Toolbox for harnessing investment policies for clean energy, digital transformation and public health

Prepared by UN Trade and Development (UNCTAD) and the Organisation for Economic Co-operation and Development (OECD) for the South African G20 Presidency

Disclaimer

This report does not prescribe policy actions or recommend specific regulatory measures. Instead, the insights provided herein may serve as a resource for the voluntary exchange of best practices and experiences. Each G20 Member and invited country retains full discretion over whether and how to utilize this report as a consultation document.

The objective is to foster informed discussions and facilitate cooperation on investment in clean energy, digital transformation and public health in line with each country's unique policy framework and priorities.

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INTRODUCTION

Foreign direct investment (FDI) plays a critical role in addressing the global economic transformations and development challenges that G20 countries are navigating today. As countries strive to accelerate clean energy deployment, protect public health, advance digital transformation, and build resilient economies, cross-border investment could serve not only as a source of capital but also as a conduit for knowledge diffusion, technology transfer, and structural change. In this evolving global context, sound investment policies have become indispensable to ensuring that FDI delivers long-term benefits aligned with sustainable development objectives.

At the request of South Africa's 2025 G20 Presidency and in line with the priorities set out for the Trade and Investment Working Group (TIWG), this report presents twin toolboxes for "Harnessing Investment Policies for Clean Energy, Digital Transformation, and Public Health". Developed jointly by the United Nations Conference on Trade and Development (UNCTAD) and the Organisation for Economic Co-operation and Development (OECD), the toolboxes respond directly to the priorities identified by the South African Presidency Issue Note (December 2024), which called for practical approaches to mobilizing trade and investment in support of global challenges. The objective of the toolboxes is to provide G20 members and their partners with a pragmatic and flexible policy resource to align investment flows with clean energy development, digital transformation, and public health. It thereby aims to enhance resilience, strengthen competitiveness, and foster inclusive, sustainable growth. The toolboxes further continue UNCTAD's and OECD's engagement with G20 members and invited countries on investment, building on the report *Mapping sustainable development and investment facilitation provisions in IIAs concluded by G20 Members and invited countries*, produced by both organizations in 2024 under the Brazilian G20 presidency.

The present toolboxes build on the extensive analytical and policy expertise developed by both organizations. They encompass two complementary policy domains that together reflect a comprehensive spectrum of issues shaping cross-border investment today.

First, international investment agreements (IIAs) are addressed, drawing on UNCTAD's and OECD's longstanding work to modernize international investment governance and ensure that IIAs contribute to sustainable development.[1] The international investment policymaking landscape has the potential to evolve and align with new priorities. Most of the 1,453 agreements signed by G20 members date from the 1990s and 2000s. These older treaties often lack provisions that actively promote and facilitate sustainable investment. New international investment agreements, by contrast, are beginning to show pathways to mobilize investment for clean energy, the digital economy and public health while preserving regulatory autonomy. Utilizing UNCTAD's IIA databases, the report analyses G20 IIAs – with a particular focus on recently signed IIAs – and distils modern treaty language employed in G20 IIAs that preserves regulatory space, promotes responsible business conduct and proactively facilitates sustainable investment in the three focus sectors. The findings are summarized in a toolbox, which provides a menu of new-generation IIA policy options to harness international investment policies for investment in clean energy, digital transformation and public health.

Second, broader investment policies are addressed, which focus on domestic policy frameworks and a whole-of-government investment policy approach to link investment policies with national objectives in clean energy and digital sectors. In particular, the focus will be on four policy areas: governance, domestic and international regulations, financial and technical support, and information and facilitation services. These areas could be linked with the implementation of IIAs. This domestic dimension of the twin toolboxes builds directly on instruments such as the OECD *Policy Framework for Investment* (PFI), the *FDI Qualities Indicators and Policy Toolkit*[2] and UNCTAD's *Investment Policy Framework for Sustainable Development (IPFSD)*, as well as UNCTAD's World Investment Report 2023: Investing in sustainable energy for all and World Investment Report 2025: International

[1] UNCTAD resources: High-level International Investment Agreements (IIA) Conference, Multi-Stakeholder Platform on IIA Reform, IIA Issues Notes publications, IIA Navigator database – General and individual lists for countries. OECD resources: The future of investment treaties initiative.

[2] Additional OECD resources: Sustainable investment; Foreign Direct Investment Qualities and Impact; Investment Policy Reviews; additional UNCTAD resources: Investment Policy Reviews; FDI data hub; FDI Country Fact Sheets and Regional Fact Sheets.

investment in the digital economy, which provide governments with evidence-based tools to evaluate and enhance the sustainable development impacts of FDI.

The toolboxes are underpinned by: (i) an analysis and focused review of recent IIA treaty practice; (ii) desk research and case studies on domestic policies; and (iii) a dedicated survey for G20 members and invited countries, sent by the South African Presidency, to collect examples of international and national investment policymaking practice.

By bringing together both international and domestic policy aspects, this report seeks to support G20 policymakers in designing integrated investment strategies that mobilize private capital while delivering concrete benefits for productivity, innovation, job quality, environmental sustainability, and public health resilience.

This report consists of two parts. Part 1 develops policy options on IIAs. Part 2 focuses on domestic investment policies using a whole-of-government approach. Annex A includes a compendium of selected domestic policy examples submitted by G20 members and invited countries.

PART 1: INTERNATIONAL INVESTMENT AGREEMENTS

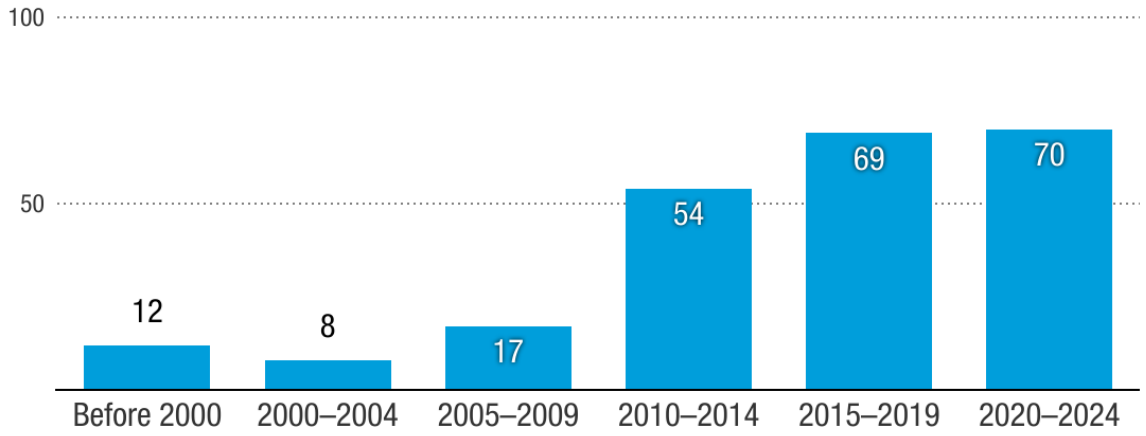
1. Trends in G20 International Investment Agreements

G20 IIAs have evolved considerably over time, with more recent IIAs providing many examples of provisions related to investment promotion and facilitation, the right to regulate in the public interest and responsible investment. UNCTAD has emphasized the need for the modernization and reform of IIAs, while providing tailored reform options addressing public health (UNCTAD, 2021), the sustainable energy transition (UNCTAD, 2023b) and digital transformation (UNCTAD, 2025). UNCTAD's Annual High-Level IIA Conference and its IIA Reform Platform, as well as ongoing OECD work under the Future of Investment Treaties initiative, provide inclusive forums to devise pragmatic means to transition substantive treaty provisions in older agreements to designs that are consistently used in recent practices.

Promoting and facilitating investment

Investment facilitation provisions are broadly embraced in modern IIAs of G20 members. Such provisions aim to tackle ground-level obstacles to investment by making it easier for investors to establish or expand their investments and conduct their day-to-day business in the host economy (UNCTAD, 2023a). Transparency provisions, requirements to (electronically) publish relevant rules and procedures, are the most common facilitation provision, present in 70 per cent of G20 IIAs concluded in the period 2020 to 2024 (figure 1) (UNCTAD, 2024b). Investment facilitation provisions also aim to streamline investment-related procedures. In addition, IIA clauses introduce stakeholder-engagement tools – such as focal points that can provide information, support investors in their communication with the administration or offer dispute avoidance. Many new IIAs that provide for investment facilitation additionally establish frameworks for institutional cooperation between the parties, including for the provision of technical assistance and capacity-building, especially where the treaty parties' levels of economic development differ.

Figure 1. Share of G20 IIAs with transparency provisions over time
(Percentage)



Source: UNCTAD.

Note: Based on a mapping of 1,243 IIAs (with substantive investment provisions) concluded by G20 member countries between 1959 and 2024 for which texts were available. Data derived in part from UNCTAD's IIA Mapping Project.

Investment promotion provisions are found in a small but increasing number of new IIAs concluded by G20 members. These provisions encourage the treaty parties to cooperate in attracting high-quality FDI – for instance by exchanging information, linking their investment promotion agencies, organizing joint roadshows or aligning incentive frameworks. UNCTAD's mapping of IIAs shows that only a minority of pre-2010 IIAs worldwide, including G20 IIAs, contain references to specific promotion activities in the text of the agreement.[3] However, the share has increased significantly in agreements signed more recently, which feature more detailed and more diverse content on the promotion and facilitation of investment (UNCTAD, 2024a; UNCTAD, 2023a). These clauses are usually framed as best-efforts commitments rather than enforceable rights, reflecting governments' need for flexibility and the competitive nature of marketing an investment destination. Their objective is to bridge information gaps, lower perceived risk and channel investment into priority sectors, complementing domestic promotion instruments and outward-investment support schemes.

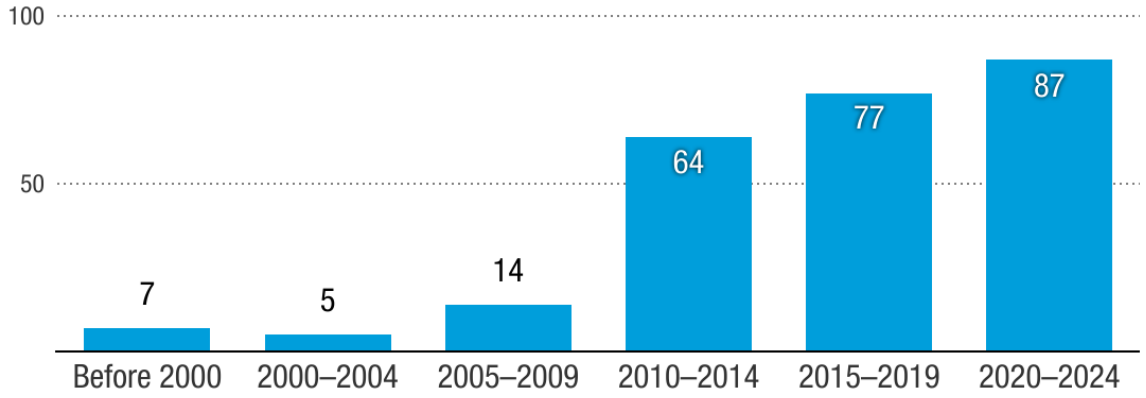
Preserving the right to regulate in the public interest

Public policy exceptions for measures taken in the public interest aim to ensure that countries have sufficient regulatory space to implement measures in pursuit of specific public policy objectives such as the protection of public morals or public order, the life or health of humans, animals or plants, the environment or the conservation of living and non-living exhaustible natural resources. Public policy exceptions are included in an increasing number of IIAs, including the large majority (87 per cent) of recent G20 IIAs concluded between 2020 and 2024 (figure 2). The policy areas for which flexibility is to be preserved in respect of all (or specified) IIA protection standards of modern IIAs typically include public health and environmental protection. Public policy exceptions can be complemented by more specific carve-outs for measures taken in the public interest from specific standards of treatment. Most commonly such clarifications are included in indirect expropriation provisions. They clarify that non-discriminatory measures for the protection of legitimate public welfare objectives, including public health and environmental protection, do not constitute an expropriation.

[3] See UNCTAD IIA Content Mapping, available as part of the IIA Navigator at https://investmentpolicy.unctad.org/international-investment-agreements/iia-mapping/Content (accessed on 18 June 2025).

Figure 2. Share of G20 IIAs with public policy exceptions over time

(Percentage)



Source: UNCTAD.

Note: Based on a mapping of 1,243 IIAs (with substantive investment provisions) concluded by G20 member countries between 1959 and 2024 for which texts were available. Data derived in part from UNCTAD's IIA Mapping Project.

Refining substantive investment standards. New-generation IIAs of G20 members markedly differ from the treaties concluded in the 1990s and 2000s. The refinements of substantive IIA standards often aim to preserve regulatory space and to increase predictability, clarifying what measures States can or cannot adopt in light of their treaty commitments.

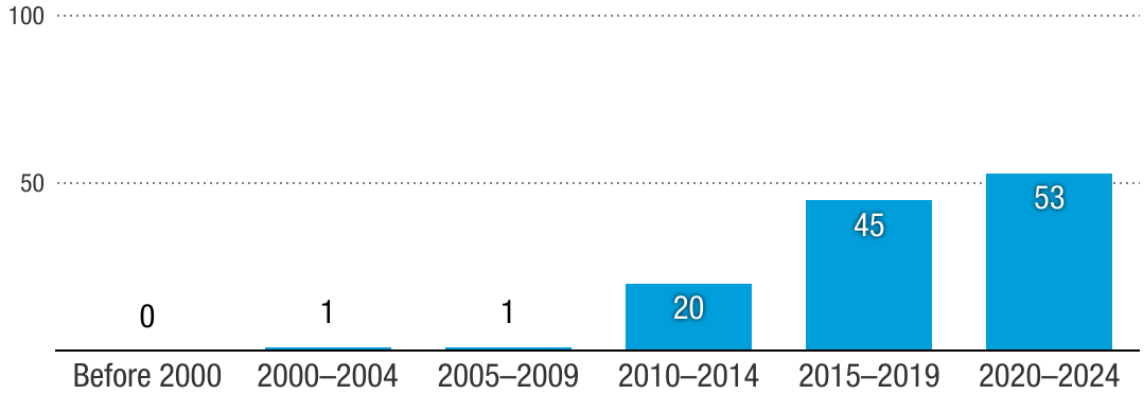
Fostering responsible investment

Responsible business conduct provisions, most commonly in the form of corporate social responsibility clauses, aim to encourage investors to incorporate guidelines, standards and principles of corporate social responsibility or responsible business conduct in their internal policies and practices.[4] They frequently refer to internationally recognized instruments on responsible business conduct – such as the UN Guiding Principles on Business and Human Rights, the ILO Tripartite Declaration of Principles concerning Multinational Enterprises and Social Policy, and the OECD Guidelines for Multinational Enterprises on Responsible Business Conduct – and may be framed using 'best efforts' language. Their share has steadily grown over time in G20 IIAs. For example, corporate social responsibility references are present in 53 per cent of G20 IIAs concluded between 2020 and 2024 (figure 3). Anti-corruption provisions also feature in G20 IIAs (UNCTAD, 2024b). Responsible business conduct clauses may be addressed at States or directly at investors.

[4] Responsible business conduct encourages the positive contributions businesses can make to economic, environmental, and social progress while also aiming to minimize the adverse impacts associated with business operations, products and services. See also UNCTAD, 2024b.

