brasil
Banco Bradesco
Banco BTG Pactual
Banco de Desenvolvimento de Minas Gerais
Banco do Brasil
Banco Santander Brasil
Banco Sicredi
Banco Toyota do Brasil
Banco Votorantim
Bioenergetica Aroeira
BNDES
Brazilian Government
BRF
BRK Ambiental
Caixa Economica Federal
Camil Alimentos
CASAN - Companhia Catarinense de Águas e Saneamento
Celulose Irani
Cemig
Cia de Saneamento do Parana - Sanepar
Ciclus Ambiental
Cogna Educação
Comerc Energia Participações
Companhia de Eletricidade do Estado da Bahia (COELBA) - Neoenergia
Companhia de Saneamento Básico do Estado de São Paulo (SABESP)
Companhia Energética De Pernambuco - Celpe (Neoenergia Pernambuco)
Companhia Energética do Rio Grande Do Norte (COSERN) - Neoenergia
Companhia Riograndense de Saneamento (Corsan)
Concessao Metroviaria Do Rio De Janeiro Sa Metrorio
Concessionaria Aguas de Juturnaiba
Concessionária das Linhas 8 e 9 do Sistema de Trens Metropolitanos de São Paulo
Concessionária de Saneamento do Amapá
Confluencia Energia
Companhia Paranaense de Energia
CPFL Energias Renovaveis
E1 Energia
Eco Securitizadora de Direitos Creditorios do Agronegocio
EcoAgro Securitizadora
EKTT 9 Serviços De Transmissão De Energia Elétrica SPE (Neoenergia)
Elektro Redes (Neoenergia)
Eletrobras
Enel Green Power Brazil
Environmental ESG Participações
Equatorial Energia
Eren Dracena Participacoes (Total Eren)
Faro Energy
Fazenda da Toca
Fibria Overseas Finance Ltd
FS Agrisolutions (Bioenergia) ABS - EcoAgro Securitizadora
FS Agrisolutions (Bioenergia) ABS - Gaia Securitizadora
FS Agrisolutions (Bioenergia) ABS - Octante Securitizadora
FS Agrisolutions Indústria de Biocombustíveis (FS Bioenergia)
FS Luxembourg
Gaia Securitizadora
GBS Participacoes
GDS Energia Renovável
GET Comercializadora de Energia
Gimeni Energy (Linhas de Taubaté Transmissora de Energia)
GLP Brasil
Grano Alimentos
H2 Energy
Ibemapar
Igua Saneamento SA
ISA CTEEP
Itapebi Geração de Energia SA (Neoenergia)
Itau Unibanco Holding
Kanastra Securitizadora (Solfácil)
Katayama Alimentos
Klabin
Lev Bicicletas Eletricas
Light Energia
Lwart Solucoes Ambientais
Marituba Transmissao
Mirante Energética
Movida
Neoenergia Distribuição Brasília
Neoenergia
Opea Securitizadora
Origo Energia
Paranagua Saneamento
PEC Energia (Eolico Serra das Vacas)
Potami Energia (Omega Energia)
Prolagos SA (AEGEA)
Raizen Fuels Finance SA
RDVE Subholding SA (Casa Dos Ventos)
Rio Casca Energética SA
Rio Energy (Copacabana Geracao de Energia e Participacoes)
Rio Smart Lighting Sarl
Rio Verde Energia (Atiaia Energia)

Rio+ Saneamento
Rumo Luxembourg
RZK Energia
Sabara
São Gabriel Saneamento
Scala Data Centers
Serras Holding (Echoenergia)
Silvania Transmissora De Energia SA (State Grid Brazil)
SLC Agricola
Sociedade de Abastecimento de Água e Saneamento (Sanasa)
Solar21 Tecnologia e Energia Solar
Solfácil
Suzano Austria
Suzano International Finance
Suzano Papel e Celulose
Taesa (Transmissora Alianca de Energia Eletrica)
Tanac
Tanac SA (ABS) - EcoAgro Securitizadora
Tegra Incorporadora SA
Terra Nova do Norte Mt Geracao de Energia
Total Biotecnologia (Biotrop)
Transmissora Serra da Mantiqueira (TSM)
True Securitizadora (ABS) - Athon Energia
True Securitizadora (ABS) - Solinftec/ Tecsoil
True Securitizadora (Direcional Engenharia)
True Securitizadora (Oakberry)
True Securitizadora
True Securitizadora (ABS) - Origo Energia
Tucano Holdings (AES Brasil)
Um Grau e Meio - EcoAgro
Unicoba Ind. de Componentes Eletrônicos e Informática
Urbem
Usina Sonora
Vert Companhia Securitizadora (Alume)
Vert Companhia Securitizadora (Gyra, Gyra+, GyraMais)
Vert Companhia Securitizadora (PraValer)
Vert Companhia Securitizadora
Virgo Companhia de Securitização
VSG Energia Solar

Costa Rica

Banco Nacional de Costa Rica
Banco Promerica de Costa Rica
Cooperativa de Electrificación Rural de Guanacaste, R.L. (Coopeguanacaste)
Ecosolutions
Instituto Costarricence de Electricidad

Denmark

AP Moeller - Maersk
Arbejdernes Landsbank
Arla Foods
Better Energy
Cadeler
Copenhagen Infrastructure Partners
Danske Bank
Danske Statsbaner (DSB)
DSV
European Energy
Haldor Topsoe Holding
Jyske Bank
Jyske Realkredit
Kingdom of Denmark
KommuneKredit
LM Group
NKT
Nordea Kredit Realkreditaktieselskab
Nykredit Realkredit
Orsted
Orsted Wind Power
Realkredit Danmark
Spar Nord Bank
Sydbank
TDC Net
Vestas Wind Systems

