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## Trade and Development Board Investment, Enterprise and Development Commission Multi-year Expert Meeting on Investment, Innovation and Entrepreneurship for Productive Capacity-Building and Sustainable Development

Ninth session

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Item 3 of the provisional agenda

### Investment and climate change

#### Note by the UNCTAD secretariat\*

##### *Summary*

Financing and investment related to climate change have been growing significantly, yet this growth has been limited to renewable energy and has been concentrated in developed economies. The following challenges persist with regard to private investment in climate change: channelling mitigation-related investment into developing countries; and scaling up adaptation-related investment through viable business models. There are many opportunities in this regard. Innovative ways and means are needed to foster public–private partnerships, improve enabling policy frameworks and build capacity in preparing pipelines of bankable and impactful projects in developing countries. In parallel, the targets of climate-change–related strategies should be embedded in investment promotion strategies.

The need for investment in climate change mitigation and adaptation is significant. UNCTAD, in *World Investment Report 2022*, shows that investment in climate change mitigation is booming, particularly in renewable energy, yet most such investment is in developed economies, and that investment in climate change adaptation continues to lag behind. In current contexts, this is of particular concern, as emerging indicators show possible setbacks to the green energy transition, with increased production and use of fossil fuels in countries previously committed to reducing greenhouse gas emissions.

The present note provides background information to support discussions during the ninth session of the Multi-year Expert Meeting on Investment, Innovation and Entrepreneurship for Productive Capacity-Building and Sustainable Development. Drawing on the main findings in *World Investment Report 2022*, the latest investment trends in sectors relevant to climate change mitigation and adaptation are presented, focused on private cross-border investment and sustainable finance. In addition, recent developments in international and national policies to promote and facilitate foreign investment in climate change are discussed. Finally, questions are proposed for consideration by experts at the session.

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## Introduction

1. UNCTAD first highlighted the investment gap in climate change mitigation and adaptation in *World Investment Report 2014*, which provided an analysis of investment needs and levels across all areas related to the Sustainable Development Goals.<sup>1</sup> Prior to the adoption of the Goals, UNCTAD estimated that in 2015–2030, the required annual investment in climate change mitigation and adaptation was \$630 billion–970 billion, with a gap of \$440 billion–780 billion. UNCTAD stated that international private investment would have to play a role in bridging the gap. International investment in sectors relevant to achieving the Goals in developing countries increased substantially in 2021, by 70 per cent, and most of the growth was in renewable energy.

2. The Multi-year Expert Meeting on Investment, Innovation and Entrepreneurship for Productive Capacity-Building and Sustainable Development provides a forum for sharing regional and national experiences and for promoting international cooperation. In line with the Bridgetown Covenant,<sup>2</sup> delegates at the ninth session will identify and discuss best practice investment policies that can contribute to the achievement of the climate and environment-related Sustainable Development Goals. The research on investment trends presented in this note focuses on the key areas in which international direct investors have been active to date and for which it is possible to monitor discrete investment projects. Cross-border private investment is analysed and an overview of trends in greenfield investment and international project finance is provided, as well as trends in sustainable finance. The objective is to provide data and analysis to help inform international investment policymaking.

### I. Investment and climate change: Key issues

#### A. Scaling up investment in climate change mitigation and adaptation

3. Climate change-related investment is broadly defined as investment in mitigation and adaptation: the former involves investment in cleaner and more energy-efficient technology supporting the reduction of greenhouse gas emissions; the latter involves investment in critical infrastructure, technology and activities to increase resilience and help adapt to the consequences of climate change. Adaptation includes the reduction of the vulnerability of countries and communities to climate change by increasing the ability to absorb impacts.<sup>3</sup> In order to meet the target in the Paris Agreement under the United Nations Framework Convention on Climate Change to limit the global average temperature increase to 1.5°C above pre-industrial levels, a rapid reduction of carbon emissions is required. Mitigation efforts are at the centre of climate action. Scaling up investment in mitigation is yielding significant results, yet broadening the focus to include adaptation is also needed, as people worldwide are already experiencing the human and economic costs of climate change, including in the form of intensified and more frequent extreme weather events. The Glasgow Climate Pact adopted at the twenty-sixth session of the Conference of the Parties to the United Nations Framework Convention on Climate Change provides renewed impetus to efforts that go beyond mitigation, to build resilience to the increasing impacts of climate change.

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<sup>1</sup> UNCTAD, 2014, *World Investment Report 2014: Investing in the SDGs [Sustainable Development Goals]: An Action Plan* (United Nations Publication, Sales No. E.14.II.D.1, New York and Geneva).

<sup>2</sup> TD/541/Add.2, paragraph 127 (II).

<sup>3</sup> See United Nations Environment Programme, 2021, *Adaptation Gap Report 2021: The Gathering Storm – Adapting to Climate Change in a Post-Pandemic World*, Nairobi.