Figure 3. Share of G20 IIAs with corporate social responsibility references over time

(Percentage)



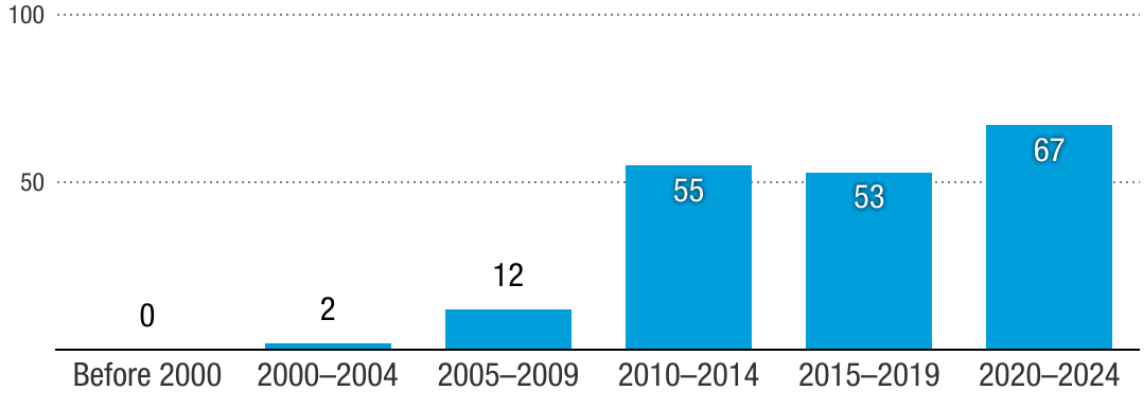
Source: UNCTAD.

Note: Based on a mapping of 1,243 IIAs (with substantive investment provisions) concluded by G20 member countries between 1959 and 2024 for which texts were available. Data derived in part from UNCTAD's IIA Mapping Project.

Other provisions on responsible investment appear in an increasing number of G20 IIAs (UNCTAD, 2024b), addressing areas such as environment, labour and tax governance. These provisions are diverse and cover a variety of issues: (i) environmental protection, such as the conduct of environmental impact assessments and the use of environmentally sound technologies; (ii) labour and human rights such as responsible supply chain management; (iii) good corporate governance, such as transparency, arm's-length transactions or responsible tax behaviour; and (iv) the non-lowering of regulatory standards in areas such as health, labour or environmental protection to attract investment (figure 4). These provisions can be of general applicability or target specific sectors.

Figure 4. Share of G20 IIAs with not lowering of standards provisions over time

(Percentage)



Source: UNCTAD.

Note: Based on a mapping of 1,243 IIAs (with substantive investment provisions) concluded by G20 member countries between 1959 and 2024 for which texts were available. Data derived in part from UNCTAD's IIA Mapping Project.

2. Existing practice: key provisions across G20 IIAs focusing on clean energy, digital transformation and public health

The below illustrates the current treaty practice of G20 members. It focuses on clauses addressing the three areas that are covered by the IIA toolbox: clean energy, digital transformation and public health.

1. Clean energy

G20 members' new treaties now increasingly streamline sector-specific investment procedures, dedicate chapters to energy and raw materials, and entrust independent regulators to keep authorization steps transparent. They pair these facilitation measures with explicit promotion commitments, from incentives under the African Continental Free Trade Area (AfCFTA) Investment Protocol to far-reaching agreements to cooperate such as the Indo-Pacific Economic Framework Clean Economy Agreement and the Australia–United Arab Emirates CEPA (2024), which target a wide range of issues, including large-scale renewable energy projects, battery storage, and carbon-capture research and development (R&D). Cooperation clauses bring energy regulators from different treaty parties together, mandate joint promotion activities and deepen technical assistance, while tailored provisions foster investment in clean-tech R&D itself. At the same time, the treaties preserve policy space through specific carve-outs for certain types of investments, sector-specific reservations on grid or nuclear activities, and balanced safeguards on performance requirements. Finally, modern IIAs concluded by G20 members embed responsible investment considerations that, among others, align with requirements on environmental impact assessment and human capital development, aiming to ensure that the clean energy value chain grows sustainably and inclusively.

Promoting and facilitating investment in clean energy

Facilitating clean energy investment. In addition to generally applicable commitments on investment facilitation which are common in recently concluded IIAs of G20 members, some modern G20 IIAs also contain facilitation provisions specific to the energy sector. The Chile–European Union Advanced Framework Agreement (2023) (Chapter 15) and the European Union–New Zealand FTA (2023) (Chapter 13), for example, contain dedicated chapters on energy and raw materials, which require transparent and streamlined authorization procedures, the establishment of an independent authority for electricity regulation, and the facilitation of connection to national infrastructure for renewable energy producers, among others.[5] Moreover, energy-specific investment facilitation provisions typically prescribe reasonable and predictable steps, timeframes and fees for authorizations in the sector, the examination by an independent authority and, at times also encourage digitalization of the process.

A core aspect of energy-specific facilitation provisions is the streamlining of energy-related procedures. The streamlining of investment procedures aims to eliminate redundant bureaucratic steps, which can render the investment environment, in general and specifically in the energy sector more attractive. For example, the Chile–European Union Advanced Framework Agreement (2023) regulates authorizations for energy exploration and production in Article 15.7 by requiring licences to be granted through a public, non-discriminatory procedure and obliging the parties to publish the licence type and application deadline in advance. It also permits the host State to impose financial or in-kind contributions on licensees that do not interfere with the investor's management, and ensures rejected applicants receive written reasons and access to previously announced appeal or review mechanisms.

Promoting clean energy investment. A few recent G20 IIAs also encourage the parties to promote clean energy investment. For example, the Africa Regional Protocol of the Organisation of African, Caribbean and Pacific States–European Union (Samoa) Agreement (2023), Article 24(1) commits the parties to accelerate access to affordable, sustainable energy and to develop resilient infrastructure, especially in rural areas. It also encourages using the most efficient, low-carbon

[5] See also the reference to "the removal of obstacles to trade and investment" in European Union–New Zealand FTA (2023), Chapter 19 (trade and sustainable development), Article 19.6(4).

technologies across all sectors – including agriculture, manufacturing, extractive industries and tourism (see also below on clean technology). Certain agreements, such as the AfCFTA Investment Protocol, Article 8, direct the parties to particular types of incentives that they may adopt with the aim to attract sustainable investment, including clean energy investment.[6]

Cooperating on clean energy investment. Some new G20 IIAs include specific procedures and mechanisms to implement the States' agreed-upon energy objectives through inter-State cooperation, inter-agency cooperation between their relevant energy regulators or joint promotion activities.

Certain IIAs, such as the AfCFTA Investment Protocol (2023) or the Canada–Ukraine Modernized FTA (2023), Article 13.10(8) and Article 13.23 among others, refer to clean energy promotion and cooperation in the text of the agreement directly.[7] The Canada–Ukraine Modernized FTA invites the parties to cooperate bilaterally and in international fora, as well as through the Committee on the Environment, including to ensure investment in environmental goods and services for clean energy.[8]

In addition, investment cooperation on clean energy may also be further deepened through memorandums of understanding (MoUs), which generally do not contain legally binding commitments, or other flexible instruments aimed at fostering lasting cooperation in relation to clean energy. An example of such an instrument is the Indo-Pacific Economic Framework Clean Economy Agreement (2024), section B, which is dedicated to "energy security and transition".[9] Alongside the Australia–United Arab Emirates CEPA (2024) and the BIT (2024) between the parties, five MoUs on investment cooperation were signed, including a dedicated MoU on investment cooperation in green and renewable energy.[10] Under the MoU the parties focus on a wide range of energy investment activities, including large-scale renewable energy generation; low-carbon liquid fuels; energy-efficient and enabling technologies; transport and storage infrastructure (batteries and other systems); carbon-capture projects; supply-chain diversification; workforce upskilling; and greenfield project and R&D activities. Memorandums of understanding have been concluded in conjunction with trade and investment agreements, or in a self-standing manner such as the MoU between India and Saudi Arabia on Energy (2023), providing a framework for electrical grid interconnection, hydrogen development, and joint feasibility studies.

Complementary aspects of cooperation, of particular relevance in IIAs concluded between parties at different levels of economic development, are commitments to support technical assistance and capacity-building activities. For example, in the China–Ecuador FTA (2023) the parties agree to promote and facilitate technical assistance and capacity-building in the agreed-upon cooperation activities, including on clean energy (Articles 16.3 and 16.13). The Australia–Peru FTA (2018) institutionalizes this cooperation through a dedicated committee on cooperation and capacity-building, including for the energy sector (Article 20.4).

Cooperation on clean technologies. Clean energy requires investment into R&D, implementation of new technologies and infrastructures necessary for the sustainable use of such technologies, which are all predicated on new investments from both the public and private sectors. Aware of this need, some recent G20 IIAs are beginning to include express references to investments in clean technologies, typically in the context of their environmental and climate-related commitments, as

[6] See also AfCFTA Investment Protocol, Article 26(c), which directly refers to promoting renewable energy investment.

[7] See also modernized Energy Charter Treaty (2024), Article 19 bis; New Zealand–United Arab Emirates CEPA (2025), Article 8.2(a) and Article 17.2(3)(d).

[8] Another example is the Australia–United Kingdom FTA (2021), Article 22.5 on climate change and Article 22.6 on environmental goods and services. See also Chile–European Union Advanced Framework Agreement (2023), Article 15.14 regarding cooperation on energy and raw materials.

[9] See also Australia–Singapore Green Economy Agreement (2022), with part (e) on clean energy, decarbonisation and technology.

[10] As to the legal status, paragraph 6 of the Australia–United Arab Emirates MoU on Investment Cooperation in Green and Renewable Energy states: "This Memorandum represents the understanding reached between the Participants and is an expression of the Participants' good faith intent to engage in the collaboration described herein. This Memorandum does not create any legally binding rights or obligations."

part of a dedicated section on energy, or under sections on investment cooperation. For example, under the New Zealand–United Kingdom FTA (2022), Article 22.7, the parties recognize the importance of promoting and facilitating investment and trade in clean technology and agree to cooperate in areas such as clean energy, climate change adaptation and mitigation technologies. In the EFTA–India TEPA (2024), Article 7.1, the parties agree to facilitate partnerships between centres of excellence including on renewable energy and clean technologies. Renewable energy is similarly among the priority areas of technology and start-up cooperation under the Israel–Republic of Korea FTA (2021), Article 17.3.

Right to regulate in the public interest

Public policy exceptions for general measures taken to protect the environment and/or to mitigate climate change. General public policy exceptions are included in the large majority of recent G20 IIAs. These exceptions are a tool to safeguard regulatory flexibility to pursue policies aimed at preserving the environment, including as it relates to climate and the transition to clean energy. Public policy exceptions in recent G20 IIAs typically refer to measures necessary to protect human, animal or plant life or health or directly refer to environmental protection. The Iraq–Saudi Arabia BIT (2019), Article 21, is an example of a treaty referencing measures to protect human, animal or plant life and health. Increasingly, IIAs also explicitly point to climate action as a legitimate policy objective in exceptions clauses. For example, the United Kingdom–New Zealand FTA (2022), Article 32.1(2) and (3), incorporates GATS Article XIV by reference, and clarifies that subparagraph (b) – dealing with measures necessary to protect human, animal or plant life or health – includes environmental measures and measures necessary to mitigate climate change.[11]

Carving out measures taken for environmental protection and climate change mitigation from specific standards of treatment. A number of new G20 IIAs introduce carve-outs and clarifications with respect to specific standards of treatment, which aim at safeguarding policy space in relation to environmental and/or climate matters and which may be relevant to ensure a balanced approach that provides protection, while enabling clean energy technology diffusion between the parties. Most commonly such clarifications are included in indirect expropriation provisions. While rare in old-generation IIAs, the share of G20 members' IIAs that include such a carve-out has consistently increased over time and is currently present in 84 per cent of G20 IIAs concluded in the past 5 years. For example, the Serbia–Türkiye BIT (2022), Article 6.2 clarifies that non-discriminatory measures for the protection of the environment do not constitute an indirect expropriation.[12]

Carve-outs for good faith measures taken for environmental protection, increasingly understood to include climate adaptation and mitigation, may be found also in (pre-establishment) non-discrimination clauses and provisions on the prohibition of performance requirements, including those that relate to the diffusion of technology. For example, the China–Nicaragua FTA (2023), Article 11.8.4(d) includes a public policy exception which refers to environmental measures in its provision prohibiting performance requirements.[13]

In addition to the generally relevant IIA provisions that aim to preserve the parties' right to regulate in the public interest, a small number of recent G20 IIAs also include provisions specific to the energy sector and to the objective of clean energy by either defining the scope of the agreement by reference to exclude non-clean energy assets from its scope or by preserving regulatory space for energy sub-sectors relevant to clean energy production.

[11] See also United Kingdom–New Zealand FTA (2022), Article 14.18(2) where the Parties recognize the importance of environmental protection, including with respect to climate change mitigation and adaptation. Related examples include the Australia–United Kingdom FTA (2021), Article 13.18, which recalls that the provisions, exceptions, and exclusions of the agreement include those applicable to supporting the transition to low carbon and climate resilient economies, and to encouraging investment in environmental goods and services; the right to regulate clause in the Canada Model FIPA (2021), Article 3, referring to the "protection of the environment and addressing climate change".

[12] See also CPTPP (2018), Annex 9-B.

[13] See also CPTPP (2018), Article 9.10.

IIA coverage of certain types of energy assets. Commonly, IIAs cover investments across all sectors. In relation to energy assets, a few recent IIAs focus their scope of application on clean energy. A few recent G20 IIAs explicitly protect clean energy. By way of example, under the Australia–United Arab Emirates BIT (2024) the parties exclude rights under contracts, concessions or licenses for the exploration and exploitation of natural resources except for renewable energy sources.[14]

Balancing liberalization commitments for the energy sector. Where contracting parties include liberalization commitments in their IIAs, they often exclude the energy sector from national treatment obligations and provisions prohibiting performance requirements, typically through country-specific reservations. These exclusions may apply broadly to the energy sector as a whole or be limited to specific sub-sectors, such as electricity grids and distribution, or specific renewable energy sectors. Recent G20 IIAs which contain energy-related reservations by G20 members include the MERCOSUR–Singapore FTA (2023), the Angola–Japan BIT (2023), and the Georgia–Japan BIT (2021), among others.

Responsible investment

Commitments on responsible business conduct are present in the majority of G20 IIAs concluded in the past 5 years. For example, under Article 12.2 of the Hong Kong, China SAR–Mexico BIT (2020) the parties commit not to lower their environmental standards with the objective of attracting or retaining investment. These overarching provisions are generally supportive of the objective to ensure that local populations benefit from investment activities and any of the inherent risks of such activities are mitigated. They thereby support also the objective of clean energy for all. In addition, a few recent G20 IIAs are beginning to include responsible investment considerations that are of particular relevance to the clean energy value chain.[15]

Environmental commitments. To effectively be clean, the upstream energy value chain has to respect the environment. Certain recent G20 IIAs contain a requirement on the State parties to ensure the conduct of an environmental impact assessment for energy projects (e.g. Chile–European Union AFA (2023), Article 15.8, Canada–Ukraine Modernized FTA (2023), Article 13.12).[16] Other treaties may address that obligation to the investor. For example, the AfCFTA Investment Protocol (2023), Article 34, imposes the following environmental obligations on investors: to respect the right to a clean, healthy and sustainable environment, apply prevention and precaution principles, conduct best-practice environmental impact assessments, integrate precaution into investment decisions (including mitigation or abandonment where needed), and, where harm occurs, take remedial steps and restore affected sites.

Human capital development commitments. Human capital development and training for employees are of particular relevance in a field such as clean energy, which is driven by technological advancements. In certain recent G20 IIAs, at times the States commit to supporting human capital development through cooperation activities (e.g. EFTA–India TEPA (2024), Article 7.3(2)(f) and (h)). Other IIAs, such as the Brazil–India BIT (2020), Article 12(2), also contain commitments to support skills development for employees directly addressed to investors.