Dominican Republic

Banco de Ahorro y Crédito FONDESA SA - BANFONDESA
Banco Popular Dominicano (BPD)
Dominican Republic
Empresa Generadora de Electricidad Haina (EGE Haina)

France

ABEILLE VIE d'Assurances Vie et de Capitalisation
Accor SA
Action Logement Services
Agence Francaise de Developpement
Agence France Locale
Air France-KLM
Air Liquide Finance
Akiem Group
Akuo Energy
ALD Automotive
Ardian Infrastructure
Arkea Home Loans
Arkema
Assistance Publique Hopitaux de Paris
Atos
AXA
Banque Federative du Credit Mutuel
BNP Paribas
Bordeaux Metropole France
BPCE
Bpifrance
Caisse d'Amortissement de la Dette Sociale
Caisse Francaise de Financement Local (Caffil)
Caisses de Reassurance Mutuelle Agricole (Groupama)
Carrefour
CDC (Caisse des Depots et Consignations)
Ceetrus
Cie de Financement Foncier
Cie de Saint-Gobain
City of Paris
CNP Assurances
Commune de Lyon
Compagnie De Phalsbourg
Covivio Hotels
Covivio SA
Credit Agricole
Credit Mutuel
Danone
Department de L'essonne
Derichebourg
EDF
EDR REIM
Electra
Electricite de France

Japan

ELO SACA
Engie
Ermewa
Eurostar
Faurecia
Fonciere INEA
Gecina
Getlink
Goldstory
Groupe BPCE
Hauts-de-France (prev Nord-Pas de Calais)
HSBC Continental
Icade Sante
Ile de France
Ile-de-France Mobilites
Ivanhoe Cambridge
Klepierre
Korian
La Banque Postale
La Poste
Leasys Italia
Lhyfe
LISEA
L'Oreal
Metropole de Lyon
Natixis
Neoen
Nexans
Nexity
Orange
Orpea
OVH Groupe
Paprec Holding
Praemia Healthcare
Provence-Alpes-Cote
PSA Banque France
Quadran Energies Libres
RATP (Regie Autonome des Transports Parisiens)
RCI Banque
Reden Solar
RedTree Capital
Region Auvergne-Rhone-Alpes
Region Nouvelle-Aquitaine
Region Occitanie
Region of Pays de la Loire
Republic of France
River Green Finance
RTE Reseau de Transport d'Electricite
SAS Nerval (SCI Lamartine)
Seche Environnement
SFIL
SNCF
Société des Grands Projets
Societe Generale
SYCTOM (Agence Metropolitaine des Dechets Menagers)
TagEnergy
Teleperformance
Tikehau Capital
Tisseo Collectivites
Touax Rail
Unedic
Unibail-Rodamco-Westfield SE
Valeo SE
Veolia Environment
Verkor SAS
Ville de Paris
Vinci
Vinci SA