## B. Challenges and opportunities in attracting international climate-related private investment

4. UNCTAD, in *World Investment Report 2022*, provides a taxonomy of investment in mitigation and adaptation, ranked by degree of suitability for international private investment (see table).<sup>4</sup> The taxonomy identifies a range of projects, from those that are purely public goods and therefore less suitable for direct private investment to those that are purely privately financed. Typical public goods sectors are less likely to attract direct private investment yet they can leverage private finance through capital market products such as green bonds. As observed by UNCTAD in *World Investment Report 2014* and subsequent analyses, infrastructure sectors, such as power generation and renewable energy (with regard to climate change mitigation), transport and water and sanitation, are normally candidates for greater private sector participation, under the right conditions and with appropriate safeguards. Other Goals-related sectors are less likely to generate a significantly higher level of private sector interest, either because it is difficult to design risk and return models attractive to private investors or because they are more in the realm of public sector responsibilities and consequently highly sensitive with regard to private sector involvement. The attractiveness of the various categories to private investors depends on the existence of a clear revenue model and on national- and project-level risks.<sup>5</sup>

### Mitigation and adaptation: Scope for private investment

<i>Project scope</i>	<i>Example project areas</i>
Purely public goods	Floodwalls, dam protection systems, drainage systems, reforestation, mangrove protection, disaster prevention, early warning systems
Public–private partnership models or concessionary schemes (with identifiable revenue streams)	Climate-resilient infrastructure, green infrastructure, water management, public transportation
Privately financed, but may require incentives or subsidies to cover additional costs of making projects climate friendly or climate resilient	Climate-resilient crops, weather monitoring systems, clean technology, carbon-neutral buildings, carbon capturing
Purely privately financed	Renewable energy generation, electric vehicles, green mineral extraction

*Source:* UNCTAD, 2022.

5. International investment activity has been uneven in the two areas of climate-related action. Mitigation is more important for international private investors. In particular, energy transition projects have been the leading receivers of private investment. Technology related to many types of renewable energy (e.g. solar and wind power) is already mature and costs and returns are relatively stable and predictable. New technology for other sources of renewable energy (e.g. biomass and green hydrogen) is being developed at a rapid pace. For example, green hydrogen remains expensive but the impetus to achieve net zero emissions could drive changes in hydrogen markets. In addition, the boost from post-pandemic recovery stimulus packages could create new players and lead to more funds raised to finance the further development of related technology.

6. Adaptation projects are often public goods, characterized by high upfront costs, long investment timelines, the lack of a clearly identifiable revenue stream or unattractive risk and return profiles. In contrast to mitigation activities, adaptation activities are less clearly

<sup>4</sup> UNCTAD, 2022, *World Investment Report 2022: International Tax Reforms and Sustainable Investment* (United Nations Publication, Sales No. E.22.II.D.20, Geneva).

<sup>5</sup> Ibid. See UNCTAD, 2021, *World Investment Report 2021: Investing in Sustainable Recovery* (United Nations Publication, Sales No. E.21.II.D.13, Geneva).

defined in scope and can take many forms, ranging from traditional infrastructure projects (e.g. climate-resilient bridges or roads) to the relocation of communities or the transformation of agricultural practices. Investment in climate-resilience projects (e.g. floodwalls, early warning systems, coastal protection and improved dryland crop production) is often integrated into development strategies, making them leading candidates for public funds. Larger and more stable sources of international public finance are needed for such projects, particularly those targeted to the most vulnerable countries and higher risk populations.

7. Resilient infrastructure is central in adaptation investment. Progress is being made, yet the current stock of investment in infrastructure remains inadequate to ensuring sustainable and resilient growth. To attract or leverage private investment in infrastructure sectors, developing long-term business investment plans and formulating them as bankable, climate-resilient investment projects, is key.<sup>6</sup> Improving the visibility of infrastructure investment plans is a priority, to gain the confidence of private sector investors. The private sector can contribute to adaptation by investing in the resilience of supply chains and production processes and by supporting the adaptation efforts of others through finance or by providing climate-adapted goods and services (e.g. drought-resistant seeds and solar-powered cooling systems). However, even where there are opportunities to increase the contribution of the private sector, public efforts are needed to strengthen the regulatory framework, infrastructure and information systems required to unlock the potential for greater private sector resources for adaptation.

8. Governments can support a project in many ways, ranging from equity participation to loans, grants, guarantees, incentives, tax breaks and investments in the necessary ancillary infrastructure. The degree of public support required differs substantially between mitigation and adaptation projects and between developed and developing markets. Project finance data shows that 85 per cent of mitigation investment (including domestic projects) in developed economies and 56 per cent in developing economies does not require any public sector involvement. By contrast, over half of the adaptation projects in developed economies and only 18 per cent in developing countries do not have any government involvement. For large mitigation projects, particularly in developing economies, the involvement of multilateral development banks is often required to lessen investment risks. Investment sectors with greater shares of projects with public sector participation show a correspondingly lesser share of internationally sponsored projects. In developing economies in which the political and economic environment for investors may be less predictable, Government involvement, particularly through equity participation, can reduce the perceived risk of a project. However, research shows that beyond a certain threshold, higher shares of government equity can discourage foreign investors, who may be concerned about public interference and governance issues.<sup>7</sup> Projects in resilient infrastructure with foreign sponsorship are rare in both developed and developing countries. Most private cross-border investment in adaptation is in either agricultural technology or water management projects.