2. Digital transformation

Newer IIAs increasingly address areas such as the digital economy, including treaties signed by G20 members. An increasing number of recent treaties promote and facilitate investment through electronic portals, online licence applications and digital payment systems. A small number of treaties also actively encourage capital flows into ICT infrastructure and other digital sectors. Moreover, some treaties now embed cooperation clauses for joint promotion, technical assistance and capacity-building in areas such as data centres and artificial intelligence, and G20 IIAs with

[14] Another example are the modifications and changes to the Annexes to the Energy Charter Treaty.

[15] Under the provisions on investor obligations and responsibilities, the Egypt–Saudi Arabia BIT (2024), Article 14(1), contains a reference to climate change and adaptation.

[16] Some responsible business conduct provisions also address due diligence, e.g. Chile–European Union Advanced Framework Agreement (2023), Article 17.24, and MERCOSUR–Singapore FTA (2023), Article 9.12(3).

increasing frequency commit the parties to create a digital-friendly business environment via dedicated chapters on electronic commerce. These new IIAs governing the digital economy also frequently introduce bespoke exceptions for data privacy, source code disclosure, and data flows to preserve policy space in priority digital services. Moreover, a growing number of recent G20 IIAs include responsible investment considerations in relation to issues such as consumer protection and unsolicited commercial messages.

Promotion and facilitation of digital economy investment

Encouraging or requiring the use of digital tools for investment facilitation. There is a trend for IIAs to increasingly incorporate digital investment facilitation tools. Sixty per cent of IIAs containing investment facilitation provisions concluded between 2021 and 2023 are no longer exclusively analogue, up from only 36 per cent of treaties concluded in 2015 and 2016 (UNCTAD, 2024a). Digital investment facilitation means, for example, not requiring investors to appear in person to make inquiries or request permits. Examples of provisions can be found in the Angola–EU SIFA (2023) such as Articles 9, 10 and 20 on the electronic publication of relevant information, Article 16 on electronic applications for investment authorization, Article 18 on electronic payment of fees, and Article 22 on electronic enquiries at the investment facilitation focal point. Similarly, the Investment Facilitation for Development Agreement negotiated and finalized by participating WTO members contains provisions on electronic publication of relevant information (Articles 6 and 7), electronic application for investment authorization and online payment of fees (Article 18). The Türkiye–United Arab Emirates CEPA (2023) among others, requires the parties to "endeavour to reach the highest possible level of digitalization of procedures related to investments" (Article 10.7).

Actively facilitating investment in the digital economy. A number of new IIAs of G20 members facilitate investment in the digital economy in different ways. The AfCFTA Protocol on Digital Trade (2024), Article 36(c), for example, requires parties to facilitate investment in the ICT sector in accordance with the Protocol on Investment. Other treaties adopt investment facilitation provisions such as transparency obligations or clauses on stakeholder engagement directly with respect to the digital economy. The Cambodia–China FTA (2020), Article 12.1, for example, requires the publication of laws, regulations and procedures relating to all matters covered by the treaty, including the chapter on electronic commerce. The Dominican Republic–Central America–United States FTA (2004) imposes a similar obligation specifically with respect to laws and regulations that "pertain to electronic commerce" (Article 14.4). The Australia–United Arab Emirates CEPA (2024), Article 12.28, specifies that the publication of such measures should be carried out, to the extent possible, online. Clauses aimed at the engagement of digital stakeholders can be found in the Australia–Japan FTA (2015), Article 13.5.3, which sets out that parties shall take the importance of industry-led development of electronic commerce into account when formulating any new regulations relating to electronic commerce. Lastly, some treaties contain investment facilitation provisions with respect to specific digital services. The Türkiye–United Arab Emirates CEPA (2023), Article 9.16, adopts soft language requiring the publication of laws and regulations relating to electronic payments as well as the timely processing of licensing applications relating to electronic payments.

Targeted promotion commitments for investment in the digital economy. Targeted promotion provisions are currently rare in G20 IIAs. When contained in a treaty, they are usually loosely phrased, leaving significant leeway to the parties. The AfCFTA Protocol on Digital Trade (2024), Article 18(c), for example, broadly refers to promoting investment in digital infrastructure "through partnerships between governments, investors, financial institutions, and development partners".

Cooperation provisions for investment in the digital economy. Cooperation provisions in recent G20 IIAs focusing particularly on investment in the digital economy take a variety of forms. For example, the Australia–United Arab Emirates CEPA (2024) Memorandum of Understanding on investment cooperation in data centres and AI projects lists a number of areas of cooperation aiming to explore and assess investment opportunities relating to the digital economy.[17] A second aspect of cooperation on investment facilitation and promotion relates to technical assistance for investment facilitation and promotion measures. The Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) (2018), Article 21.2(1)(c), for example, deals with cooperation and capacity-building activities to assist in promoting and facilitating trade and

[17] See also United Kingdom–New Zealand FTA (2022), Article 15.19 on digital innovation and emerging technologies; Australia–United Kingdom FTA (2021), Article 20.4.

investment of the parties. Similarly, the Regional Comprehensive Economic Partnership (RCEP) (2020), Article 15.3(2) requires the parties to undertake capacity-building and technical assistance that focuses, among others, on the areas of investment and electronic commerce.[18]

Clauses that create a digital-friendly investment environment. Dedicated provisions, and nowadays more commonly entire chapters in trade and investment agreements, deal with e-commerce and digital trade, supporting digital business activity. Such chapters touch, for example, on the acceptance of e-signatures, e-invoices, e-payments, electronic transactions frameworks, non-discrimination of digital goods and rules on data flows, among others. The IIAs of G20 members reflect this overall trend, including the Brazil–Chile FTA (2018), Chapter 10 on Electronic Commerce, and the Agreement between the United States of America, the United Mexican States, and Canada (USMCA) (2018), Chapter 19 on digital trade.[19] Additionally, IIAs can include provisions on training activities, capacity-building, and the provision of technical assistance to enable digital business and enhance the parties' electronic commerce legal framework such as RCEP (2020), Article 12.4(1) and the AfCFTA Protocol on Digital Trade (2024), Article 42.

Provisions on cooperation to digitalize government. A number of G20 IIAs aim to support government efforts in digitalizing their administration. Clauses on cooperation between the parties for the exchange of information and experiences on digital government can be found in the Mexico–Panama FTA (2014), Article 14.11(b) and Argentina–Chile FTA (2017), Article 11.9(b). A more detailed provision is included in the India–United Arab Emirates CEPA (2022), Article 9.13 where the parties commit to digitally transforming their government operations and services, aiming for more accessible, transparent, and inclusive governance by embracing open processes, cross-sector coordination, public digital platforms, emerging technologies (including AI), ethical guidelines, and widespread up-skilling. To advance the digitalization of government, the parties also agree to cooperate – exchanging information, sharing best practices, and providing training to build mutual digital government capacity.

Promoting the diffusion of digital technologies. A number of recent G20 IIAs recognize that the transfer of technology on mutually agreed terms, for example, through licensing of digital technologies, training of staff, and foreign direct investment can be a valuable catalyst for sustainable investment. For example, the EU–Kenya EPA, Article 83(2)(l) supports the transfer of technology on mutually agreed terms by committing the EU to provide technical assistance and capacity-building to strengthen innovation and transfer of technology, which would include technologies needed for digital transformation.

Right to regulate

Adopting tailored exceptions relating to investment in the digital economy. Exceptions relating to privacy and data protection, of particular importance in relation to investment in the digital economy, are often found as part of the general exceptions contained in many recent G20 IIAs. The Eurasian Economic Union–Viet Nam FTA (2015), Article 1.9(1) and the Iceland–Liechtenstein–Norway–United Kingdom FTA (2021), Article 14.1(2), for example, incorporate GATS Article XIV(c) by reference, including its subparagraph that allows for the adoption of measures necessary to secure compliance with laws or regulations relating to the protection of the privacy of individuals in relation to the processing and dissemination of personal data and the protection of confidentiality of individual records and accounts**.** Other exceptions can be more specific to particular areas of activity in the digital economy. The EU–New Zealand FTA (2023), Article 12.11, prohibits a requirement to transfer, or provide access to, source code to authorize the import, export, distribution, sale or use of software or products. However, it allows for source code disclosure requirements when adopted in pursuit of a number of legitimate policy objectives such as a determination of compliance with a party's laws and regulations and the enforcement of competition law. Similarly, free flow of data provisions are often accompanied by safeguards that allow the parties to restrict data flows in the pursuit of legitimate policy objectives. An example of

[18] See also EFTA–India TEPA (2024), Article 7.3(2)(g) and (h) with technological collaboration and digital technology among the areas or fields for cooperation.

[19] See also Australia–Singapore Digital Economy Agreement (2020), Chapter 14, which replaces the corresponding chapter in the Australia–Singapore FTA (2003); Australia–United Kingdom FTA (2021), Chapter 14 on digital trade; China–Nicaragua FTA (2023), Chapter 12 on digital economy.

such a provision can be found in the Australia–United Arab Emirates CEPA (2024), Article 12.16(3).[20]

Non-conforming measures for particular digital services. Many modern IIAs include clauses on non-conforming measures that allow the parties to grandfather existing measures and adopt future measures with respect to specific sectors that would otherwise contravene specific investment protection standards. Reservations relating to investment in the digital economy, computer-related services, for example, have been submitted by RCEP (2020) parties under Article 10.8, the investment chapter's clause relating to non-conforming measures.

Responsible Investment

Requiring the adoption of measures relating to data protection, unsolicited commercial messages and consumer protection. In addition to general clauses on responsible business conduct, there are a number of treaty provisions that aim to promote responsible commercial activity in the digital economy. For example, the China–Mauritius FTA (2019), Article 11.7 requires the parties to take measures to protect the personal information and data of users of electronic commerce.[21] The EU–New Zealand FTA (2023), Article 12.12 imposes an obligation on the treaty parties to prohibit fraudulent and deceptive commercial practices, and its Article 12.13 requires the adoption of measures to protect users against unsolicited commercial messages.

3. Public health

Direct references to "health" increasingly feature in recent IIAs. This has become increasingly important after the global COVID-19 pandemic. Yet much more can be done to ensure that investment supports health in IIAs. Many G20 IIAs contain explicit health references in right to regulate clauses (about 30 per cent of G20 IIAs concluded between 2020 and 2024) (figure 5). Furthermore, a vast majority of IIAs feature explicit references to health in the expropriation clause (as part of the carve-out for general regulatory measures) and as part of public policy exceptions. Concerning responsible business conduct provisions, health is rarely mentioned in the respective clauses of G20 IIAs concluded during the reference period. Some IIAs with clauses on responsible business conduct refer to the OECD Guidelines for Multinational Enterprises (on Responsible Business Conduct), the ILO Tripartite Declaration of Principles concerning Multinational Enterprises and Social Policy, and the UN Guiding Principles on Business and Human Rights, which contain elements related to the protection of human life and health. Lastly, explicit health references frequently feature in the preambles of G20 IIAs concluded between 2020 and 2024.[22]

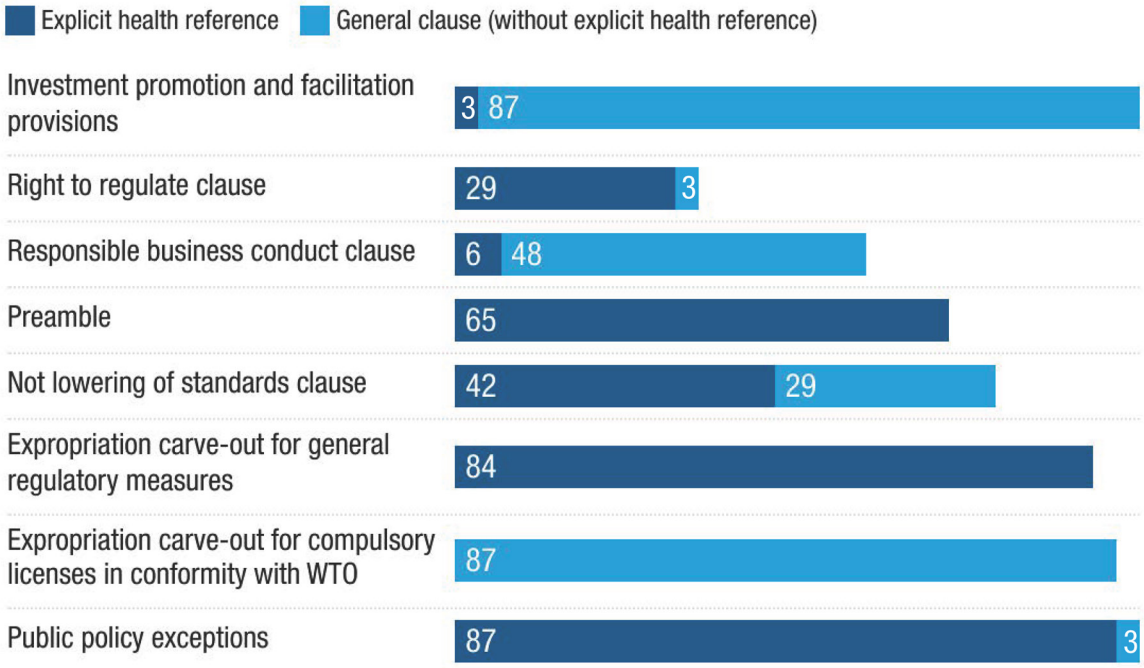
[20] See also Australia–United Arab Emirates BIT (2024), Annex V – Investment Related to Digital Trade, Article 3.

[21] See also Australia–United Kingdom FTA (2021), Article 14.12 on personal information protection.

[22] Examples can also be found in IIAs signed before 2020, for example in the preamble of the CPTPP (2018).

Figure 5. Prevalence of selected health references in recent G20 IIAs, 2020–2024

Share of agreements (Percentage)



Source: UNCTAD.

Note: Based on a mapping of 31 IIAs concluded by G20 member countries between 2020 and 2024 for which texts were available (20 BITs and 11 TIPs with substantive investment provisions). "Investment promotion and facilitation" broadly covers clauses that contain investment promotion activities or facilitation and cooperation commitments, including on regulatory practices, transparency and entry/stay of personnel.

Investment promotion and facilitation

Promoting and facilitating investment in the health sector. The AfCFTA Investment Protocol (2023), Article 27(2) contains a provision directly focused on investment in public health, requiring the parties to promote and facilitate investments in the public health sector in accordance with national laws and regulations. Moreover, many G20 IIAs contain general investment facilitation clauses (without explicit references to health), listing investment promotion activities or facilitation and cooperation commitments such as streamlining regulatory practices, publishing relevant laws and regulations and allowing for the entry/stay of personnel. RCEP (2020), for example, includes a list of investment facilitation actions in Article 10.17 that imposes a best endeavours obligation to facilitate investment by creating a good business environment, simplifying procedures, disseminating information, and establishing contact points. Furthermore, the Indonesia–Republic of Korea CEPA (2020), Article 7.17 (under Chapter 7 Investment), contains a clause on investment promotion, recognizing the importance of promoting cross-border investment and providing for activities such as the identification of investment opportunities, sharing of best practices on investment promotion and developing investment partnerships.

Cooperation activities between the parties on attracting investment in health. Outside of investment chapters, some G20 IIAs contain explicit references to health as part of their economic cooperation chapters. For example, the China–Nicaragua FTA (2023) lists the healthcare industry among "other areas of cooperation" in Article 18.6 (Chapter 18, Economic Cooperation). Similarly, the Indonesia–Republic of Korea CEPA (2020), Article 8.2 (Chapter 8, Economic Cooperation), states that sectors for cooperation may include areas such as healthcare.