Activia Properties
Advance Residence Investment Corporation
Aeon Mall
AEON REIT
AESC Ibaraki
Aichi Prefecture
Aiful Corp
Air Water Inc
Airport Facilities Co
Alfresa Holdings
Ana Holdings
Asahi Holdings
Asahi Printing
ASICS Corporation
Bank of Nagoya
Campo Group
Canadian Solar
Central Japan Railway Company
Central Nippon Expressway
Chiba Prefecture
Chugin Financial Group
Chugoku Bank
Chugoku Electric Power
Chuo-Nittochi Group
City of Chiba
City of Fukuoka
City of Kawasaki
City of Kitakyushu Japan
City of Kumamoto
City of Kyoto
City of Osaka
City of Sapporo Japan
City of Yokohama Japan
Comforia Residential REIT
CRE Logistics REIT
Credit Saison
Daibiru Corp
Daiken Corporation
Daiki Axis
Daikoro
Daio Paper Corporation
Daito Trust Construction
Daiwa House REIT
Daiwa Office Investment Corp
Daiwa Securities
Denso Corp
Development Bank of Japan
Dream Private REIT
East Japan Railway Company
Ene Park Toyama
ENEOS Holdings
Etrion
Eurus Energy
EXEO Group
Frontier Real Estate
Fujifilm Holdings
Fujikura
Fukuoka REIT
Fuyo General Lease
Gakken Holdings
Global One Real Estate
GLP J-REIT
Government of Japan
GPSS Holdings
Gunma Bank
Hankyu Hanshin Holdings
Health Care & Medical Investment Corp
Hikari Tsushin
Hitachi UFJ
Hitachi Construction Machinery
Hitachi Zosen
Hokkaido Electric Power Company (HEPCO)
Hokkaido University
Honda
Hoshino Resorts REIT
Hudson Sustainable Group
Hulic REIT
Ichigo ECO Energy
Iino Kaiun Kaisha
Infroneer Holdings
Inpex Corp
Invesco Office J-REIT
Invincible Investment Corp
Itochu Corp
Iwatani Corp
J Front Retailing
JA Mitsui Leasing
JA Solar Japan
JACCS
Japan Bank for International Cooperation (JBIC)
Japan Excellent
Japan Finance Organization for Municipalities
Japan Freight Railway
Japan Hotel REIT I
Japan Housing Finance Agency
Japan Infrastructure Fund
Japan International Cooperation Agency (JICA)
Japan Logistics Fund
Japan Metropolitan Fund Investment Corporation
Japan Prime Realty
Japan Railway Construction Transport and Technology Agency
Japan Real Estate Investment Corporation
Japan Student Services
Japan Water Agency
JGC Holdings
J-POWER
JRTT (Japan Railway Construction, Transport and Technology Agency)
Kajima Corp
Kajima Corporation
Kamisato Construction
Kanagawa Prefecture
Kaneka Corporation
Kansai Electric Power
KDDI Corp
KDX Realty
Keihan Holdings
Kenedix
Kintetsu Group
Kirin Holdings
Kochi Prefecture
Konan Ultra Power
Kureha Corporation
Kyushu Electric Power
Kyushu Railway
Looop Inc
M&C Tottori Hydroelectric Power
Macromill
Marubeni Corp
Marui Group
Mazda
Megmilk Snow Brand
Meidensha Corporation
Meiji Holdings
Metawater
Minebea Mitsumi
Miraca Holdings Inc
Mirai Corp
Mitsubishi Corporation
Mitsubishi Electric
Mitsubishi Estate
Mitsubishi HC Capital
Mitsubishi Heavy Industries
Mitsubishi UFJ Financial Group
Mitsui Fudosan
Mitsui Fudosan Logistics Park
Mitsui O.S.K. Lines
Mitsui-Soko Holdings
Miyagi Prefecture
Mizuho
Mobilots
Mori Building
Mori Hills REIT
Morinaga & Co
Morinaga Milk Industry
Nagano Prefecture
Nagoya Railroad
Nankai Electric Railway
National Institution for Academic Degrees & Quality Enhancement of Higher Education
NEC Capital Solutions
NGK Insulators
NH Foods
Nidec Corporation
Nikon
Nippon Accomodations Fund
Nippon Building Fund
Nippon Pillar Packing
Nippon Prologis REIT
Nippon REIT
Nippon Steel Corporation
Nippon Yusen KK
Nipro Corp
Nishimatsu Construction C
Nishi-Nippon Railroad
Nissan
Nissen Kaiun
Nitto Kogyo
Nomura Real Estate
Nomura Research Institute
NTT
Obayashi Corporation
Odakyu Electric Railway
Okinawa Development Finance
One REIT
Organization for Promoting Urban Development
Orient Corporation
ORIX Bank
Osaka Prefecture
Osaka University
Otsuka Holdings
Penta-Ocean Construction
Pet Refine Technology
PJMF Stellar
PPFA Japan

Renesas Electronics
Renewable Japan
Renova
Ricoh
Saitama Prefecture
Sanken Electric
Sawai Group H
SCSK Corporation
Seibu Holdings
Sekisui House REIT R
Shiga Prefecture
Shimizu Corporation
Shinsei Bank
Shizen Energy
Shoko Chukin Bank
SoftBank
Sompo Holdings
Sony Bank
Sotetsu Holdings
Starts Proceed Investment
Subaru
Sumitomo Corp
Sumitomo Forestry
Sumitomo Metal Mining
Sumitomo Mitsui Auto Service
Sumitomo Mitsui Construction
Sumitomo Mitsui Financial Group
Sumitomo Mitsui Trust Bank
Sumitomo Warehouse
Taisei Corp
Takamatsu Construction Group
Takasago Thermal Engineering
Takashimaya
Tanaka Precious Metals
TDK Corp
TEPCO Renewable Power
Tess Engineering
The Norinchukin Bank
Tobu Railway
Toda Corp
Tohoku Electric Power
Tohoku University
Tokai National Higher Education and Research System National University
Tokushima Prefecture
Tokyo Century
Tokyo Gas
Tokyo Institute of Technology
Tokyo Metro
Tokyo Metropolitan Government
Tokyo Metropolitan Housing Supply
Tokyo Tatemono
Tokyo Waterfront Area Rapid Transit
Tokyu Corp
Tokyu Fudosan
Tokyu Land Capital Management
Tokyu REIT
Tosei REIT
Toyobo Co
Toyoda Gosei
Toyota
Toyota Motor Corp
United Urban Investment Corp
University of Tokyo
University of Tsukuba
Urban Renaissance Agency
Welfare and Medical Service Agency
West Holdings Corporation
West Japan Railway
Yamatane Corp
Yamato Holdings
Yaskawa Electric Corp
Yokohama Minatomirai Railway
Yokohama Reito
Z Holdings Corporation
Zensho Holdings