9. From the perspective of businesses, particularly multinational firms investing internationally, drive and opportunity to invest in climate change mitigation and adaptation projects are significant. First, rapid advances in innovation and technology development and widespread policy support help to create an enabling environment for new investment in climate change-related sectors overall. The transition to climate-friendly production and consumption systems brings a reallocation of resources. Second, investing in climate-resilience projects increases the resilience of businesses to extreme weather events and helps predict the impacts of such events and adjust to the uncertainty posed by long-term effects. Finally, climate change has both direct and indirect impacts on businesses. Direct impacts include those on production facilities and supply chains and indirect impacts include economic consequences from policy and regulatory responses to climate change

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<sup>6</sup> UNCTAD, 2021.

<sup>7</sup> Ibid.

and/or heightened risks in financial markets.<sup>8</sup> Understanding climate risks and opportunities across value chains can help companies identify the most effective type of investment.

10. There are many challenges that could hinder the transition to climate-friendly production systems. The lack of comprehensive risk-related data and tools prevents investors from making informed investment decisions. Some investors face greater challenges due to risks inherent in the industries and markets in which they operate, with greater uncertainty in emerging markets. Real and perceived risks, for example due to weak governance and regulation, currency fluctuations and the lack of domestic capital markets, continue to hinder private investment in more resilient and climate-friendly production systems. Financial incentives and guarantees to encourage private sector participation in adaptation-related projects remain insufficient.

### C. Trends in cross-border climate-related private investment

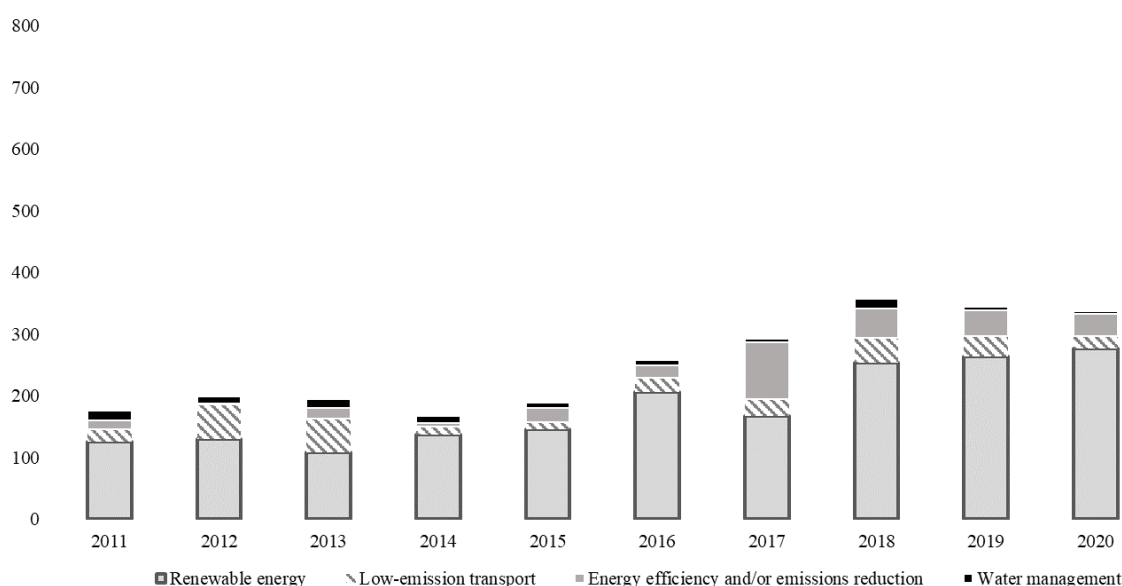
11. International climate-related investment was on an upward trend following the adoption of the Sustainable Development Goals in 2015, and was interrupted by the pandemic. Investment recovered strongly in 2021, with total project values at twice the pre-pandemic level (2019). Mitigation investment, mostly funded through international project finance, more than doubled in value and adaptation project values increased by almost threefold, although project numbers remained low. The strong growth of international project finance can be explained by favourable financing conditions, infrastructure stimulus and significant interest among financial market investors in participating in large-scale projects requiring multiple financiers. This instrument also enables Governments to leverage private investment through their participation in such projects.

12. Mitigation projects account for more than 95 per cent of international climate-related investment; the remainder is in adaptation projects (figure 1). The majority is in renewable energy and, to a lesser extent, energy efficiency projects. In developing economies, the share of adaptation projects is higher (12 per cent, compared with 1 per cent in developed economies), due to the greater prevalence of international water management projects.