Technological cooperation for medical supplies and related matters. The Israel–Republic of Korea FTA (2021), for example, contains a chapter on technological cooperation that covers, among others, medicine and medical supplies and healthcare (including pharmaceuticals, medical devices and cosmetics) (Article 17.3). It also establishes a cooperation committee that may facilitate the exchange of information.

Right to regulate

Affirming parties' right to regulate with an explicit reference to public health. Explicit health references in right to regulate clauses are included in about 30 per cent of the G20 IIAs concluded between 2020 and 2024. One example is the Türkiye–United Arab Emirates BIT (2023), Article 8, which reaffirms the parties right to achieve legitimate policy objectives such as the protection of public health. A similar provision is included in the Angola–EU SIFA (2023), Article 2.2.[23] In addition, some G20 IIAs contain right to regulate clauses without health references such as the India–Uzbekistan BIT (2024), Article 3(1).[24] Other G20 IIAs contain provisions concerning measures taken to ensure that investment activities are undertaken in a manner sensitive to environmental, health or other regulatory objectives. Examples include the Hong Kong, China SAR–Mexico BIT (2020), Article 12; the USMCA (2018), Article 14.16; and the CPTPP (2018), Article 9.16.[25]

Public policy exceptions covering measures for the protection of human life and health. Explicit health references in public policy exceptions are included in the large majority of recent G20 IIAs (87 per cent of the IIAs concluded between 2020 and 2024). For example, the Israel–Republic of Korea FTA (2021), Article 21.1(3) provides that States may adopt measures necessary to protect human life or health, subject to the requirement that such measures are not applied in an arbitrary or unjustifiable manner, and do not constitute a disguised restriction on investment. The Australia–United Arab Emirates BIT (2024), Article 16(1) and the Iraq–Saudi Arabia BIT (2019), Article 21 contain a similar provision.[26] There are variations in the formulation of public policy exceptions – such as the inclusion of anti-abuse conditions or the varying strength of the nexus required to link the measure and the policy objective.

Safeguards for public health with respect to specified substantive protection standards. Explicit health references are frequently included in the expropriation provisions of G20 IIAs, as part of the carve-out for general regulatory measures (84 per cent of IIAs concluded between 2020 and 2024). For example, the Canada–Ukraine Modernized FTA (2023), Article 17.10(3) clarifies that a non-discriminatory measure of a party that is adopted and maintained in good faith to protect legitimate public welfare objectives, including health, does not constitute an indirect expropriation.[27] The USMCA (2018), Annex 14-B on expropriation, and the CPTPP (2018), Annex 9-B on expropriation use similar safeguards.[28] Direct references to the pursuit of public policy objectives, including health, can also be found with respect to other protection standards. The AfCFTA Investment Protocol, Articles 13 and 15, allow for exceptions from national treatment and most-favoured-nation treatment obligations to protect or enhance public health.

[23] See also EU–Singapore Investment Protection Agreement (2018), Article 2.2; Indonesia–Switzerland BIT (2022), Article 12, Canada Model FIPA (2021), Article 3,

[24] The Bolivarian Republic of Venezuela–China BIT (2024), Article 14.

[25] See also United Kingdom–New Zealand FTA (2022), Article 14.18; Australia–United Kingdom FTA (2021), Article 13.17.

[26] See also Commonwealth of Independent States (CIS) Agreement on Services and Investment (2023), Article 9; Kazakhstan–Singapore Services and Investment Agreement (2023), Article 7.7; Türkiye–Uruguay BIT (2022), Article 7; United Kingdom–New Zealand FTA (2022), Article 32.1 general exceptions as well as Article 32.6, which recalls the exclusions and exceptions in the agreement that are applicable to the National Health Service of the United Kingdom and the New Zealand Health and Disability System, including as set out in the investment chapter and annexes on non-conforming measures; Australia–United Kingdom FTA (2021), Article 31.1 general exceptions and Article 31.7, on the National Health Service of the United Kingdom and Australia's health system.

[27] The Australia–United Kingdom FTA (2021), Annex 13B 3(b), contains a similar provision, accompanied by a "for greater certainty" clarification, providing some examples of measures to protect public health (such as the regulation, pricing and supply of pharmaceuticals).

[28] See also modernized Energy Charter Treaty (2024), Article 13; Angola–China BIT (2023), Annex B; Colombia–France BIT (2014), Article 6; Egypt–Saudi Arabia BIT (2024), Article 10(6).

Carve-outs for compulsory licensing in conformity with TRIPS obligations. While usually not containing an explicit reference to public health, the carve-out for TRIPS compulsory licensing from the expropriation clause (or from the treaty scope) may be relevant in this context. An expropriation clause carve-out is included, for example, in the Chile–EU Advanced Framework Agreement (2023), Article 17.19(4), which clarifies that the provision does not apply to the issuance of compulsory licenses or the revocation, limitation or creation of intellectual property rights consistent with the TRIPS Agreement. The India–United Arab Emirates BIT (2024), Article 2.4(iii), contains a similar limitation that excludes such action in conformity with the TRIPS Agreement entirely from the scope of the treaty, not only the expropriation provision.

Exclusions of certain health-related services or products through country-specific schedules or annexes. Some G20 IIAs exclude certain health-related services, insurance activities or medical products through country-specific schedules or annexes from post-establishment as well as pre-establishment or liberalization commitments (where applicable). For example, Japan's schedule to the Georgia–Japan BIT (2021), exempts, among others, certain measures related to investment in the manufacturing of specially-controlled medical devices. Under the Canada–Ukraine Modernized FTA (2023), Annex II for Cross-Border Trade in Services and Investment Non-Conforming Measures, Canada reserves the right to adopt or maintain measures with respect to the supply of social services established or maintained for a public purpose, including health.[29] In the RCEP (2020) Annex III Schedules of Reservations and Non-Conforming Measures for Services and Investment, several parties exclude certain measures from the national treatment provisions of the investment chapter that involve health-related economic activities, such as specific listed activities in pharmaceutical manufacturing (China); medicines and medical devices manufacturing (Japan); human health services (Republic of Korea), and social services established for a public purpose, including health (New Zealand).

Other safeguards with explicit references to health, e.g. addressing measures taken during public health emergencies. G20 IIAs can contain other health-related safeguards. The AfCFTA Investment Protocol (2023), Article 27.1, provides, for example, that parties have the right to adopt or modify their relevant laws and measures in the context of epidemics, pandemics and other public health emergencies in accordance with their international commitments.[30]

Responsible investment

Not lowering of standards clauses with a reference to health. An explicit reference to health in the not lowering of standards clause is contained in 42 per cent of the G20 IIAs concluded between 2020 and 2024. For example, the Japan–Morocco BIT (2020), Article 19, states that contracting parties shall refrain from encouraging investments by relaxing their health standards. The Colombia–France BIT (2014), Article 10 adopts similar language.[31] Another 30 per cent of recent G20 IIAs contain a not lowering of standards clause covering the environment and/or labour standards – without an explicit reference to health. Such a clause is included, for example, in the Türkiye–Bolivarian Republic of Venezuela BIT (2023), Article 14(1).

References to health in responsible business conduct or corporate social responsibility clauses. Responsible business conduct clauses feature in more than half of G20 IIAs concluded between 2020 and 2024. Most do not include direct references to health (figure 5 above).[32] However, a number of G20 IIAs such as the USMCA (2018), Article 14.17, and the Australia–United Kingdom FTA (2021), Article 13.19 refer to instruments on responsible business conduct – such as the OECD Guidelines for Multinational Enterprises, the ILO Tripartite Declaration of Principles concerning Multinational Enterprises and Social Policy, and the UN Guiding Principles on Business and Human Rights, which contain elements related to the protection of human life and health.[33]

[29] A similar provision is included in the Australia–United Kingdom FTA (2021), Annex II(6) for Australia.

[30] A few G20 IIAs contain provisions on tobacco control measures in relation to investment chapters, e.g. the Canada–Ukraine Modernized FTA (2023), Annex 17-A, and the CPTPP (2018), Article 29.5.

[31] See also Treaty on the Eurasian Economic Union (2014), Annex No. 16, Protocol on Trade in services, incorporation, activities and investments, Article 1(5); United Kingdom–New Zealand FTA (2022), Article 14.8; Australia–United Kingdom FTA (2021), Article 13.17.

[32] An example with explicit health references is the Egypt–Saudi Arabia BIT (2024), Article 14(1).

[33] See also Angola–EU SIFA (2023), Article 34.3.

Encouraging investors to refrain from seeking health-related exceptions. For example, the Brazil–India BIT (2020), Article 12(2), requires investors and their investments to endeavour to comply with voluntary principles and standards of responsible business conduct and refrain from seeking special exemptions from domestic rules relating to health. Similarly, the AfCFTA Investment Protocol (2023), Article 38 (Corporate Social Responsibility), encourages investors to refrain from seeking exemptions that are not established in the legislation of the Host State relating to health.

Provisions addressing damage to public health in relation to investments. Some G20 IIAs contain a provision addressing damage to public health by investments or investors. The Bangladesh–Türkiye BIT (2012) Article 4(2), for example, reserves the parties' right to exercise all legal measures in case of loss, destruction or damages with regard to its public health by investments of the other party's investors. The AfCFTA Investment Protocol (2023), Article 47.1, is an example of a provision addressing personal injuries and loss of life.

3. IIA Toolbox for Clean Energy, Digital Transformation and Public Health

The IIA Toolbox builds on the analysis of modern IIAs signed by G20 members and considers insights from investment treaties concluded by G20 members overall. It also draws on UNCTAD's long-standing policy work and guidance on IIA reform. Using these sources, the toolbox extracts the concrete G20 treaty clauses presented in the previous sections and distils them into a menu of policy options currently employed by G20 countries. These policy options focus on promoting investment into clean energy, digital transformation and public health, while preserving the policy space governments need to regulate in those areas and fostering responsible investment.

	Clean energy	Digital transformation	Public health
Investment promotion and facilitation	• Including carefully designed investment facilitation provisions focused on clean energy investments, including (i) transparency, (ii) streamlining and accelerating investment authorization, and (iii) administering investment procedures by an independent authority • Including promotion provisions focused on host and home State measures to support investment in clean energy • Ensuring cooperation for the provision of technical assistance and capacity-building aimed at the implementation of investment promotion and facilitation commitments • Including cooperation commitments to promote investment, e.g. through joint promotion initiatives, matchmaking and exhibition activities • Encouraging the diffusion of clean technology through specific treaty provisions and flexibilities • Facilitating new clean energy investment, e.g. by simplifying the process of connecting to essential infrastructure such as electricity grids • Including cooperation on clean energy technologies, e.g. through joint research and development	• Including carefully designed investment facilitation provisions focused on digital investors, as well as encouraging the digital publication of laws and regulations and the adoption of digital procedures relating to investment • Including promotion provisions focusing on investment for digital transformation • Including cooperation commitments to jointly promote investment in the digital economy • Agreeing to cooperate to jointly build capacity for investment promotion and facilitation • Supporting the diffusion of digital technology through targeted treaty provisions, technical assistance and capacity-building • Creating a digital-friendly investment environment by regulating specific aspects of the digital economy such as paperless business, data flows and cybersecurity • Encouraging the digitalization of government, including through cooperation provisions	• Including carefully designed investment facilitation provisions for investment in public health that increase transparency, streamline procedures and create mechanisms for stakeholder engagement • Including targeted promotion provisions with lists of measures, e.g. joint promotion activities that can enhance flows of investment in public health • Ensuring cooperation for the provision of technical assistance and capacity-building aimed at the implementation of investment promotion and facilitation provisions • Including cooperation provisions for human capital and skills development in the area of public health • Building capacity through the exchange of information and best practices on investment in public health

	Clean energy	Digital transformation	Public health
Regulating in the public interest	• Including self-standing right to regulate clauses that refer to the protection of the environment, and refining investment protection standards • Adopting public policy exceptions that apply to measures for the protection of the environment and/or climate change • Adopting carve-outs for liberalization commitments, where included, to ensure a balanced approach under which IIAs provide policy space for the development of clean energy sectors • Excluding certain energy-related assets from the scope of the IIA under the definition of investment	• Adopting public policy exceptions that enable regulatory measures, e.g. to protect privacy • Refining investment protection standards to ensure predictability for digital economy investors and States • Adopting tailored exceptions relating to investment in the digital economy, e.g. with respect to data protection and data flows, privacy, cyber security, source code and national security • Specifying the parties' non-conforming measures with respect to digital sectors	• Including a clause affirming the parties' right to regulate to achieve legitimate policy objectives that explicitly references public health • Adopting public policy exceptions that apply to measures for the protection of health • Reiterating TRIPS flexibilities in IIAs with respect to investment in health • Adding safeguards with explicit references to health, such as relating to measures taken during public health emergencies • Adopting carve-outs for liberalization commitments, where included, to ensure a balanced approach under which IIAs provide policy space for the development of the public health sector • Including lists of existing and future non-conforming measures with respect to the health sector
Responsible investment	• Encouraging or requiring investors and their investments to comply with instruments on responsible business conduct/internationally recognized corporate social responsibility standards • Including obligations for energy investors and their investments, e.g. in relation to environmental and social impact assessments and management as well as human capital development • Including a not lowering of standards clause with a reference to the environment	• Encouraging or requiring investors and their investments to comply with internationally recognized corporate social responsibility standards • Requiring treaty parties to adopt measures relating to data protection, unsolicited commercial messages and consumer protection	• Encouraging or requiring investors and their investments to comply with instruments on responsible business conduct/internationally recognized corporate social responsibility standards • Explicitly referring to health in responsible business conduct/corporate social responsibility clauses • Encouraging investors to refrain from seeking exemptions that are not established in the legislation of the host State, related to health • Including a not lowering of standards clause with a reference to health

PART 2: INVESTMENT-RELATED POLICIES CONSIDERING A WHOLE-OF-GOVERNMENT APPROACH

1. Clean-tech and digital investment trends in G20 economies

FDI in clean energy and digital sectors has played a central role in supporting structural transformation across G20 countries. These sectors are key to advancing climate goals, accelerating technological upgrading, and strengthening economic resilience. Drawing on the OECD's updated FDI Qualities Indicators, this section provides an evidence-based overview of recent trends in greenfield FDI. It examines changes in investment flows, sectoral patterns, employment intensity, and cross-country variation – laying the foundation for the policy options in the whole-of-government approach sections that follow.

Strong growth in clean and digital FDI, but falling employment intensity

Over the past two decades, greenfield FDI into renewable energy and digital sectors has grown rapidly. In G20 countries, investment in renewables increased from just USD 5 billion in 2003 to an estimated USD 178 billion in 2024. Digital FDI expanded even more sharply, reaching USD 282.5 billion in the same year–driven by soaring global demand for cloud infrastructure, artificial intelligence, digital platforms, and data services. This growth reflects both the strategic reorientation of multinational enterprises (MNEs) and sustained efforts by governments to attract FDI aligned with clean energy and digitalization goals.