Kenya

Acorn Holding
Anergi Turkana
Kenya Power and Lighting Company

Singapore

ACEN Renewables International
Allgreen-Kerry
Apeiron AgroCommodities
ARA Asset Management/ Chelsfield
Ascendas Real Estate Investment Trust
Ascott Residence Trust
Asia Square Tower
Bayfront Infrastructure Capital
Boustead Singapore
BP-Dojo
CapitaLand
CDL Properties
Cleantech Solar
Continuum Energy
DayOne Data Centers Singapore
DBS Group
Empyrion
Fairview Development
FC Retail Trustee
FCT MTN
First Real Estate Investment Trust
FLCT Treasury
Frasers Centrepoint Trust
Frasers Property
GLP
Gold Ridge
GuocoLand
Ho Bee Land
Hong Leong Holdings
Keppel REIT
Lentor Residence Development
LOGOS
LYS Energy
Mapletree Commercial Trust
Maxeon Solar Technologies
MS Commercial
MTG Apartments
National Energy Agency
National University of Singapore
Nxera DCT
Ocean Properties
Ophir-Rochor Commercial (Allianz Real Estate / Gaw Capital Partners)
Ophir-Rochor Hotel (Hoi Hup Realty)
Oversea-Chinese Banking Corp
Oxley Holdings
Phoenix Residential & Commercial
Pontiac Land Group
Princeton Digital Group
Public Utilities Board
REC Solar Holdings
Royal Group
Sapphire Star Trust
Seatrium
Sembcorp Financial Services
Sindicatum Renewable Energy
Singapore Government
Singapore Housing & Development Board
Singapore Telecommunications (Singtel)
Soilbuild Group Holdings
Solar United Network
South Beach Consortium
Starhill Global REIT
Sun Venture
Sunseap Group
Terrenus Energy
The Farrer Park Company
Tong Eng Group
United Industrial Corp
United Overseas Bank
Vena Energy
WLB ASSET II PTE. LTD.
WLB Asset
Worldwide Hotels Group
Yanlord Land

Spain

Abanca Corp Bancaria
Abengoa Greenfield
Acciona Energia
ACS
ADIF Alta Velocidad
AEDAS Homes
Arclight Solar
Audax Renovables
Autonomous Community of Andalusia Spain
Azora
Banco de Credito Social Cooperativo
Banco de Sabadell
Banco Santander
Bankinter
Basque Government
BBVA
Bothwell Spain
Bruc Management Projects
CaixaBank
Caja Rural de Navarra
Cepsa
City of Barcelona
Community of Madrid
Companhia de Saneamento de Minas Gerais
Comunidad Foral de Navarra
Conren Tramway
Dragados
Ecoener Emisiones
EDP Renovaveis
Ence Energia
Endesa
Eurocaja Rural
FCC Aqualia
Forestalia
Fortini Investments
Fotowatio Renewable Ventures
FT RMBS Green Prado
Green Bidco
Green Genius
Greenalia
Greening Group Global
Grenergy Renovables
Grupo Cobra
Grupo Easycharger (Zunder)
Grupo Empresarial Enhol
Haizea Wind Group
Iberdrola
Iberdrola
Inmobiliaria Colonial Socimi

UK

Instituto de Credito Oficial
Junta de Andalucia
Junta de Castilla y Leon
Kingdom of Spain
Kutxabank
Lar Espana Real Estate SOCIMI
Matrix Renewables
Metropolitano de Tenerife
Naturgy Energy Group
Navarre
Neinor Homes
Opdenergy
Orix Corp
Pensium Esg I Fondo de Titulizacion
Q-Energy
Qualitas Energy
Redeia
Renovalia
Repsol
Solaria Energia y Medio Ambiente
Telefónica
Unicaja Banco
Via Celere
Visalia Energia
Wallbox
Xunta de Galicia
Zelestra Corp

Affinity Water
Amro Partners
Anchor Hanover Group
Anglian Water Osprey Financing PLC
Anglian Water Services Financing PLC
Argent
Assura Financing
Aster
Atlantica Sustainable Infrastructure
Barclays Bank
Bazalgette Finance
Belectric Solar
Benchmark Holdings
Berkeley Group
Beyond Housing
Blend Funding
British Airways
Brookfield Finance
Bruntwood
Burberry Group
Cadent Finance
Canary Wharf Group
Church Commissioners for England
CK Hutchison Europe Finance
Clarion Funding
ComfortDelGro (CDG)
Compass Group Finance
Compass Group LC
Co-Operative Bank
Cubico Sustainable Investments
Derwent London
DS Smith plc
DWR Cymru Financing
Eastern Power Networks
EEW Capital Finance
Eneti
Electricity North West
EOS Investment Management
Exmoor Funding
Finsbury Square
FirstGroup
Flagship Finance
Great Portland Estates LC
Greensquareaccord
Greystar
Gridserve
Hamilton Waste & Recycling
Hammerson Ireland
HB Reavis
Hexagon Housing Association Ltd
HSBC

Jigsaw Funding
Just Group
Kidbrooke Partnership
Kincardine Offshore Windfarm
Land Securities Group
Legal & General Investment Management
Lendlease Europe
Life Science REIT
Lightsource
Livewest Treasury
Lloyds Bank
London Power Networks
M&G Real Estate
Metropolitan Housing Trust
Mitsubishi HC Capital
Moray West Holdings
MORhomes
Motability Operations Group
National Grid
NatWest Group
Neutral Capital Finance
Nomura Bank International
Northern Power Grid
Notting Hill Genesis
Outpost Management
Paradigm Homes Charitable Housing Association
Paragon Banking
Peabody Capital
Places For People
Platform HG
Porterbrook
Project Grand UK
Quintain Services
Raylo Group
Related Argent
Renewi
Retail Charity Bonds
Royal Bank of Scotland
Scape Living
Scottish Power
SEGRO Capital
Severn Trent Utilities
South Eastern Power Networks
South West Water
Southern Housing
Southern Water Services
Sovereign Housing Capital
SSE

Standard Chartered Bank
Stonewater Funding
Sustainable Capital
SW Finance
Thames Water Utilities
Transport for London
Tristan Capital Partners
Tritax
Triton Knoll Wind Farm
Unilever
United Kingdom Debt Management Office
United Utilities Water
University College London
Vantage Data Centers
Verne Global
Virgin Media Designated Activity Company
Vita Group Holdings
Vmed O2 UK Financing I (Liberty Global)
Vodafone Group
Wessex Water Services
West Berkshire Council
Workspace Group
Yorkshire Building Society
Yorkshire Water
Zenith Automotive