Figure 1

#### International mitigation and adaptation investment projects

(Billions of dollars)

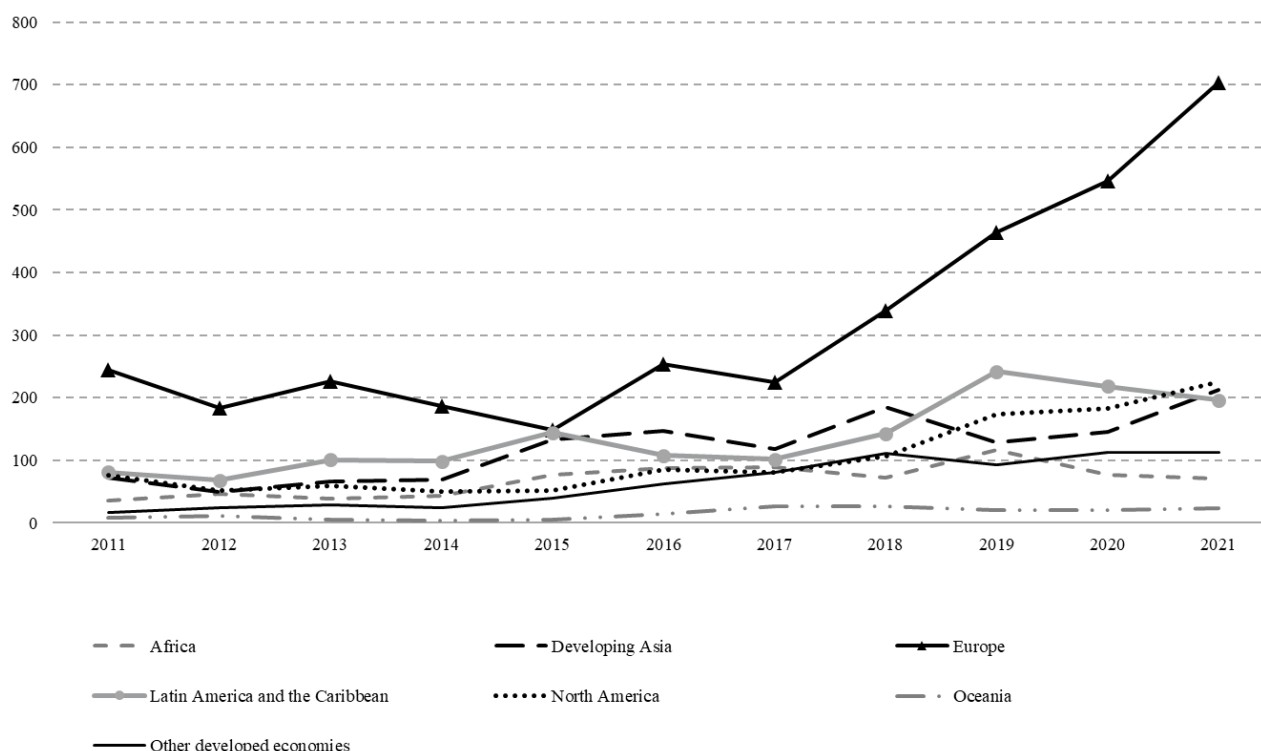


Source: UNCTAD, 2022.

<sup>8</sup> See <https://www.cambridgeassociates.com/insight/risks-and-opportunities-from-the-changing-climate-playbook-for-the-truly-long-term-investor/> (accessed 23 August 2022).

13. Renewable energy project finance and greenfield investment represented 70 per cent of all international climate-related investment in 2021, with projects in developed economies accounting for the majority (61 per cent). Among regions, Europe accounted for almost half of international projects in renewable energy, followed by Latin America and the Caribbean, North America and developing Asia, each of which attracted about 200 projects (figure 2). In Africa, the number of international projects in renewable energy doubled in 2011–2021, from 36 to 71, including several megaprojects in hydrogen power plants.

Figure 2  
**International investment in renewable energy by region**  
 (Number of projects)