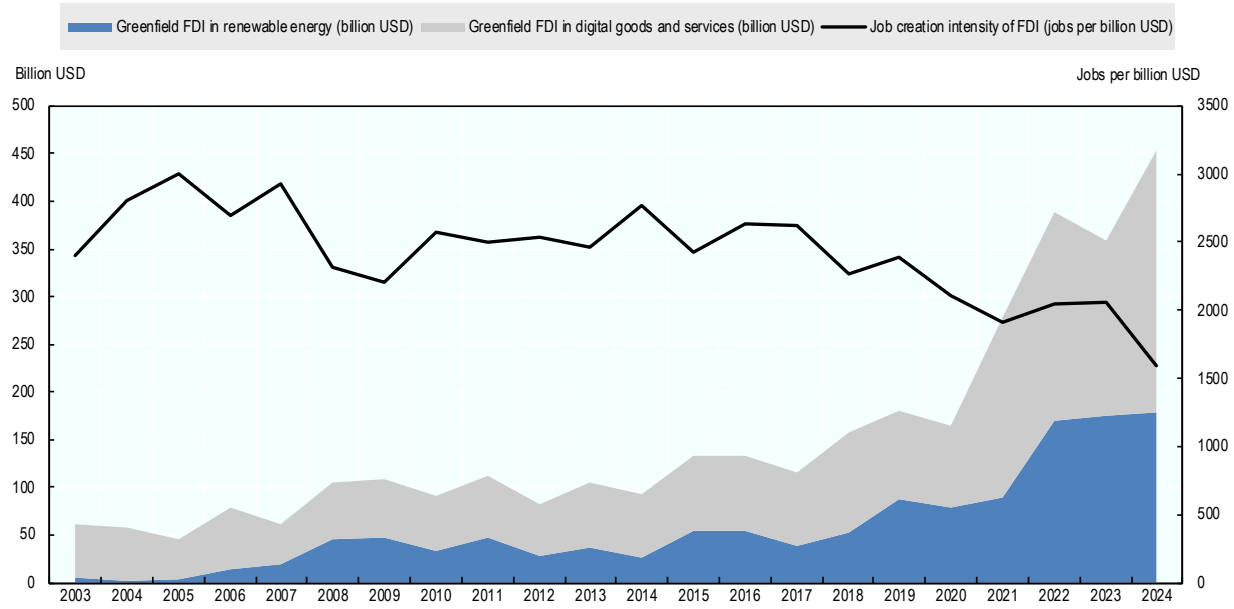
Despite broader declines in FDI due to global uncertainty and geopolitical fragmentation, clean energy and digital sectors have shown notable resilience. Between 2019 and 2024, they accounted for over half of G20 greenfield FDI (50.4%), highlighting their growing importance for productivity, innovation, and sustainable growth across G20 economies.

Foreign-owned firms remain key drivers of performance in these sectors. On average, they are about 70% more productive and offer wages roughly 34% higher than domestic firms–though these differentials have narrowed in some countries. Foreign firms are also more likely to adopt advanced technologies and invest in workforce training, making them important vectors for technology diffusion, skills upgrading, and innovation spillovers.

However, rising investment has not translated into proportional job creation. The employment intensity of greenfield FDI has declined steadily, as projects have become more capital-intensive and automation-driven. In the early 2000s, every USD billion invested typically generated between 2,400 and 3,000 jobs. By 2024, this had dropped to just under 1,590 jobs per billion (figure 6). The decline is most pronounced in high-tech segments–such as semiconductors, artificial intelligence, and utility-scale renewables–which require significant capital and specialised skills, but yield fewer direct employment gains.

This trend poses labour market inclusion challenges, especially for emerging G20 economies with large and growing youth populations. Strengthening skills development systems, expanding vocational training, and supporting smooth labour market transitions will be critical to ensure that the green and digital transitions deliver broad-based and socially sustainable benefits.

Figure 6. Greenfield FDI in digital and renewable energy sectors and associated job creation intensity in G20 economies, 2003–2024



Note: USD billion (left axis); jobs per USD billion invested (right axis)
Source: OECD FDI Qualities Indicators based on Financial Times fDi Markets

Sectoral composition of digital FDI across G20 economies and Invitee Countries

The sectoral composition of digital FDI varies widely across G20 and invitee countries, shaped by differences in technological capabilities, market size, human capital, and policy priorities (figure 7, Panel A). While some economies have established themselves as manufacturing hubs for ICT hardware and components, others specialise in digital services such as cloud computing, software, and fintech.

Between 2019 and 2024, Japan (33.8%), the United States (18.8%), and Germany (21.2%) received a relatively high share of digital FDI in ICT goods–reflecting their advanced manufacturing bases and globally competitive electronics sectors. Germany also stands out with the highest share in electrical components (6.3%) among G20 economies.

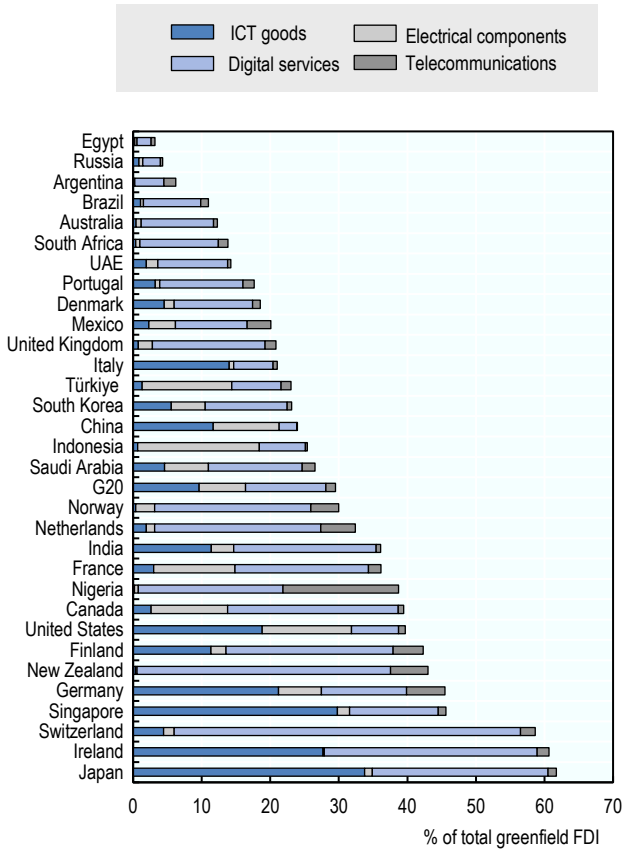
In contrast, Canada (24.9%), India (20.7%), and the United Kingdom (16.4%) attract a larger proportion of digital FDI in services. This reflects deep pools of digital talent, strong service-sector foundations, and vibrant start-up ecosystems. Investments target sectors such as cloud infrastructure, software development, fintech, and platform-based services.

Several G20 invitee countries also display clear specialisations. Switzerland (50.5%) and New Zealand (37.0%) record the highest digital services shares among all countries, highlighting their comparative strength in high-value digital service provision. Ireland shows a balanced profile, with 31.0% of digital FDI in services and 27.7% in ICT goods. Singapore attracts 29.8% of digital FDI in ICT goods, reinforcing its role as a regional manufacturing and logistics hub, while Nigeria's 21.1% digital services share and 16.9% telecommunications share highlight its emerging role in Africa's digital economy.

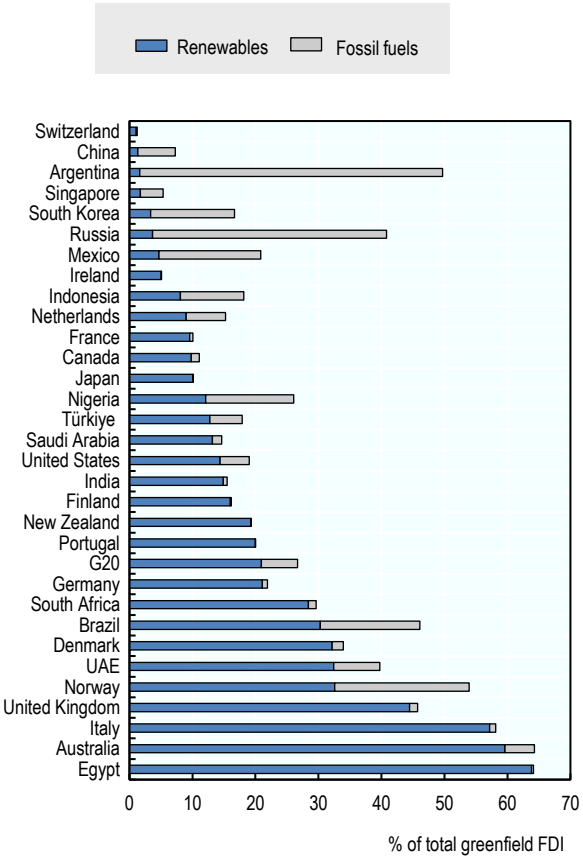
Understanding these sectoral patterns is essential for designing targeted policy responses. Countries with established manufacturing strengths can deepen their positioning in ICT hardware, while those with dynamic service sectors can build on digital skills, regulatory frameworks, and innovative business environments to attract high-value service-oriented FDI. Others may aim to rebalance their digital investment portfolios –by fostering digital services ecosystems in hardware-focused economies or expanding advanced manufacturing capabilities in service-oriented markets –to maximize the development impact of digital FDI.

Figure 7. Sectoral composition of digital and clean-tech FDI in G20 and invitee countries 2019-2024, % of total FDI

A. Digital goods and services



B. Clean-tech vs. Fossil fuels



Source: OECD FDI Qualities Indicators based on Financial Times fDi Markets

Diverging patterns in energy-related FDI: Renewables versus fossil fuels

FDI trends in energy-related sectors reveal widening divergence in the pace and direction of the energy transition across G20 and invited countries (figure 7, Panel B). While some economies have significantly reoriented investment flows towards renewables, others continue to attract substantial fossil fuel-related FDI–reflecting differences in resource endowments, policy frameworks, and transition strategies.

G20 members such as Australia, Italy, and the United Kingdom, along with invited countries like Egypt, stand out for their high renewable energy shares. Between 2019 and 2024, more than 40–60% of their energy-related greenfield FDI was directed towards renewables, while fossil fuel FDI comprised less than 5%. These outcomes reflect long-standing efforts to establish stable regulatory frameworks, transparent procurement mechanisms, and conducive investment environments for renewable deployment.

Invited countries such as Denmark, New Zealand, and Portugal also report high renewable shares and minimal fossil fuel investment. Their leadership is often underpinned by early investments in grid infrastructure, strong political commitment, and favourable financing conditions.

Brazil and Norway illustrate a more complex dynamic. While both have succeeded in attracting significant renewable energy FDI, they also continue to receive fossil fuel-related investment–reflecting the dual structure of their energy systems and evolving transition paths.

In contrast, several G20 members remain dominated by fossil fuel FDI. Argentina and the Russian Federation, in particular, receive the majority of their greenfield energy investment in fossil fuel sectors, with limited diversification into renewables. Other economies, including China, Mexico, and the Republic of Korea, also record higher fossil fuel FDI shares, reflecting slower structural shifts or continued dependence on carbon-intensive infrastructure. However, in some cases–such as China–FDI data alone may understate progress in the energy transition. In 2024, China's clean-energy sectors contributed over 10% of GDP, driven by nearly USD 940 billion in domestic investment. This highlights the need to interpret FDI flows alongside national investment efforts and broader transition strategies.

At the G20 aggregate level, renewables accounted for 20.9% of total greenfield FDI in 2024, compared with 5.7% for fossil fuels. However, these figures mask significant heterogeneity in investment patterns and transition momentum across countries. In some cases–such as India and Saudi Arabia–more balanced portfolios are emerging, as diversification strategies begin to take root.

The environmental performance of FDI also varies. While foreign firms are generally more energy efficient, they can exhibit higher carbon intensity in some developing G20 economies, averaging 16% more than domestic firms. This highlights the need for strong environmental regulations, enforcement capacity, and proactive greening strategies to align foreign investment with national climate goals.

Overall, these diverging patterns underscore the critical importance of domestic policy frameworks. Grid readiness, long-term policy signals, efficient permitting, and de-risking tools such as auctions, feed-in tariffs, and carbon pricing remain essential to mobilize high-quality clean energy FDI. In economies where fossil fuel FDI still dominates, delayed diversification may risk locking in carbon-intensive assets and slowing the transition.

Cross-country differences and strategic positioning within the G20 and invitee countries

Despite significant efforts of many G20 countries to foster clean energy and the digital transformation, G20 and invited countries display significant variation in the scale, composition, and developmental impact of inward FDI. These differences are shaped by structural factors such as market size, innovation capacity, skills availability, infrastructure readiness, and the strength of institutional frameworks.

High-income G20 members like the United States, Germany, and Japan consistently attract large volumes of technology-intensive digital FDI, maintaining strong specialisation across both hardware and services. Their advanced innovation systems, skilled workforces, and high absorptive capacity allow for deeper integration of foreign investment into domestic value chains and research ecosystems. Similarly, high-income invitee countries such as Switzerland and Ireland draw substantial digital FDI, particularly in ICT services, benefiting from robust business environments and service-oriented ecosystems.

By contrast, many emerging G20 members continue to receive FDI in resource-based sectors or lower-value digital services, reflecting earlier stages of structural transformation. Labour market impacts also vary: countries with strong vocational systems and industry linkages–such as Germany and Türkiye–tend to achieve higher employment spillovers, while others see more capital-intensive, automation-driven investment with limited direct job creation.

Gaps in digital infrastructure, fragmented regulatory frameworks, and limited skills development remain key constraints in several economies, hindering their ability to fully leverage clean-tech and digital FDI for inclusive growth. These asymmetries highlight the need for differentiated investment strategies that address national bottlenecks, build domestic capabilities, and promote integration into global value chains.

Ultimately, maximizing the benefits of green and digital FDI requires more than attracting capital. Success hinges on aligning investment policy with long-term development goals–fostering innovation, enabling skills development, and strengthening public-private partnerships to ensure that the gains from structural transformation are widely and equitably shared.

2. Policy options to mobilize clean energy and digital investment: A whole-of-government approach

Mobilising investment for clean energy and digital transformation requires a comprehensive, coordinated policy approach. Open, transparent and non-discriminatory investment policies are key for attracting investment and provide the foundation for an investment climate that is conducive to investments in the clean energy and digital sectors, as it is the case for investments into any other sector (OECD, 2015). Moreover, when sensible policies are in place, the two transitions can support and reinforce one another, and simultaneously grow the economy, raise worker wages, increase energy production, reduce air and water pollution, and reduce greenhouse gas emissions. Digital technologies, for example, can optimise energy efficiency and clean energy system provide the sustainable power that is required by an increasingly data-driven economy. While international investment agreements provide an important foundation, they are not sufficient to unlock the scale or quality of investment needed to drive the twin transitions.

This toolbox proposes a whole-of-government approach that considers the full range of domestic policies shaping investment decisions and determining the development impact of FDI in these sectors.

The framework is organised around four core policy dimensions:

1. Governance,
2. Domestic and international regulation,
3. Financial and technical support, and,
4. Information and facilitation services (see **Table 1**).

Each plays a distinct role in helping countries attract, retain, and maximize the benefits of foreign investment aligned with clean energy and digitalization goals.

The policy options presented are not prescriptive blueprints. Instead, they reflect flexible, internationally grounded practices that can be adapted to the diverse contexts of G20 and invited countries. While drawing on OECD and UNCTAD frameworks, the section also incorporates selected good practice examples to offer operational guidance for policymakers (**Table 2** and **Table 3**). The policy examples are based on desk research and submissions from some G20 members and invited countries. Annex A includes a compendium of selected domestic policy examples submitted by G20 members and invited countries.

Table 1. Policy principles and instruments for investment in support of clean technology and digital transformation

Policy area	Clean technology	Digital transformation
Governance	Strategic direction and national climate commitments; institutional coordination for decarbonisation investment; policy coherence across sectors and levels of government; monitoring, evaluation and transparency mechanisms.	Alignment of national digital strategies and investment strategies; institutional coordination across digital and investment agencies; sectoral roadmaps for emerging technologies (AI, cloud, cybersecurity); monitoring, data systems and evaluation capacities.
Domestic and international regulation	Aligning environmental regulations with climate objectives; domestic laws and standards for low-carbon investments; international climate agreements; competition, intellectual property and energy market regulation.	Market access, investment screening and competition law; legal frameworks for emerging digital technologies; cross-border data flows and digital trade agreements; responsible business conduct (privacy, cybersecurity, ethical AI); balancing openness with national security interests.
Financial and technical support	Capacity-building for domestic low-carbon capabilities; just transition support for affected workers and regions.	Public support addressing market failures (infrastructure, skills); incentives for digital infrastructure and services deployment; capacity-building for SMEs and domestic digital firms; labour market and digital skills development programmes, including in co-operation with digital MNEs.
Information and facilitation services	Investment promotion agency roles in clean-tech; facilitating compliance with environmental permitting; supply chain development and supplier matching; transparency and corporate disclosure initiatives.	Investment promotion services tailored to digital investors; simplifying and digitalizing administrative procedures; facilitating linkages with domestic innovation ecosystems (e.g. universities, R&D hubs); investor aftercare and policy advocacy mechanisms.