Endnotes

1. https://www.mckinsey.com/capabilities/sustainability/our-insights/the-net-zero-transition-what-it-would-cost-what-it-could-bring
2. https://www.ecb.europa.eu/press/economic-bulletin/articles/2018/html/ecb.ebart201804_01.en.html
3. https://www.marketforces.org.au/info/reports/investor-disconnect-climate-risk/
4. https://www.nissay.co.jp/global/pdf/20240611.pdf
5. https://www.nissay.co.jp/global/pdf/20240611.pdf
6. https://www.prudentialplc.com/en/news-and-insights/all-news/news-releases/2024/23-09-2024
7. https://www.lacaisse.com/en/news/pressreleases/caisse-announces-its-2025-2030-climate-strategy
8. https://constructionreviewonline.com/the-20-solar-wind-and-battery-projects-approved-by-australia-in-2025-factsheets-and-timelines/
9. https://www.gov.br/planaltocloudreve/en/latest-news/2024/11/federal-government-announces-amazon-cerrado-deforestation-drop-concludes-prevention-pact
10. https://www.iosd.org/harnessing-the-sun-costa-ricas-journey-to-100-renewable-energy/
11. https://www.worldbank.org/en/news/feature/2022/11/16/costa-rica-s-forest-conservation-pays-off
12. https://www.europarl.europa.eu/RegData/etudes/BRIE/2024/767173/EPRS_BRI%282024%29767173_EN.pdf
13. https://unfccc.int/news/dominican-republic-advances-design-of-pilot-emissions-trading-system
14. https://www.europarl.europa.eu/RegData/etudes/BRIE/2024/767181/EPRS_BRI%282024%29767181_EN.pdf
15. https://www.meti.go.jp/policy/energy_environment/global_warming/transition/pathways_to_green_transformation_eng.pdf
16. https://www.climatebonds.net/news-events/press-room/press-releases/japan-issue-11bn-climate-transition-bond-certified-climate-bonds-standard
17. https://www.iea.org/reports/kenya-2024/
18. https://www.minecofin.gov.rw/news-detail/rwanda-officially-launches-national-climate-and-nature-finance-strategy-to-drive-sustainable-development
19. https://www.minecofin.gov.rw/index.php?eID=dumpFile&t=f&f=118538&token=8b2687be44683fadd282f611e4e35a54332bc39d
20. https://www.temasek.com.sg/en/news-and-resources/news-room/news/2024/temasek-sets-aside-100-million-concessional-capital-for-climate-action-50th-anniversary
21. https://www.climatescorecard.org/2025/08/spain-2025-mid-year-emissions-report-card/
22. https://www.gov.uk/government/publications/clean-energy-industries-sector-plan/clean-energy-industries-sector-plan-html
23. https://www.lse.ac.uk/granthaminstitute/wp-content/uploads/2024/11/Raising-ambition-and-accelerating-delivery-of-climate-finance_Third-IHLEG-report.pdf
24. https://www.iadb.org/en/news/idb-group-launches-reinvest-going-where-money-unlock-private-climate-finance
25. This number reflects the average CAGR for issuance in long term global fixed income market between 2022-2024
. SIFMA, July 2025. 2025 SIFMA Capital Markets Fact Book
26. https://www.mordorintelligence.com/industry-reports/bond-market
27. The lower bound USD3.3tn estimate is calculated based on the Climate Bonds Data Methodology. Climate Bonds | Insights from Climate Bonds Data
28. For the upper bound USD4.4tn estimate, the scope is widened to include climate-related bonds which have been labelled as such, but which do not adhere to the strict requirements of the Climate Bonds Methodology; and an estimate of the value of bonds not labelled as climate-related, but which would be expected to align with the Climate Bonds Methodology. For more on the latter, please see: The Climate Bonds Initiative (July 2021): Climate Investment Opportunities: Climate-aligned Bonds and Issuers 2020
29. McKinsey Global Institute 2022. The net-zero transition; what it would cost, what it could bring
30. The Climate Policy Institute, 2025. Global Landscape of Climate Finance 2025.
31. Climate Policy Initiative. 2025. Global Landscape of Climate Finance 2025. Global Landscape of Climate Finance 2025 - CPI
32. Climate Policy Initiative. 2025. Global Landscape of Climate Finance 2025. Global Landscape of Climate Finance 2025 - CPI
33. Morningstar, July 2025. Global Sustainable Fund Flows: Q2 2025 in Review. Global Sustainable Fund Flows: Q2 2025 in Review | Morningstar
34. Note: “The global sustainable fund universe encompasses open-end funds and ETFs that, by prospectus or other regulatory filings, claim to focus on sustainability, impact, or environmental, social, and governance factors.” Morningstar, July 2025. Global Sustainable Fund Flows: Q2 2025 in Review. Global Sustainable Fund Flows: Q2 2025 in Review | Morningstar
35. Brazilian Ministry of Finance, gov.br. Projects — Ministério da Fazenda
36. https://www.oecd.org/content/dam/oecd/en/publications/reports/2024/11/g20-oecd-report-on-assessing-and-promoting-capital-flow-resilience-in-emerging-markets-and-developing-economies_3864338c/b261bbe7-en.pdf
37. IEA, World Energy Investment 2025
38. https://www.allianz.com/content/dam/onemarketing/azcom/Allianz_com/economic-research/publications/specials/en/2025/july/2025-07-30-Infrastructure.pdf
39. IEA Electricity 2025, Analysis and forecast to 2027 ttps://iea.blob.core.windows.net/assets/7c671ef6-2947-4e87-beea-af0e1288e1d7/Electricity2025.pdf