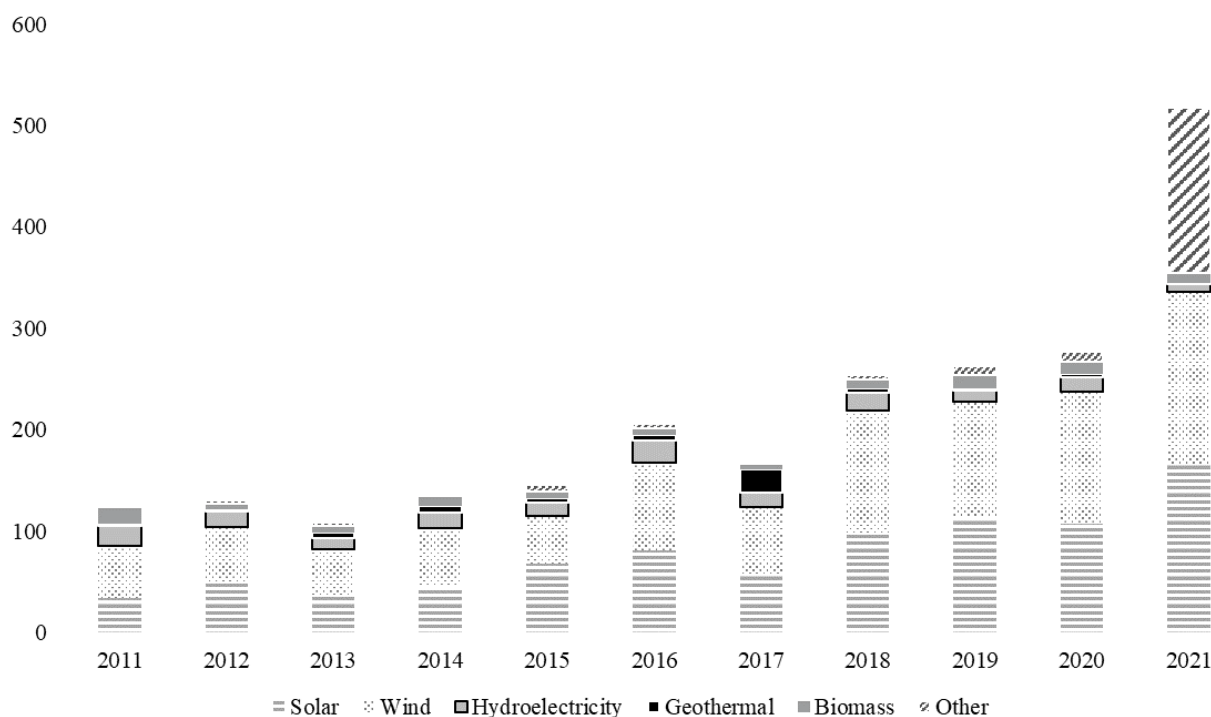


Source: UNCTAD, 2022.

14. The power sector accounts for a quarter of global greenhouse gas emissions, and coal is the single biggest contributor to human created climate change.<sup>9</sup> Energy transition projects aimed at reducing the dominance of fossil fuels as the main source of energy have attracted significant investment, particularly in developed countries. Investment in renewable energy sources includes investment in projects involving the generation of power from, for example, solar power, wind power, hydroelectricity, geothermal power, biomass, marine (tidal or wave) power and waste, excluding biomass (figure 3). Renewable energy is the fastest growing sector in investment in climate change mitigation. International investment in renewables was stagnant in 2019 and 2020, then almost doubled in 2021, due to a 42 per cent increase in investment in solar and wind power energy generation and a boom in green hydrogen energy generation.

<sup>9</sup> See <https://ukcop26.org/the-glasgow-climate-pact/> (accessed 23 August 2022).

Figure 3  
**International investment in renewable energy by type**  
 (Billions of dollars)



Source: UNCTAD, 2022.

15. Within the renewable energy sector, solar and wind power accounted for more than three quarters of investment. As the most widely available energy source, solar power technology, particularly photovoltaics, has experienced high levels of innovation and scaling up, leading to significant cost reductions in the past decade. Technological advancements, high rates of learning and broad policy support, with innovative financing models, led to the growth of solar energy investment by 50 per cent in 2021, compared with the level in 2020. Investment in wind power energy generation projects accounted for one third of total investment. Energy companies in Europe are the dominant foreign investors in this area. Offshore wind farms in both developing countries and developed countries are the main drivers of the trend, and onshore wind power generation continues to attract large levels of investment. Historically, hydroelectricity has been significant in investment in renewables, with yearly investments of \$15 billion–20 billion. Other sources gaining in importance are biomass, with about \$10 billion invested in recent years; hydrogen, investment in which boomed in 2021; and waste-to-energy projects, particularly in developed economies.

16. Energy efficiency, or the reduction of emissions, comprises projects in electric vehicles and clean technology, including investment in the production of new materials used in developing renewable energy projects and other products that contribute to reducing greenhouse gas emissions. Investment in energy efficiency and emissions reduction projects almost doubled in 2021, with 747 projects, compared with 244 projects in 2020. New projects included the construction of a 3,800 km undersea transmission cable in Morocco, with 3.6 GW of capacity (estimated at \$20 billion), to enable solar power energy from the Sahara and wind power energy off the Atlantic to be sent to the United Kingdom of Great Britain and Northern Ireland.<sup>10</sup> The number of low-emission transport projects that contribute to decreasing greenhouse gas emissions, mostly involving public transport, dropped sharply in 2020, then recovered slightly in 2021, yet declined further in value. Half of all international investment in transport is in developing countries.

<sup>10</sup> UNCTAD, 2022.

17. Climate change adaptation investment includes investment in water management, mostly in projects related to the water cycle (e.g. pipelines; supply; district cooling, that is, deep ocean or lake cooling systems; desalination; storage; disposal; and treatment). The number of greenfield projects in water management has doubled after a decline in 2020, and there was a slight decline in international project deals. The value of investment recovered strongly, with greenfield projects experiencing a fivefold surge and international project finance deals almost doubling. Almost half of all international project finance investment in water management took place in Western Asia; Africa attracted 8 per cent of projects.