Source: The Toolbox leverages the OECD background note for the Ministerial Council Meeting 2025 entitled "FDI qualities: Investment for clean-energy and digital transformation". For clean tech: The section further builds on Chapter 5 "Policies for improving FDI impacts on carbon emissions" of the OECD FDI Qualities Policy Toolkit. It also builds on UNCTAD's World Investment Report 2023: Investing in sustainable energy for all. For digital transformation: The section also builds on the OECD forthcoming policy framework entitled "FDI Qualities: Investment Policy Framework for Digital Transformation" (which is currently being developed by the OECD Investment Committee), and on UNCTAD's World Investment Report 2025: International investment in the digital economy.

Table 2. Selected policy examples on investment for clean technology

Policy area	Examples
Governance	India: National Action Plan on Climate Change (NAPCC): A strategic framework aligning national climate goals with sectoral investment priorities across eight missions, including solar energy and energy efficiency. France: Strategy for energy and climate (SNBC/PPE) and multiannual funding strategy (SPAFTE) set national decarbonization targets and investment priorities. South Africa: REIPPPP combines governance and financial support with transparent renewable procurement. Indonesia: The National Energy Policy (KEN) establishes long-term renewable energy targets and institutional coordination mechanisms to attract clean energy FDI. Ireland: The Accelerating Renewable Electricity Taskforce (ARET) oversees fast-track deployment of onshore renewables, chaired by the Department of Environment. Saudi Arabia: The Saudi Green Initiative sets strategic net-zero goals and governance for clean energy transition. **Spain**: Integrated National Energy and Climate Plan (PNIEC 2021–2030) targets 74% renewable electricity by 2030. **Switzerland**: Energy Strategy 2050 phases out nuclear and expands renewables. **Türkiye**: Renewable Energy 2035 Roadmap sets 120 GW solar/wind target and investment reforms. **United Kingdom**: Clean Power 2030 Action Plan (2024) aims for 95% clean electricity with annual CfD rounds.
Domestic and international regulation	**China**: Action Plan for Further Strengthening the Standard and Measurement System for Carbon Peaking and Carbon Neutrality (2024–2025) establishes carbon accounting, labelling, and 20 new standards, 25 R&D projects, 50 specifications. France: Law on the Acceleration of Renewables (2023) simplifies permitting, mandates PV deployment, and clarifies offshore wind framework. Saudi Arabia: REPDO issues structured tenders and standardised PPAs to de-risk renewable investment. Ireland: Climate Action Plans set legally binding renewable targets and coordinate planning and environmental standards through ARET. **Spain**: Self-consumption framework (RDL 15/2018; RD 244/2019) removed "sun tax", enabled collective self-consumption, and simplified permitting. **Türkiye**: Regulation on Renewable Energy Resource Zones (YEKA) grants generation rights with local content and R&D obligations.
Financial and technical support	Germany: Renewable Energy Sources Act (EEG) provides feed-in tariffs to attract FDI into solar and wind. France: Feed-in tariffs and top-up payments supported by state-funded CSPE mechanisms that are predictable and accord fair treatment to investors. **Australia**: Hydrogen Headstart (2023–2039) provides AUD 3.7b in revenue support for large-scale hydrogen. **Canada**: Clean Economy Investment Tax Credits cover clean tech, CCUS, hydrogen and manufacturing. **New Zealand**: Emissions Trading Scheme prices carbon via tradable units. **Russian Federation**: Sakhalin carbon pilot (Federal Law 34-FZ, 2022–2028) introduces quotas, trading and verified reporting. Saudi Arabia: Green Financing Framework channels capital; NEOM Green Hydrogen targets 600 t/day. **Switzerland**: CO_2 Act and linked ETS incentivise emission reductions. **United Kingdom**: Contracts for Difference scheme provides long-term price certainty for renewables. **Ireland**: Decarbonisation Environmental Aid Scheme (2024–2030) commits €300m to industrial decarbonisation projects in manufacturing sectors.
Information and facilitation services	Republic of Korea: A Special Act on Promotion of Offshore Wind established an inter-ministerial one-stop committee to streamline licensing and accelerate site approvals. Italy: The National Recovery and Resilience Plan (NRRP) introduced a single-authorisation process for renewable energy, harmonising permitting across regions and using digital, risk-based procedures. Canada (Alberta): Subnational reforms simplified permitting for wind, solar, and geothermal projects, reducing administrative burdens even in fossil-fuel–dependent contexts. France: ADEME provides feasibility study support for renewable energy projects. Ireland: Enterprise Ireland and IDA Ireland offer technical assistance and inter-agency coordination for clean-tech investors. Saudi Arabia: Investor facilitation under the Saudi Green Initiative includes outreach and strategic cluster promotion. **New Zealand**: Climate-related Disclosures (2021) mandate reporting of climate risks and opportunities, guiding low-emission investment.

Note: The policy examples are based on desk research and submissions from some G20 Members and invited countries. See also Annex A.

Table 3. Selected policy examples on investment for the digital transformation

Policy area	Examples
Governance	Japan**:** The Digital Agency centralised digital governance and policy coordination to advance infrastructure, data standards, and investor engagement. Singapore: Smart Nation and Digital Government Office coordinates digital investment under Prime Minister's Office. France: High Committee for Eco-Responsible Digital Technology (HCNE) coordinates cross-government digital sustainability policies. Nigeria**:** The National Digital Economy Policy and Strategy (2020–2030) provides strategic direction across digital infrastructure, skills, regulation, and innovation to attract investment into Nigeria's digital transformation. Ireland**:** The Digital Ireland Framework (2022) is coordinated by the Department of the Taoiseach, focusing on infrastructure, cybersecurity, and skills**.** Saudi Arabia: The Digital Government Strategy 2023–2030 provides a whole-of-government framework for public digital transformation aligned with Vision 2030. **China**: Next Generation AI Development Plan (2017–2030) sets phased goals for AI R&D, infra and regulation. **Russian Federation**: National Project "Data Economy" (2024) targets cybersecurity, platforms and AI integration. **Spain:** Digital Spain 2025 Agenda (2020) mobilises ~€70bn for connectivity, skills and innovation.
Domestic and international regulation	France: REEN Law addresses environmental footprint of digital activity. India: Digital Personal Data Protection Act regulates personal data processing and cross-border transfers by domestic and foreign digital service providers. Brazil**:** General Data Protection Law (LGPD) establishes comprehensive rules on data use and international transfers, aligned with global standards. **China**: AI-generated content measures (2025) require clear labelling of synthetic media. **Canada**: PIPEDA sets rules for data handling and foreign processing safeguards. **Russian Federation**: Law 258-FZ enables experimental legal regimes for digital tech pilots. **Spain**: Startup Law 28/2022 reduces tax, streamlines company creation, and supports visas. **Switzerland**: Federal Act on Data Protection (FADP) underpins privacy safeguards.
Financial and technical support	**Ireland**: Digital Decade Policy Programme – National Strategic Roadmap (2023) aligns with EU Digital Decade objectives, guiding ICT infra, digital skills, and public/private digitalisation. France**:** France 2030 Eco-responsible Digital Acceleration Strategy supports R&D, skills and sustainability**.** Egypt**:** Digital Egypt Builders Initiative (DEBI) provides scholarships, mentoring, and technical training for high-performing youth to develop advanced digital skills and strengthen the domestic talent base for digital investors. Saudi Arabia**:** Funding under the Saudi Digital Economy Policy and Cloud First Policy supports AI, digital infrastructure, and private cloud investment. **Australia**: Next Generation Graduates Program (AUD 47m) funds scholarships to train specialists in AI and emerging technologies. **Canada**: Digital Adoption Program supports SMEs in digital strategies and e-commerce. **Spain**: Kit Digital (€3bn vouchers) supports SME digitalisation; UNICO broadband extends ultrafast coverage. **Türkiye**: Investment Incentive System (Decree 9903) offers tax and financing for digital projects. **Russian Federation**: State Programme on Science & Tech Development funds R&D and PPPs. **China**: Special Action Plan for Digital Empowerment of SMEs (2025–2027) provides financial and technical support.
Information and facilitation services	Singapore: Economic Development Board (EDB) offers tailored investor services for digital firms, including site selection, talent support, and R&D facilitation through programmes like Tech@SG and AI Singapore. Republic of Korea**:** KOTRA's ICT investment desk provides tailored facilitation services for digital investors, including sector-specific guidance, incentives, and access to national innovation hubs such as Pangyo Techno Valley. Mexico**:** *Invest in Mexico* platform and Business Centre, launched by the Ministry of Economy, offers a one-stop shop for digital investors, combining online procedural guidance, sector intelligence, and in-person facilitation support across permitting, regional matchmaking, and supply chain integration. Ireland**:** IDA Ireland's Adapt Intelligently Strategy 2025–2029 offers tailored support for digital investors and workforce upskilling. **Spain**: ICEX Tech Facilitation provides advisory and support for digital investors. Saudi Arabia: The Digital FDI Initiative and Digital Cooperation Organisation promote B2B and G2B partnerships, investment facilitation, and regional digital integration. **Australia**: Australian Dealroom Ecosystem offers open-access data on firms, investors and tech clusters.

Note: The policy examples are based on desk research and submissions from some G20 Members and invited countries. See Annex A.

Governance

Governance for clean-tech investment

Effective governance is essential to attract and maximize the benefits of FDI in clean technologies. Without clear strategies, coherent policies, and defined institutional responsibilities, efforts to mobilize private capital risk fragmentation and inefficiency. Clean-tech investment spans multiple sectors–energy, industry, transport, and construction, requiring coordinated action across ministries, regulators, and subnational authorities.

A cornerstone of sound governance is a long-term, credible, and science-based climate strategy. Such a strategy could set clear decarbonisation targets aligned with international commitments and national development goals. Net-zero roadmaps for key emitting sectors provide vital signals to investors about policy direction and government commitment, reducing uncertainty and encouraging capital flows into low-carbon technologies.

For example, India's National Action Plan on Climate Change (NAPCC) integrates investment policy with national climate objectives across eight thematic missions.[34] France's Strategy for Energy and Climate (SNBC/PPE) and its funding framework (SPAFTE) establish binding decarbonisation trajectories that send strong investment signals. Ireland's Accelerating Renewable Electricity Taskforce (ARET), chaired by the Department of Environment, coordinates planning, grid, and market reforms to fast-track renewable deployment under the 2023 Climate Action Plan. Saudi Arabia's Saudi Green Initiative sets a long-term net-zero commitment and strategic direction for clean energy development, aligning with Vision 2030. Spain's Integrated National Energy and Climate Plan (PNIEC 2021–2030) commits to 74% renewable electricity by 2030, while Switzerland's Energy Strategy 2050 provides a comprehensive framework to phase out nuclear power and expand renewables. Türkiye's Renewable Energy 2035 Roadmap sets a 120 GW solar and wind capacity target by 2035, accompanied by major investment reforms, and the United Kingdom's Clean Power 2030 Action Plan (2024) aims for 95% clean electricity by 2030 through annual CfD allocation rounds.

Building on these visions, governments could craft dedicated clean-tech investment strategies that define the role of FDI, set targets for priority sectors, and outline coordination mechanisms. Where responsibilities are shared, cross-ministerial bodies–such as green growth councils or national climate investment boards–can promote policy coherence and reduce overlap.

At the operational level, effective inter-agency coordination is equally vital. Energy ministries, industrial development agencies, investment promotion bodies, environmental regulators, and financial supervisors all shape the enabling environment. Mechanisms such as formal working groups, shared data systems, and regular coordination meetings help align their efforts.

In South Africa, the Renewable Energy Independent Power Producer Procurement Programme (REIPPPP) combines strong institutional governance with competitive and transparent bidding processes, helping to attract significant private investment in renewables while driving down energy costs and expanding grid-connected renewable capacity. In Indonesia, the National Energy Policy (KEN) sets long-term renewable energy targets and institutionalises coordination between energy planning and investment promotion to support sustainability goals.

Stakeholder engagement further strengthens governance by ensuring policies reflect the needs of investors, industry, and communities. Involving domestic and foreign firms in policy design improves feasibility and builds investor confidence. Dialogue with labour unions, civil society, and environmental groups fosters public buy-in and helps address transition-related social impacts.

Finally, monitoring and evaluation frameworks are key to tracking the effectiveness of clean-tech investment policies. These could include indicators for both investment outcomes (e.g. capital inflows, project deployment, job creation) and environmental impacts (e.g. emissions reduction, energy savings, technology uptake). Strategic environmental assessments and robust permitting systems support both project-level oversight and broader policy learning. Governments could also strengthen institutional capacity at all levels to manage environmental reviews, streamline permitting, and enhance transparency in investment decision-making.

[34] These eight national missions include the National Solar Mission; the National Mission for Enhanced Energy Efficiency; the National Mission on Sustainable Habitat; the National Water Mission; the National Mission for Sustaining the Himalayan Ecosystem; the National Mission for a Green India; the National Mission for Sustainable Agriculture; and the National Mission on Strategic Knowledge for Climate Change.

Governance for digital transformation investment

Effective governance of digital investment requires an integrated, whole-of-government approach. Unlike traditional sectors, digital technologies cut across multiple domains–including infrastructure, innovation, trade, education, cybersecurity, and data governance–necessitating strong institutional coordination and strategic alignment.

At the core lies a clear national digital strategy that defines priorities for connectivity, technological upgrading, innovation, and inclusive digital development. Such digital strategies could be aligned with industrial and environmental policies to maximize synergies. Moreover, embedding investment promotion within this strategy ensures that FDI complements domestic capabilities, fills infrastructure gaps, and supports knowledge transfer. However, to date, fewer than 20 per cent of digital strategies refer to investment promotion agencies (UNCTAD, 2025), highlighting possibilities for greater interconnection between digital strategies and investment promotion.

Several countries offer useful models. Singapore's Smart Nation initiative, led by the Prime Minister's Office, links digital transformation directly with investment facilitation. Japan's Digital Agency coordinates national infrastructure development and international investor engagement. France's High Committee for Eco-Responsible Digital Technology (HCNE) integrates sustainability and digital policy across government. Nigeria's Digital Economy Strategy (2020–2030) combines digital infrastructure, skills, innovation, and regulatory reform under a single framework. Ireland's Digital Ireland Framework, led by the Department of the Taoiseach, integrates infrastructure, cybersecurity, and skills development to guide digital investment, while Saudi Arabia's Digital Government Strategy (2023–2030) provides a whole-of-government approach to digital service delivery and public-private interoperability. China's Next Generation AI Development Plan (2017–2030) sets phased goals for AI R&D, infrastructure, and regulation, while the Russian Federation's National Project "Data Economy" (2024) prioritises cybersecurity, digital platforms, and AI integration. Spain's Digital Spain 2025 Agenda mobilises around €70 billion for connectivity, digital skills, and innovation, drawing on EU NextGen funding.

Institutional coherence is critical. In many countries, fragmented mandates between investment and digital policy bodies lead to inconsistent signals and missed opportunities. Formal coordination mechanisms–such as inter-ministerial task forces or digital economy councils–can clarify roles, align priorities, and streamline investor support.