40. Ibid
41. https://ember-energy.org/app/uploads/2025/09/Slidedeck-The-Electrotech-Revolution-PDF.pdf
42. https://www.iea.org/countries/kenya/electricity
43. https://www.irena.org/Digital-Report/Tracking-COP28-outcomes-Tripling-renewable-power-capacity-by-2030?utm_source=chatgpt.com
44. https://iea.blob.core.windows.net/assets/17033b62-07a5-4144-8dd0-651cdb6caa24/Renewables2024.pdf
45. https://www.ren21.net/wp-content/uploads/2019/05/gsr2024_SYSTEMS_module.pdf?utm_source=chatgpt.com
46. https://www.worldbank.org/en/results/2023/02/08/scaling-up-energy-storage-to-accelerate-renewables-esmap-s-energy-storage-program?utm_source=chatgpt.com
47. IRENA renewable capacity statistic 2025, https://www.irena.org/News/pressreleases/2025/Mar/Record-Breaking-Annual-Growth-in-Renewable-Power-Capacity
48. Ibid
49. Ibid
50.
51. https://about.bnef.com/insights/clean-energy/global-cost-of-renewables-to-continue-falling-in-2025-as-china-extends-manufacturing-lead-bloombergnef/
52. Strategic Intelligence: Renewable Energy Report 2025
53. https://climateactiontracker.org/countries/australia/
54. https://www.pv-magazine.com/2025/07/29/australia-expands-capacity-investment-scheme-to-target-40-gw-of-renewables/
55. https://www.aofm.gov.au/securities/green-bond-program
56. https://climateactiontracker.org/countries/costa-rica/policies-action/
57. Ministerio de Ambiente y Energia de Costa Rica: Estrategia Nacional de Hidrógeno Verde de Costa Rica.
58. https://www.globenewswire.com/news-relea se/2025/04/30/3071546/28124/en/Green-Hydrogen-Market-Industry-Report-2025-Global-Forecasts-to-2035-Alkaline-Electrolyzer-and-PEM-Lead-Tech-Revolution-in-Green-Hydrogen-Segment.html
59. Hydrogen Valleys - Clean Hydrogen Partnership: https://www.clean-hydrogen.europa.eu/get-involved/hydrogen-valleys_en
60. Hydrogen Valleys - Clean Hydrogen Partnership: https://www.clean-hydrogen.europa.eu/get-involved/hydrogen-valleys_en
61. https://www.iea.org/energy-system/low-emission-fuels/electrolysers
62. https://www.iea.org/reports/world-energy-investment-2025
63. https://www.marketsandmarkets.com/Market-Reports/sustainable-aviation-fuel-market-70301163.html?gad_source=1&gad_campaignid=272040196&gbraid=0AAAADxY7SwZ8LBLLde8hdlfpb9LbWkdz&gclid=Cj0KCQjwjL3HBhCgARIsAPUg7a4kK4-xZfrQ4HAOyrCqN4RXDT07_Q__1OnC9hJi-jHyaIc-tDm-TswaAmbIEALw_wcB
64. The path to a new era for Nuclear energy, IEA 2025 https://iea.blob.core.windows.net/assets/b6a6fc8c-c62e-411d-a15c-bf211ccc06f3/ThePathtoaNewEraforNuclearEnergy.pdf
65. https://world-nuclear.org/information-library/current-and-future-generation/plans-for-new-reactors-worldwide?utm_source=chatgpt.com
66. https://www.ft.com/content/0d6cb34e-4fda-4182-a319-11bae1917141?utm_source=chatgpt.com
67. https://www.goldmansachs.com/insights/articles/is-nuclear-energy-the-answer-to-ai-data-centers-power-consumption
68. Ibid
69. IRENA renewable capacity statistic 2025, https://www.irena.org/News/pressreleases/2025/Mar/Record-Breaking-Annual-Growth-in-Renewable-Power-Capacity
70. World Energy Investment 2024
71. https://www.iea.org/reports/building-the-future-transmission-grid/executive-summary
72. India National Electricity Transition Plan by 2032
73. https://www.irena.org/News/expertinsights/2025/Aug/The-Rise-of-Solar-PV-and-Battery-Storages-Prominence-in-Emerging-Markets
74. https://www.iea.org/data-and-statistics/charts/global-battery-storage-capacity-additions-2010-2023
75. Goldman Sachs: “Battery Prices to Fall Below $60/kWh by 2030” - Mobility Portal: https://mobilityportal.eu/goldman-sachs-battery-prices-fall/
76. https://www.iea.org/reports/batteries-and-secure-energy-transitions/outlook-for-battery-demand-and-supply
77. https://www.woodmac.com/press-releases/bess-opportunity/
78. IEA World Energy Investment 2025
79. IEA World Energy Investment 2025
80. https://about.bnef.com/insights/commodities/lithium-ion-battery-pack-prices-see-largest-drop-since-2017-falling-to-115-per-kilowatt-hour-bloombergnef/
81. IEA World Energy Investment 2025
82. https://cbm.rhg.com/dashboard/china-global-clean-tech-investment-dashboard
83. IEA *Global EV Outlook 2025*:
84. https://ev-volumes.com/?utm
85. https://www.iea.org/data-and-statistics/charts/oil-displacement-from-electric-vehicles-in-the-stated-policies-scenario-2030
86. https://www.societedesgrandsprojets.fr/sites/default/files/2024-10/Green%20Bond%20reporting%202023%20-%20UK.pdf
87. https://www.iea.org/countries/united-kingdom/electricity
88. https://www.iea.org/countries/kenya/electricity
89. https://www.iea.org/data-and-statistics/charts/average-annual-investment-spending-on-electricity-grids-in-the-net-zero-scenario-2015-2030
90. https://www.weforum.org/stories/2025/04/why-investment-in-sustainable-infrastructure-is-key-to-financial-resilience-in-a-changing-climate/
91. Buildings - Energy System - IEA
92. Building Green: Sustainable Construction in Emerging Markets