18. Other adaptation projects include investment in improving the climate resilience of existing infrastructure, as well as in climate-resilient agriculture and coastal protection. The use of technology in agriculture enhances predictability in order to strengthen food systems, which is eroded by changing weather patterns. Given rising temperatures and disrupted global value chains, investment in agricultural technology increased rapidly in 2020 and 2021. The introduction of such technology has been mostly limited to developed countries but would help to boost the agriculture industry and optimize yields in developing countries as well. Adopting new industry 4.0 tools such as artificial intelligence, the Internet of things and analytics can help optimize agricultural processes, capture carbon dioxide before it is released into the atmosphere, support a circular economy and make agriculture more sustainable; and the use of drones and robots can assist soil and field analysis, crop spraying, water-saving irrigation and harvesting.

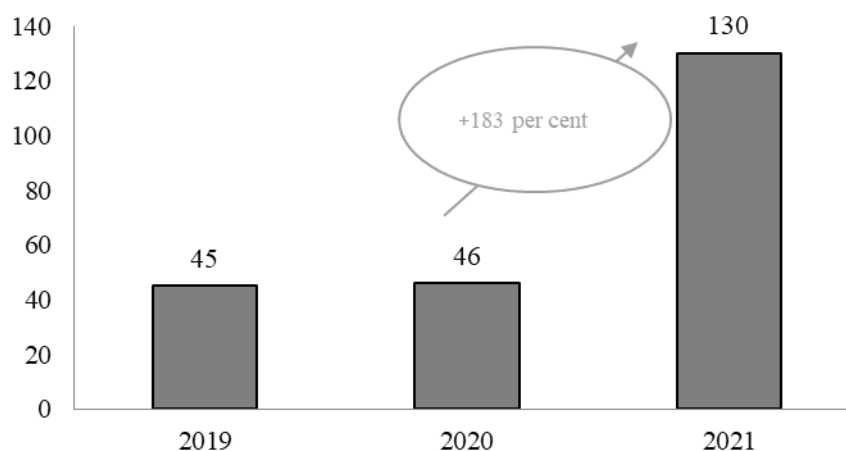
19. The energy price shock due to the war in Ukraine could have implications for international investment in the green energy transition. On the one hand, a significant increase in oil and gas prices, as seen immediately after the start of the war (since mitigated by policy action), could shift investment back into extractive industries and energy generation based on fossil fuels, temporarily reversing the trend towards renewables in the past decade. In 2011–2013, when oil prices were last above \$100 per barrel, the total value of investment projects in fossil fuels was almost a third higher on average than in the second half of the last decade. On the other hand, expectations are that the fuel crisis will also boost investment in renewables, particularly in Europe. However, investment in renewables is already growing quickly and it is unclear whether further stimulus could generate enough capacity in the short term to replace supplies from the Russian Federation.

#### **D. Capital markets and sustainable finance**

20. The global issuance of sustainable bonds passed \$1 trillion in 2021 and industry estimates are that it will exceed \$1.5 trillion in 2022. The green bonds market exceeded \$517.4 billion in 2021, with a five-year growth rate of 70 per cent. Social and mixed sustainability bonds repeated the strong growth trend observed in 2020 and totalled \$395 billion in 2021. The issuance of sustainable bonds has been increasing, particularly in emerging economies, in which it nearly tripled in 2021 (figure 4), with China accounting for 60 per cent of the total among emerging economies and estimated to surpass \$100 billion in 2022.



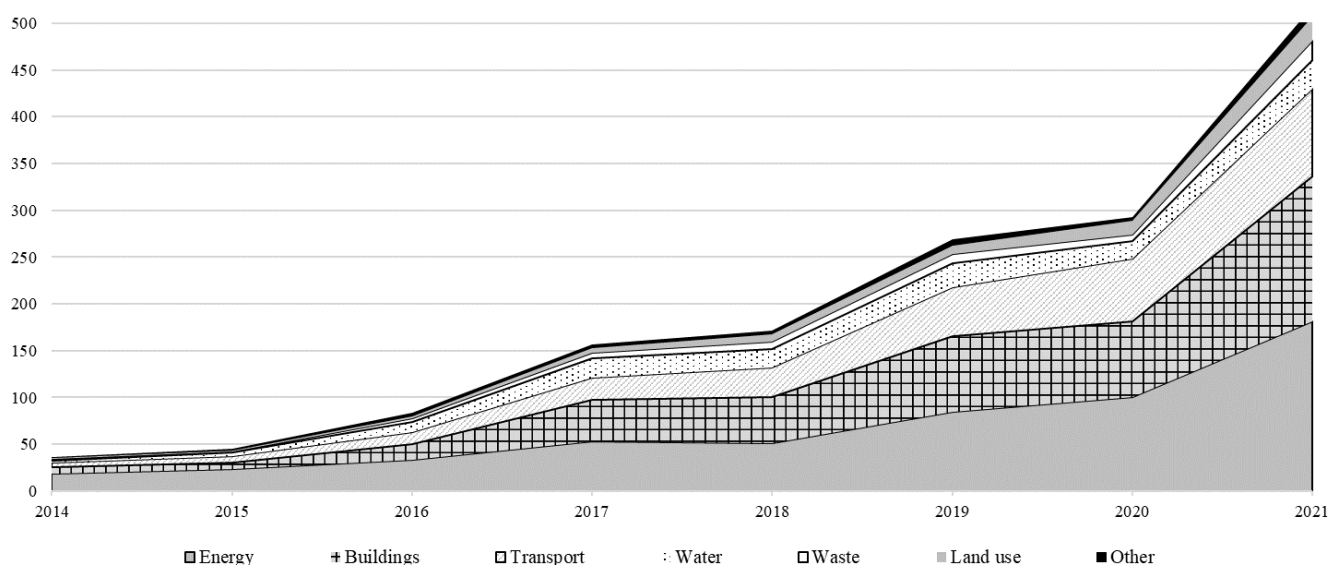
Figure 4  
**Issuance of sustainable bonds in emerging economies**  
 (Billions of dollars)