Developing sector-specific digital investment roadmaps further strengthens governance. These roadmaps–covering areas like AI, cybersecurity, cloud computing, and semiconductors–translate national ambitions into tangible investment opportunities, supported by aligned policies in R&D, skills, and IP protection. Linking them with investment promotion efforts helps countries position themselves strategically in global digital value chains.

Strong monitoring and evaluation systems are essential. As technologies evolve rapidly, timely and granular data is needed to assess investment performance–across infrastructure rollout, job creation, technology transfer, and exports. Coordination between digital ministries, investment agencies, innovation bodies, and national statistical offices is crucial for building this data infrastructure.

Ultimately, governance depends not only on institutional arrangements but also on political leadership and sustained commitment. Elevating digital investment within national development agendas signals long-term intent and builds investor confidence.

Domestic and international regulation

Regulatory frameworks for clean-tech investment

Clear and predictable regulatory frameworks are essential to de-risk clean-tech FDI and attract long-term investment. Regulations shape the operating environment for climate-related projects and influence the competitiveness of low-carbon technologies relative to carbon-intensive alternatives. Stability and transparency reduce investor uncertainty, facilitate capital mobilisation, and help ensure that private investment contributes meaningfully to climate goals.

A key element of effective regulation is alignment with national and international decarbonisation commitments. This includes, for example, integrating investment planning into Nationally Determined Contributions (NDCs) for those G20 Members and invited countries that are part of the Paris Agreement, and translating them into binding rules and standards–such as emissions caps, renewable energy targets, and energy efficiency benchmarks. For example, China's 2024–2025

Action Plan for Carbon Peaking and Neutrality establishes enterprise carbon accounting standards, carbon footprint labelling, and product evaluation systems, with targets for 20 new standards, 25 R&D projects, and 50 technical specifications by 2025. France's Law on the Acceleration of Renewable Energies (2023) simplifies permitting procedures, mandates photovoltaic deployment on certain sites, and clarifies the legal framework for offshore wind development. Saudi Arabia's Renewable Energy Project Development Office (REPDO) issues structured tenders and standardised power purchase agreements (PPAs) to reduce risk and improve the bankability of clean energy projects. Ireland's Climate Action Plans set legally binding renewable energy targets and coordinate planning and environmental standards through ARET. Spain's 2018–2019 Self-Consumption Framework removed the "sun tax", enabled collective self-consumption, simplified permitting, and introduced surplus power compensation. Türkiye's Regulation on Renewable Energy Resource Zones (YEKA) grants generation rights with local content and R&D obligations, providing long-term certainty for investors.

At the international level, frameworks such as the Paris Agreement and climate provisions in bilateral investment treaties and trade agreements help align investor expectations with national regulation. If well-designed, investment treaties and trade agreements can protect investment while allowing for environmental regulation that is non-discriminatory, non-expropriatory, and predictable.

Regulatory frameworks for digital transformation investment

Effective regulation is essential to attract high-quality foreign direct investment in digital sectors while ensuring alignment with broader public policy goals. Digital activities evolve rapidly, span multiple jurisdictions, and raise complex issues related to market access, data governance, and environmental sustainability. To enable digital FDI that supports inclusive development, countries must establish regulatory frameworks that are predictable, transparent, non-discriminatory, and aligned with evolving technological and policy priorities.

Market access regulation remains a key determinant of digital investment. Restrictions such as foreign equity limits, joint venture requirements, licensing obligations, or operational conditions can significantly affect a country's investment attractiveness. The OECD FDI Regulatory Restrictiveness Index shows that more open regimes are associated with higher levels of greenfield digital investment (figure 8). While some restrictions may be justified by national security or public interest concerns, excessive or unclear regulation can deter investment, limit competition, and stifle knowledge transfer. Regular reassessment of these restrictions is essential to ensure they remain proportionate and relevant to current policy objectives.

Data governance, intellectual property and competition regimes also play a pivotal role. These frameworks influence decisions on the location of data centres, the provision of digital services, and the scale of cross-border operations. India's Digital Personal Data Protection Act, for instance, clarifies rules around the processing and transfer of personal data by both domestic and foreign providers. Similarly, Brazil's General Data Protection Law (LGPD) introduces comprehensive and internationally aligned data rules, enhancing legal certainty for investors while safeguarding individual rights. Canada's PIPEDA sets rules for data handling and foreign processing safeguards, while Switzerland's Federal Act on Data Protection (FADP) underpins privacy protections. Spain's Startup Law 28/2022 reduces tax, streamlines company creation, and introduces new visas to attract entrepreneurs and digital nomads. The Russian Federation's Law 258-FZ enables experimental legal regimes for digital technology pilots, removing over 150 barriers in areas like healthcare and telecoms. China's Administrative Measures for AI-Generated Synthetic Content (2025) require clear labelling of synthetic media to ensure transparency and protect information integrity.

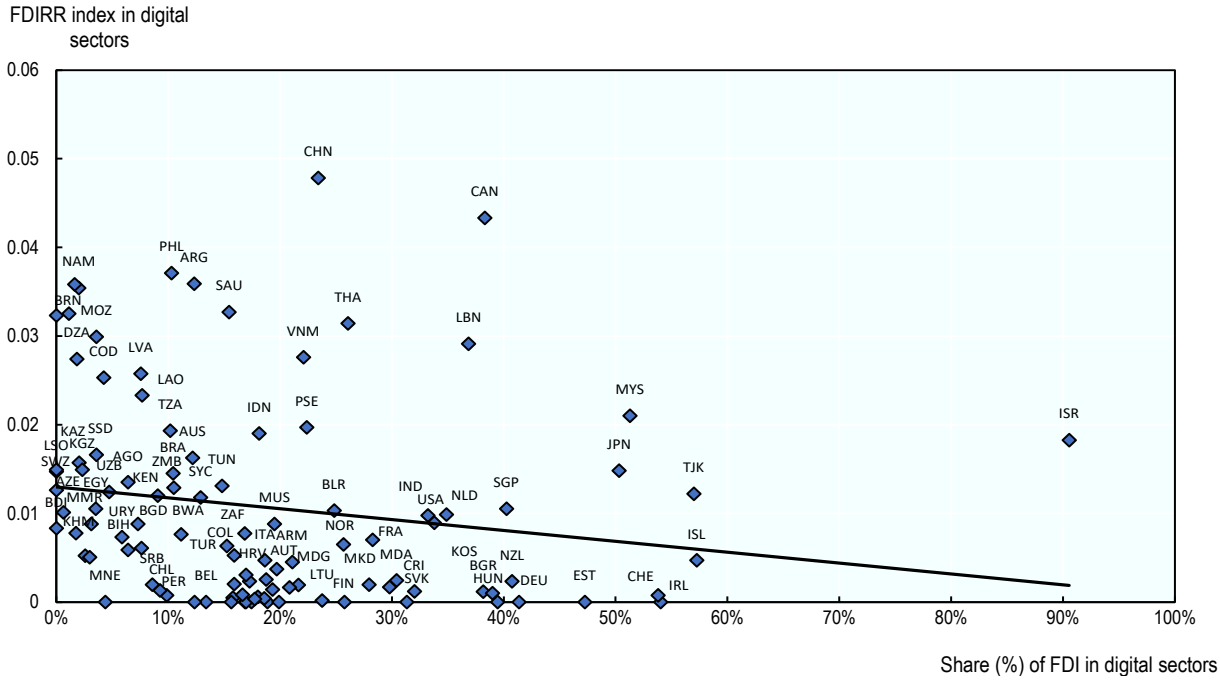
Environmental sustainability is an emerging frontier in digital regulation. However, while over 80% of digital strategies in developed countries address environmental concerns, only about half of developing country strategies do so (UNCTAD, 2025). As data centres and digital infrastructure become increasingly resource-intensive, several countries are introducing policies to reduce the environmental footprint of digital operations. France's REEN Law promotes energy transparency, encourages the eco-design of digital services, and supports a circular economy for IT equipment. Such policies foster the growth of green digital solutions and help align digital investment with national environmental targets.

International regulatory alignment is also critical in a globalized digital economy. Cross-border data flows, digital trade, and platform services require interoperability and mutual trust. Countries can strengthen policy predictability and reduce investor compliance costs by aligning with global norms

and engaging in regional cooperation frameworks, trade agreements, and G20 digital policy dialogues.

Figure 8. An open regulatory environment can foster more digital investment

Correlation of greenfield FDI in digital sectors and related market access restrictions



Source: OECD (Forthcoming), FDI Qualities: Investment policy framework for digital transformation, and fDi Markets database.

In sum, countries that provide regulatory clarity, coherence, and flexibility across key domains–market access, data governance, intellectual property, competition and environmental standards–are better positioned to attract sustainable and high-quality digital FDI. Success lies in balancing openness with protection, and national priorities with global integration.

Financial and technical support

Financial and technical support for clean-tech investment

Mobilising private capital at the scale required to achieve clean energy and decarbonisation goals often depends on well-designed financial and technical support. While functioning markets can drive investment in some cases, clean technologies frequently face market failures that warrant targeted public interventions to de-risk projects, address externalities, and crowd in private sector capital.

Targeted financial support can be important to unlocking clean-tech investment:

- In Germany, the Renewable Energy Sources Act (EEG) has helped attract significant FDI into wind and solar through feed-in tariffs and, more recently, competitive auctions. These instruments provide long-term revenue certainty, improving project bankability.
- In France, feed-in tariffs and top-up payments, financed by the Contribution au Service Public de l'Électricité (CSPE), have facilitated international investment in large-scale solar and wind deployment.
- In Australia, the Clean Energy Finance Corporation (CEFC) mobilizes capital into renewables, hydrogen, and grid modernisation through co-financing and commercial mandates. Its catalytic role has proven effective in drawing in both domestic and foreign private investment.

- In Canada, Clean Economy Investment Tax Credits cover a wide range of activities including clean tech, CCUS, hydrogen, and manufacturing, creating predictable incentives for investors.
- In New Zealand, the Emissions Trading Scheme sets a cap on emissions and allows trading of units, providing a market-based carbon price signal that directs capital into low-emissions technologies.
- In the Russian Federation, the Sakhalin carbon pilot (Federal Law 34-FZ, 2022–2028) introduces quotas, emissions trading, and verified reporting, creating a subnational model of carbon pricing to de-risk investment.
- In the United Kingdom, the Contracts for Difference scheme provides long-term price certainty for renewable energy, crowding in large-scale private investment.
- In Ireland, the Decarbonisation Environmental Aid Scheme (2024–2030) commits EUR 300 million to industrial decarbonisation projects in manufacturing sectors such as dairy, pharma and food, delivered through Enterprise Ireland and IDA Ireland.

Public financial support can take various forms–tax credits, concessional loans, loan guarantees, or blended finance structures. Regardless of the instrument, support schemes must be well-targeted, time-bound, and structured to mobilize rather than substitute private investment.

Technical support is equally vital in strengthening domestic absorptive capacity and ensuring that clean-tech FDI generates local benefits. Key areas include:

- Capacity-building for technical and managerial skills in renewable energy and energy efficiency.
- Vocational training and the creation of specialised clean energy training centres.
- Public investment in R&D, demonstration projects, and testing infrastructure to support innovation ecosystems and facilitate joint development with foreign investors.

In regions reliant on fossil fuels or high-emissions industries, support for a just transition is becoming increasingly important. Public programmes for retraining, income support, and economic diversification help address social impacts and maintain political support for the transition–factors that also contribute to a stable and attractive investment environment.

In developing countries and frontier markets, blended finance combining concessional public funds with development finance and other risk mitigation tools such as political risk insurance are often necessary to de-risk projects and align incentives across public and private actors. These structures play a critical role in unlocking investment in high-risk or nascent segments.

Ultimately, the impact of financial and technical support depends on strong governance and accountability. Tools such as sunset clauses, competitive allocation mechanisms, and rigorous monitoring and evaluation are essential to ensure credibility, efficiency, and climate effectiveness over time.

Financial and technical support for digital transformation investment

Strategic financial and technical support is essential to unlock high-quality foreign investment in digital transformation, particularly in areas where market failures and high upfront costs hinder private capital flows. While distinct from clean-tech sectors, digital investment also benefits from carefully targeted public interventions, especially in infrastructure deployment, innovation ecosystems, skills development, and SME digitalization.

A key constraint is the high fixed cost of digital infrastructure, particularly in less populated or economically marginal areas. Deploying fibre-optic networks, 5G infrastructure, data centres, and broadband services often involves long payback periods and elevated commercial risk. Public co-

financing, viability gap funding, concessional loans, and public–private partnerships can help close financing gaps and expand private investment into underserved regions. In Spain, the Kit Digital programme (EUR 3 billion in vouchers) supports SME digitalisation, while the UNICO broadband scheme extends ultrafast connectivity nationwide, prioritising underserved areas. Ireland's Digital Decade Policy Programme – National Strategic Roadmap (2023) aligns with the EU Digital Decade, providing coordinated guidance for ICT infrastructure investment, skills development, and public–private digitalisation. Saudi Arabia's Digital Economy Policy and Cloud First Policy fund investments in AI, digital infrastructure, and private cloud development to enable scalable and secure digital ecosystems.

Targeted financial incentives can also de-risk investment in emerging technologies. Tax credits for AI research, grants for cybersecurity, and support for pilot projects in advanced manufacturing technologies help bridge the gap between innovation and commercial viability. In France, the Eco-Responsible Digital Acceleration Strategy, under the broader France 2030 plan, provides financial support for R&D in sustainable cloud, digital sovereignty, and AI skills development. In Australia, the Next Generation Graduates Program (AUD 47m) funds scholarships to train specialists in AI and emerging technologies, strengthening the digital talent pipeline.

Technical support is equally important to enhance domestic absorptive capacity. Programmes that offer SMEs digital readiness assessments, advisory services, or subsidies for adoption of technology can strengthen linkages between foreign investors and local firms. Supplier development initiatives also facilitate knowledge transfer and deeper integration into global digital value chains.

Workforce development remains one of the most critical enablers of digital investment. Foreign investors frequently identify skills shortages as a barrier to growth. Public investment in digital training–ranging from coding bootcamps to advanced education in data science–can help fill these gaps. Egypt's Digital Egypt Builders Initiative (DEBI) exemplifies this approach by offering scholarships, mentorship, and technical training to develop a skilled domestic talent base. Ireland, France and Australia have embedded workforce strategies into their digital investment frameworks, ensuring that training programmes align with evolving technological needs and support private sector demand.[35]

Labour market policies must also anticipate distributional impacts. As automation reshapes employment patterns, reskilling and upskilling programmes can support displaced workers and promote inclusive access to new digital roles. Active labour market policies that combine financial support, career guidance, and digital training can reduce exclusion and ensure broader participation in the digital economy.

In more challenging investment environments, blended finance and other de-risking instruments–such as first-loss capital, investment guarantees, or subordinated debt from development finance institutions–can attract private investment into digital infrastructure and e-government services by mitigating commercial risk.

Finally, the success of financial and technical support measures depends on fiscal discipline, transparency, and coordination. Well-targeted, time-bound, and regularly evaluated support could help avoid market distortions and ensure efficient use of public resources. Strong coordination across finance ministries, digital agencies, investment promotion bodies, and the private sector is essential to ensure policy coherence and maximize development impact.

[35] Uzbekistan's *IT Park*, while not a G20 nor invitee country, also offers a notable example of combining fiscal incentives with skills development and HR assistance to attract international ICT investors.

Information and facilitation services, including investment promotion

Clean-tech investment

Effective information provision and facilitation services are essential to attract and retain FDI in clean technologies. Clean-tech projects often involve long lead times, complex approval processes, and rapidly evolving policy environments. Transparent, reliable, and easily accessible information helps investors assess opportunities, manage risks, and navigate administrative procedures.