93. https://www.mordorintelligence.com/industry-reports/green-building-market.
94. https://www.mckinsey.com/industries/financial-services/our-insights/the-rise-and-rise-of-the-global-balance-sheet-how-productively-are-we-using-our-wealth
95. Buildings - Energy System - IEA
96. Smart Cities Market Size, Share, Growth Analysis & Industry Research Report, 2030
97. Public Transportation Market Size, Share, Growth & Industry Report, 2030
98. https://www.mordorintelligence.com/industry-reports/public-transportation-market
99. The Current State of Public Transport as a Climate Solution | World Resources Institute
100. https://www.ecologie.gouv.fr/politiques-publiques/reglementation-environnementale-re2020
101. https://www1.bca.gov.sg/buildsg/sustainability/green-mark-incentive-schemes/built-environment-transformation-gross-floor-area-incentive-scheme
102. https://build-up.ec.europa.eu/en/resources-and-tools/publications/report-20-policy-levers-decarbonise-buildings-europe
103. https://population.un.org/wup/assets/WUP2018-Report.pdf
104. https://www.iea.org/policies/18409-regional-comprehensive-economic-partnership-rcep
105. https://news.cgtn.com/news/2025-05-08/Upgrading-China-ASEAN-FTA-Boosting-global-and-regional-growth-1DcV6soGrBK/p.html
106. https://www.dfat.gov.au/geo/singapore/singapore-australia-green-economy-agreement
107. https://www.mfat.govt.nz/en/trade/free-trade-agreements/free-trade-agreements-concluded-but-not-in-force/agreement-on-climate-change-trade-and-sustainability-accts/agreement-on-climate-change-trade-and-sustainability-accts-overview
108. https://www.mckinsey.com/industries/technology-media-and-telecommunications/our-insights/the-cost-of-compute-a-7-trillion-dollar-race-to-scale-data-centers
109. https://www.alvarezandmarsal.com/sites/default/files/2024-11/Global%20Data%20Centre%20Insights%202024-final.pdf
110. (IEA) World Energy Investment 2025
111. https://www.datacenterdynamics.com/en/news/iea-data-center-energy-consumption-set-to-double-by-2030-to-945twh/
112. https://www.goldmansachs.com/insights/articles/is-nuclear-energy-the-answer-to-ai-data-centers-power-consumption
113. https://www.climatebonds.net/files/documents/publications/Sustainable_Debt_H1_2025_01C.pdf
114. https://www.climateneutraldatacentre.net/2025/06/11/new-era-for-climate-neutral-data-center-pact/
115. https://www.nsefi.in/nsefi-green-data-centre-coalition
116. https://www.datacentercoalition.org/about
117. https://iea.blob.core.windows.net/assets/1c136349-1c31-4201-9ed7-1a7d532e4306/WorldEnergyInvestment2025.pdf
118. https://www.iea.org/reports/lithium
119. https://www.iea.org/reports/copper#dashboard
120. https://www.globalmarketstatistics.com/market-reports/lithium-market-11970
121. https://www.precedenceresearch.com/copper-market
122. https://growthmarketreports.com/report/critical-mineral-recycling-market
123. https://planetarypl.com/the-archive/dashboards/critical-minerals-recycling-circularity-dashboard-2025
124. https://content.ellenmacarthurfoundation.org/m/4384c08da576329c/original/Towards-a-circular-economy-Business-rationale-for-an-accelerated-transition.pdf
125. https://www.iea.org/reports/global-critical-minerals-outlook-2025
126. https://www.iea.org/policies/17959-critical-minerals-strategy-2023-2030
127. https://www.industry.gov.au/mining-oil-and-gas/minerals/critical-minerals/critical-minerals-production-tax-incentive
128. https://www.europarl.europa.eu/RegData/etudes/BRIE/2023/754617/EPRS_BRI%282023%29754617_EN.pdf
129. https://www.gov.uk/government/publications/critical-minerals-refresh/critical-minerals-refresh-delivering-resilience-in-a-changing-global-environment
130. https://www.spglobal.com/sustainable1/en/insights/special-editorial/rocks-and-hard-places-the-complicated-nexus-of-energy-transition-minerals-and-biodiversity
131. https://www.climatebonds.net/files/documents/publications/The-role-of-policymakers-in-mobilising-private-finance-to-ensure-a-credible-and-just-transition-in-steel-and-cement.pdf
132. ttps://cembureau.eu/media/kuxd32gi/cembureau-2050roadmap_final-version_web.pdf
133. https://cefic.org/a-pillar-of-the-european-economy/facts-andfigures-of-the-european-chemical-industry/our-contribution-to-euindustry/
134. MPP. 2022. Making net-zero steel possible:
An industry-backed, 1.5oC-aligned transition strategy. https://missionpossiblepartnership. org/wp-content/uploads/2022/09/Making-Net-Zero-Steel-possible.pdf
135. https://www.mckinsey.com/capabilities/sustainability/ourinsights/Spotting-green-business-opportunities-in-a-surging-netzero-world/transition-to-net-zero/cement
136. https://static.agora-energiewende.de/fileadmin/Projekte/2020/2020_10_Clean_Industry_Package/A-EW_194_CleanIndustry-Package-EU_WEB.pdf
137. www.climatebonds.net/files/documents/publications/The-role-of-policymakers-in-mobilising-private-finance-to-ensure-a-credible-and-just-transition-in-steel-and-cement.pdf
138. A fork in the Road. Climate Bonds Initiative, 2025. A-Fork-in-the-Road-for-the-global-steel-sector_2025-02-17-162914_tluz.pdf