Source: UNCTAD, 2022.

21. Green bonds and mixed sustainability bonds are particularly relevant in financing climate change mitigation and adaptation efforts. The industries receiving the greatest investment through green bonds all fund key elements of basic infrastructure, namely, energy, buildings, transport and water (figure 5). Initially, the energy industry received most of the funds invested through green bonds (50 per cent of the total market in 2014). However, in recent years, the buildings and transport sectors have caught up, making up 30 and 18 per cent, respectively, in 2021. Although the renewable energy sector still has the largest share of green investment across categories, with 35 per cent of the market, the share invested in low-carbon buildings has grown by 33 per cent since 2014. This shows the increasing amount of effort being made to achieve the targets in the Paris Agreement, since greenhouse gas emissions in cities are significant; up to 70 per cent of the emissions in a large city are due to buildings.

Figure 5  
**Market size of green bonds by financed industry**  
 (Billions of dollars)



Source: UNCTAD, 2022.

22. In conclusion, as shown in this note, based on data on cross-border investment projects and on sustainable finance in capital markets, there are contrasting trends in the upstream (funds mobilized in capital markets) and downstream (investment projects on the ground) parts of the investment chain. First, sustainable finance has been growing significantly faster than investment projects, although catch-up growth in renewable energy projects was seen in 2021. Second, not enough of the funds raised in global capital markets are being channelled to developing countries. The increase in 2021 in funds raised in emerging economy capital markets for investment in mitigation and adaptation is encouraging.

## **II. Investment and climate change: Policy developments**

### **A. National investment policies**

23. Targeted policies for attracting foreign direct investment in sectors relevant to climate change mitigation and adaptation are important, possibly more so than in other sectors. In the renewable energy sector, for example, the literature shows the importance of policies in developing countries for attracting foreign direct investment. The attraction of foreign direct investment in the sector also depends on other generally accepted determinants of investment such as institutional and macroeconomic conditions, yet the single most important determinant is the existence of renewable energy policies, including risk mitigation mechanisms and tariff regulation (e.g. feed-in tariffs) or regulatory aspects such as access to grids.<sup>11</sup> Other determinants include the provision of international public finance; the existence and quality of public–private partnership mechanisms; and policy stability and longer-term perspectives in public policies.

24. UNCTAD, in the Investment Policy Monitor, identifies 103 measures affecting foreign direct investment in climate change-related sectors taken by countries in 2010–2022. The analysis shows that initiatives to promote climate change through foreign direct investment are still concentrated in the renewable energy and electricity sectors (75 per cent of the measures) and highlights the differing concerns between developing countries and developed countries. Most developed economies had already liberalized the electricity sector before 2010 (based on an analysis of data from the foreign direct investment restrictiveness index database of the Organisation for Economic Co-operation and Development) and three out of four measures adopted in these countries in the last decade were related to the introduction or enhancement of foreign direct investment screening mechanisms, confirming the trend of heightened national security concerns as highlighted by UNCTAD in recent years. Electricity generation and transmission and water supply are among the critical sectors usually protected under such screening mechanisms, under the general term “critical infrastructure”. With the growing importance of alternative renewable energy sources in the energy mix of developed economies, the scope of critical industries and technologies has recently been broadened in several of these economies to explicitly include clean energy, energy storage systems or environmental technology.

25. By contrast, in developing economies, 40 per cent of the policy measures in climate change-related sectors taken in 2010–2022 were liberalization or one-off measures, mostly related to the unbundling of the energy market or the privatization of State-owned enterprises. The remainder primarily consisted of measures aimed at promoting investment in renewable energy generation and in green technologies (e.g. incentive schemes aimed at reducing the carbon footprint of industrial and agricultural production) or at introducing regulations to promote the green energy transition (e.g. adoption of carbon taxes, promotion of sustainability standards or introduction of risk-based business licencing systems).

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<sup>11</sup> AR Keeley and Y Ikeda, 2017, Determinants of foreign direct investment in wind energy in developing countries, *Journal of Cleaner Production*, 161:1451–1458.