139. https://www.lseg.com/en/insights/ftse-russell/japans-1trn-dollar-bet-on-the-climate-transition#:~:text=The%20GX%20transition%20programme,-The%20announcement%20of&text=The%20GX%20policy%20aims%20to,private%20investments%20over%2010%20years.
140. Note: The GIC–Bain study identified key climate hazards and screened over 1,400 adaptation solutions for relevance, low maladaptation risk, and investment potential, narrowing to 21 tangible products and services whose 2050 market and investment values were modelled based on how rising climate risks are expected to drive demand.
141. https://www.climatepolicyinitiative.org/publication/global-landscape-of-climate-finance-2025/
142. https://www.sifma.org/resources/research/statistics/fact-book/
143. https://www.nato.int/cps/en/natohq/official_texts_236705.htm
144. https://climate-kic.org.au/wp-content/uploads/2023/04/RIV-Sensemaking-Report-FINAL_updated.pdf
145. https://www.mof.gov.sg/docs/default-source/policies/fiscal/green-budgeting-occasional-paper-(january-2025).pdf
146. https://www.ifre.com/bonds/2327840/ifr-ssa-briefing-october-16-2025
147. https://www.climatebonds.net/news-events/press-room/press-releases/tokyo-metropolitan-government-issues-worlds-first-climate-bonds-certified-using-resilience-taxonomy
148. https://sustainable.japantimes.com/magazine/vol34/34-03
149. https://www.c40.org/news/brazil-launches-green-resilient-model-cities-program/
150. https://www.straitstimes.com/singapore/budget-2025-additional-5-billion-injected-into-coastal-and-flood-protection-fund
151. https://www.climatepolicyinitiative.org/publication/top-down-climate-finance-needs/
152. McKinsey Global Institute 2022. The net-zero transition; what it would cost, what it could bring
153. https://www.climatebonds.net/data-insights/publications/sovereign-transition-unlocking-investment-opportunity
154. https://www.minecofin.gov.rw/rwandagreentaxonomy
155. https://www.climatebonds.net/files/documents/publications/Climate-Bonds-UNDRR_Resilience-Taxonomy-White-Paper_Jun-2023.pdf
156. https://assets.publishing.service.gov.uk/media/685d0945c779b80d9a0e106b/transition-plan-consultation.pdf
157. Schnabel, I. 2021. *Climate change, financial markets and green growth*, https://www.ecb.europa.eu/press/key/date/2021/html/ecb.sp210614~162bd7c253.en.html
158. https://www.bankofengland.co.uk/-/media/boe/files/paper/2021/options-for-greening-the-bank-of-englands-corporate-bond-purchase-scheme-discussion-paper.pdf
159. Monnet, E. 2018. *Controlling Credit, Central Banking and the Planned Economy in France, 1948 – 1973*, Cambridge University Press, https://doi.org/10.1017/9781108227322
160. https://www.iea.org/data-and-statistics/charts/fossil-fuel-consumption-subsidies-2015-2023
161. https://www.iea.org/reports/strategies-for-affordable-and-fair-clean-energy-transitions
162. https://www.climatebonds.net/data-insights/publications/sovereign-transition-unlocking-investment-opportunity
163. https://energy.ec.europa.eu/topics/infrastructure/projects-common-interest-and-projects-mutual-interest_en
164. https://www.gov.uk/government/news/clean-energy-projects-prioritised-for-grid-connections
165. https://assets.bii.co.uk/wp-content/uploads/2023/06/05175648/BII_What-impact-means-to-us_May2023.pdf
166. World Energy Investment 2024 https://iea.blob.core.windows.net/assets/d829545d-fab6-4c98-b266-28556d86ce8d/WorldEnergyInvestment2024.pdf

Climate Bonds Initiative: mobilising global capital for climate action

Climate Bonds Initiative is an international, investor-focused not-for-profit promoting the sustainable growth and development opportunities of low-carbon and resilient investments. It identifies and promotes a universe of investments that are consistent with climate goals; informs about fiscally-efficient policy measures governments can pursue; and supports the development of science-based guidance and "taxonomies" for investments consistent with addressing environmental challenges.

Since 2010 the organisation has played a central role in elevating the green and sustainable bond market from a niche concept to a mainstream source of capital for sustainable development. That green and sustainable bonds* market is now worth more than USD6 trillion and growing. Climate Bonds helps ensure the environmental quality of these investments, and provides investors, issuers and others with the information they need to participate in the market.

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