## **B. The international investment regime and climate action**

26. The network of international investment agreements, composed of some 3,300 treaties, includes substantive standards on the protection of foreign investors and investments, along with access to arbitration, known as investor–State dispute settlement.<sup>12</sup> Most international investment agreements, in particular old-generation agreements, fail to safeguard sufficient room for regulatory action for the protection of the environment and for addressing climate change. For example, existing agreements, including newer ones, do not distinguish between sustainable investment and non-sustainable investment in their scope. This increases the risk of investor–State dispute settlement cases to challenge climate-related policies, as highlighted in the recent report on the mitigation of climate change by Working Group III under the Intergovernmental Panel on Climate Change.<sup>13</sup>

27. To date, many investor–State dispute settlement cases have been brought in areas of direct relevance to climate action. At least 170 cases were related to environmental measures; at least 190 were brought by investors in fossil fuel sectors; and at least 80 were brought by investors in the renewable energy sector, an investor–State dispute settlement case area that has emerged in the past decade. To address these concerns, options for international investment agreement reform proposed by UNCTAD include the following elements: distinguishing climate-responsible investment in the scope of a treaty; ensuring the rights of States to regulate for the protection of the environment; increasing the responsibility of investors for the protection of the environment; and promoting and facilitating investment in clean technology.

28. Effective climate-responsive investment treaty reform may require the reconceptualization of the scope, purpose and design of international investment agreements. In addition, countries should make strategic choices about whether to have or not have an international investment agreement and whether to maintain or terminate existing agreements. Governments would benefit from coordinated reforms at the multilateral, regional, bilateral and national levels. UNCTAD has been advocating the reform and modernization of the investment treaty regime for over a decade, helping to build capacity in developing countries to negotiate and implement investment treaties that can foster sustainable investment and providing a platform for universal, inclusive and transparent stakeholder engagement on these issues.

## **III. Policy implications**

29. Financing and investment related to climate change have been growing significantly, yet this growth has been limited to renewable energy and has been concentrated in developed economies. The following challenges persist with regard to private investment in climate change: channelling mitigation-related investment into developing countries; and scaling up adaptation-related investment through viable business models. There are many opportunities in this regard. Innovative ways and means are needed to foster public–private partnerships, improve enabling policy frameworks and build capacity in preparing pipelines of bankable and impactful projects in developing countries. In parallel, the targets of climate-change–related strategies should be embedded in investment promotion strategies.

30. The global environment for international investment has changed significantly due to the war in Ukraine, while recovery from the pandemic is ongoing. Concerns about energy security have increased in this period. The trend towards tightened foreign direct investment entry policies is expected to continue and may increasingly extend to developing countries. Regulations will continue to be adopted in most countries due to the strategic nature of the sector yet a certain degree of liberalization is an important step in attracting foreign direct investment and private finance in renewable energy and in accelerating the decarbonization of electricity generation in developing economies.

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<sup>12</sup> See <https://unctad.org/topic/investment/international-investment-agreements> (accessed 23 August 2022).

<sup>13</sup> See <https://www.ipcc.ch/report/ar6/wg3/>.

In addition, investment policy measures to promote climate change mitigation are still highly concentrated in the renewable energy and electricity sectors. The deployment of renewable energy technology plays a key role in the transition to a low-carbon economy, yet other mitigation policies, such as with regard to energy and resource efficiency technology and other environmental technology, also need to be promoted. Moreover, sectors related to climate change adaptation need to be defined on a national basis, as vulnerabilities and priorities differ both nationally and locally.

31. Climate change-related strategies should integrally address energy-related issues such as the security of supply, efficiency, affordability and environmental sustainability, as well as the development of mitigation and adaptation technologies and sectors. They should guide policy and promotional efforts to attract sustainable investment. They should be developed through a participatory process and be publicly communicated. Finally, they should embed investment promotion as a key component and clearly communicate the medium-term and long-term priorities of Governments.

#### **IV. Questions for discussion**

32. In addition to the issues presented in this note, delegates at the ninth session of the Multi-year Expert Meeting on Investment, Innovation and Entrepreneurship for Productive Capacity-Building and Sustainable Development may wish to consider the following questions:

- (a) What are the key mechanisms in ensuring that international private investment targets sectors relevant to not only climate change mitigation but also climate change adaptation?
  - (b) How can developing countries be supported in order to attract more international investment in climate change-related sectors?
  - (c) With regard to capital markets and sustainable finance, how can access to capital markets in emerging economies, to raise green finance, be improved?
  - (d) With regard to national investment policies, what policy measures have proved most effective in leveraging foreign direct investment for the development of climate change mitigation and adaptation technologies and sectors in developing countries?
  - (e) With regard to heightened energy security concerns and the new period of high oil prices, how can policies turn these challenges into opportunities for the promotion of renewable energy through foreign direct investment?
  - (f) With regard to the international investment regime, which reform actions are most relevant in order to make international investment agreements more effective in promoting and facilitating climate-responsible investment?
  - (g) How can States minimize the risk of investor–State dispute settlement based on measures taken to address climate change or to protect the environment?
-