Investment promotion agencies (IPAs) are central to this effort. In the clean-tech space, their role extends beyond general promotion to include specialised sectoral support. Effective IPAs provide intelligence on climate targets, renewable energy potential, infrastructure plans, and policy trajectories. In addition to information provision, IPAs increasingly engage in proactive investor targeting and lead generation, identifying specific firms or projects aligned with national clean-tech priorities. This includes sector mapping, tailored outreach campaigns, and direct engagement with strategic investors, often coordinated with embassies and economic attachés abroad. In France, the national IPA, Business France, assists clean-tech investors with site selection, regulatory navigation, and stakeholder coordination. Its efforts are complemented by ADEME a specialised agency that offers feasibility study support, technical advice, and funding guidance tailored to renewable energy and energy efficiency projects. In Ireland, Enterprise Ireland and IDA Ireland provide ongoing technical assistance and inter-agency coordination for clean-tech investors, backed by monitoring of project pipelines under the Decarbonisation Environmental Aid Scheme. In Saudi Arabia, investor facilitation under the Saudi Green Initiative includes outreach to international partners and promotion of clean energy clusters. In New Zealand, mandatory climate-related disclosures (2021) require large firms to report on climate risks and opportunities, improving transparency and guiding low-emissions investment.

Simplifying permitting procedures is a critical facilitation function. Clean-tech projects often require multiple approvals – from environmental, energy, local, and national authorities – making one-stop-shop models particularly effective. In the Republic of Korea, a recent Special Act on Promotion of Offshore Wind established an inter-ministerial one-stop committee to consolidate licensing and accelerate site approvals. Meanwhile, Italy has introduced a single-authorisation process for renewable energy under its National Recovery and Resilience Plan (NRRP), harmonising permitting across regions and mandating digital, risk-based procedures to speed approvals. At the subnational level, Canada (Alberta) has implemented permitting reforms for wind, solar, and geothermal projects, highlighting how streamlined systems – even within fossil-fuel–focused contexts – can reduce administrative burdens and boost clean-energy deployment.

Information on local supply chains is also vital. Investors need accurate data on domestic suppliers, service providers, and skilled labour to build competitive, localised value chains. Governments and IPAs can support this by facilitating connections between foreign investors and domestic firms through matchmaking programmes, enabling local sourcing, subcontracting, and industrial partnerships.

Clear communication of national plans further strengthens investor confidence. Publicly accessible data on decarbonisation pathways, grid expansion, and transition strategies enables long-term planning. Standardising environmental, social and governance (ESG) disclosures in the clean energy sector can also enhance access to sustainable finance and improve transparency. Standardised ESG disclosure requirements, such as those embedded in New Zealand's climate-related disclosure framework, can enhance investor confidence by linking financial reporting to sustainability goals.

The credibility and responsiveness of facilitating institutions are critical. Continuous capacity-building for IPA staff is essential, both to deepen sector-specific knowledge of emerging clean-tech markets and to enhance core skills in investor engagement. This dual focus ensures that support remains relevant and effective amid evolving technologies and policy landscapes.

Finally, structured public–private dialogue platforms–such as advisory councils or sector-specific working groups–help identify investment barriers, inform policy, and foster trust. These mechanisms contribute to a more predictable and stable investment environment for clean technologies.

Digital transformation investment

While sharing many facilitation needs with clean-tech, digital sectors present distinct requirements due to their fast-changing nature, regulatory complexity, and business model diversity. Digital investors typically require detailed, up-to-date information to assess opportunities, understand legal frameworks, and identify local partners. Their needs may span data localisation rules, cybersecurity standards, or e-commerce regulations, depending on the subsector. This places a premium on responsive, well-coordinated facilitation systems and sector-specific expertise within investment promotion institutions.

IPAs play a pivotal role in this space by offering tailored support. Effective facilitation includes clear communication of national digital strategies, data governance rules, intellectual property protections, and sectoral priorities. Investors also require clarity on cross-border data transfer rules, cybersecurity standards, licensing requirements, and technical infrastructure regulations.

In Singapore, the Economic Development Board (EDB) offers tailored investor services for digital firms, including site selection, talent support, and R&D facilitation through programmes such as Tech@SG and AI Singapore. These efforts are part of a broader national strategy to position Singapore as a leading hub for digital innovation and investment.

In the Republic of Korea, KOTRA's ICT investment desk provides specialised facilitation services for digital investors. This includes sector-specific guidance, information on available investment incentives, and access to national innovation ecosystems such as Pangyo Techno Valley, which hosts a concentration of tech firms, start-ups, and research institutions.

In Mexico, the Invest in Mexico platform and Business Centre–launched by the Ministry of Economy–acts as a one-stop shop for all foreign investors, including those in the digital sector. It combines online tools with personalised assistance to support permitting processes, provide sector-specific intelligence, and enable regional matchmaking and supply chain integration.

In Ireland, IDA Ireland's Adapt Intelligently Strategy (2025–2029) provides tailored aftercare and workforce upskilling support for digital investors, ensuring regional balance and sustainability in digital FDI attraction. In Spain, ICEX Tech Facilitation offers specialised advisory services and matchmaking for digital and ICT investors, while in Saudi Arabia, the Digital FDI Initiative and Digital Cooperation Organisation promote B2B and G2B partnerships to strengthen facilitation and regional digital integration. Australia's Australian Dealroom Ecosystem provides open-access data on firms, investors, and technology clusters, supporting investment decisions and ecosystem visibility.

Administrative efficiency is particularly important for digital firms, which often prioritise speed and agility. Online registration systems, e-licensing portals, and fast-track permitting processes can reduce friction and demonstrate the host country's digital readiness. One-stop-shop models that coordinate data protection authorities, telecom regulators, and cybersecurity agencies further enhance predictability and the investor experience.

Strengthening linkages with domestic innovation ecosystems is also critical. Facilitating partnerships between foreign investors and local start-ups, universities, or R&D institutions enhances knowledge transfer and expands development impact. Governments can foster this through innovation hubs, co-funded R&D programmes, and cluster development initiatives.

Aftercare services remain important in dynamic digital sectors. Ongoing support helps resolve operational issues, encourages reinvestment, and identifies emerging policy bottlenecks. Continuous engagement ensures governments remain responsive to the evolving needs of global technology investors.

Finally, structured public–private dialogue–via digital economy councils, advisory boards, or consultation forums–provides platforms for regular feedback and collaboration. These mechanisms ensure investment strategies remain aligned with both investor priorities and national development objectives.

CONCLUSIONS

This report offers G20 members and invited countries a practical, non-prescriptive menu of options to align international and domestic investment policy frameworks with their sustainable development priorities.

First, by building on G20 members' recent IIAs, the IIA Toolbox for Clean Energy, Digital Transformation and Public Health offers a pragmatic, evidence-based policy menu. The policy options on promoting and facilitating investment, safeguarding regulatory space and ensuring responsible investment for clean energy, digital transformation and public health have the potential to enhance flows of sustainable investment in the three focus sectors. These modern features, distilled from recent IIA practice of G20 members, are absent from the majority of older IIAs which were concluded in the 1990s and 2000s. UNCTAD's Annual High-Level IIA Conference as part of the World Investment Forum (WIF), and its bi-annual IIA Reform Platform continue to provide a universal and inclusive forum for multilateral discussions on the reform of the international investment regime.

The OECD-hosted work under Track 2 of the Future of Investment Treaties also provides a forum for interested jurisdictions to retrofit older treaties by clarifying certain substantive clauses and, where appropriate, introducing modern provisions that better align with today's sustainable investment priorities.

Second, the toolbox on policy options to mobilize clean energy and digital investment, focusing on a whole-of-government approach, complements international policies presented in Part 1. It underlines the importance of governance, domestic and international regulations, financial and technical support and information and facilitation services to attract investment for clean energy and digital transformation.

The twin nature of both toolboxes highlights the need to implement international commitments in line with domestic priorities while adopting a whole-of-government approach that secures coherence, coordination and accountability across all ministries and levels of administration. Both toolboxes, thus, mutually reinforce each other by bringing the intertwined national and international policy dimensions together.

These twin toolboxes are a resource to support an enabling environment for sustainable investment: a foundation for peer learning, informed decision-making and joint action in mobilizing investment for the clean energy transition, digital transformation and investment in health.

While this report identifies emerging trends and policy innovations, it does not assess the effectiveness or real-world impact of these provisions. Their value ultimately depends on effective implementation, which requires continued coordination across both international and domestic policy domains. Looking ahead, G20 members and invited countries may also wish to reflect on the practical outcomes of these new provisions and policy tools, including how well they contribute to sustainable investment goals.

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Annex A. Selected domestic policy examples by G20 members and invited countries

ARGENTINA

Table A.1. Clean-tech investment policy examples

Policy area	Country
	Argentina
Governance	– *Incentive Regime for Large Investments (RIGI) (Law 27 742, 2024)*: economy-wide regime providing strategic direction and long-term legal certainty for large projects, including clean-energy generation and related value chains; active until July 2026 (extendable once).
Domestic and international regulation	– RIGI framework: establishes clear eligibility thresholds and provides 30-year stability in tax, customs and foreign-exchange rules; includes access to international arbitration for disputes.
Financial and technical support	– RIGI incentives: reduced corporate income tax (to 25 %), accelerated depreciation, unlimited loss carry-forward/transfer, phased-down dividend rates, VAT credit certificates, customs duty relief, phased export-duty exemptions and flexible foreign-exchange settlement for qualifying clean-energy projects.
Information and facilitation services	– RIGI Investor Guide/portal: centralised resource on eligibility, timelines and benefits to support preparation of large-scale clean-energy investments.

Note: This table reflects official policy examples submitted by Argentina to the South African G20 Presidency (2025), under the voluntary survey on investment policies for clean energy and digital transformation. The RIGI is a cross-cutting investment regime; descriptions highlight clean-tech and digital-relevant components while acknowledging its broader sectoral coverage.

Table A.2. Digital transformation investment policy examples

Policy area	Country
	Argentina
Governance	– *Incentive Regime for Large Investments (RIGI) (Law 27 742, 2024):* also open to technology and digital-infrastructure projects, offering predictable long-term investment conditions.
Domestic and international regulation	– RIGI framework: sets eligibility criteria and ensures 30-year regulatory stability in tax, customs and FX; provides for international arbitration to reduce investor risk.

Financial and technical support	– RIGI incentives: tax, customs and FX benefits (as above) available to qualifying digital and ICT-infrastructure projects.
Information and facilitation services	– RIGI Investor Guide/portal: consolidated guidance and support for preparation and execution of large digital investments.

Note: This table reflects official policy examples submitted by Argentina to the South African G20 Presidency (2025), under the voluntary survey on investment policies for clean energy and digital transformation. The RIGI is a cross-cutting investment regime; descriptions highlight clean-tech and digital-relevant components while acknowledging its broader sectoral coverage.

AUSTRALIA

Table A.3. Clean-tech investment policy examples

Policy area	Country
	Australia
Governance	– *Future Made in Australia Plan* (2024): AUD 22.7 billion over ten years to support net-zero industries (hydrogen, green metals, critical minerals, clean fuels, batteries, solar). – *Net Zero Plan*: national framework with six sectoral decarbonisation plans to guide investment. *National Hydrogen Strategy* (2024): roadmap to accelerate hydrogen industry growth and global competitiveness. – *National Electric Vehicle Strategy*: framework to expand EV supply, infrastructure and demand, with measurable outcomes. – *National Energy Transformation Partnership*: Commonwealth–state collaboration on system transformation and community benefits.
Domestic and international regulation	– *Offshore Electricity Infrastructure Act* (2021): establishes rules for offshore renewable energy projects (wind, solar, wave, interconnectors). – *Environment Protection and Biodiversity Conservation Act* (1999): core environmental legislation to ensure sustainable development and biodiversity protection.
Financial and technical support	– *Hydrogen Headstart* (2023–2039): AUD 3.7 billion revenue support for large-scale hydrogen projects (e.g. Murchison 1.5 GW). *Hydrogen Production Tax Incentive* (2024–2041): AUD 2/kg production credit for renewable hydrogen, worth AUD 6.7 billion over ten years. – *Future Made in Australia Innovation Fund* (2024): AUD 1.7 billion for early-stage clean energy technologies and commercialisation. – *National Energy Workforce Strategy*: national framework to build energy transition skills, with focus on regional, women and First Nations workers. – *Capacity Investment Scheme* (2023): revenue underwriting to add 32 GW of renewable and clean dispatchable capacity by 2030.
Information and facilitation services	– *First Nations Clean Energy Strategy* (2024): ensures Indigenous participation and benefits from the clean energy transition. *Community engagement guidelines*: framework for consultation with communities and First Nations on renewable infrastructure. – *Guarantee of Origin Scheme* (2024): certification framework for renewable electricity and low-carbon products to support domestic and export markets.

Note: This table reflects official policy examples submitted by Australia to the South African G20 Presidency (2025), under the voluntary survey on investment policies for clean energy and digital transformation.

Table A.4. Digital transformation investment policy examples

Policy area	Country
	Australia
Governance	– *Digital and ICT Investment Oversight Framework*: whole-of-government approach for planning, delivering and monitoring ICT projects. – *Data and Digital Government Strategy* (to 2030): blueprint for secure and connected digital public services, supported by an implementation plan.

	– *Cyber Security Strategy* (2023–2030): three-horizon roadmap to strengthen resilience, scale industry capabilities and lead on emerging technologies.
Domestic and international regulation	– No specific domestic digital regulatory measures were reported in the survey response.
Financial and technical support	– *Digital Profession*: APS-wide initiative to build public sector digital skills and capabilities. – *Digital Traineeship Program*: certified training, mentorship and work experience for new entrants to the digital workforce. – *Next Generation Graduates Program*: AUD 47 million scholarships to train AI and emerging technology specialists, delivered with CSIRO. – *AI Adopt Program*: AUD 17 million to support SME adoption of responsible AI through dedicated centres.
Information and facilitation services	– *Australian Dealroom Ecosystem*: open-access platform with data on businesses, investors and technology ecosystem to guide investors. – *Why Australia Benchmark Report*: investment promotion resource highlighting Australia's advantages in digital services.

Note: This table reflects official policy examples submitted by Australia to the South African G20 Presidency (2025), under the voluntary survey on investment policies for clean energy and digital transformation.

CANADA

Table A.5. Clean-tech investment policy examples

Policy area	Country
	Canada
Governance	No specific measures were reported in the survey response.
Domestic and international regulation	No specific measures were reported in the survey response.
Financial and technical support	– *Clean Economy Investment Tax Credits* (ITCs): suite of tax credits to support the transition to net zero, covering clean technology, carbon capture, clean tech manufacturing, and hydrogen (legislated), with forthcoming credits for clean electricity and EV supply chains.
Information and facilitation services	No specific measures were reported in the survey response.

Note: This table reflects official policy examples submitted by Canada to the South African G20 Presidency (2025), under the voluntary survey on investment policies for clean energy and digital transformation.

Table A.6. Digital transformation investment policy examples

Policy area	Country
	Canada
Governance	No specific measures were reported in the survey response.
Domestic and international regulation	– *Personal Information Protection and Electronic Documents Act* (PIPEDA): establishes rules for handling personal data in commercial activities, including international transfers, requiring contractual safeguards for foreign processing. – *Policy Statement on Foreign Investment Review in the Interactive Digital Media Sector*: clarifies how the Investment Canada Act applies to foreign investment in digital media. – *Guidelines on the National Security Review of Investments*: highlight sensitive technologies (AI, digital infrastructure, robotics, autonomous systems) as factors in foreign investment reviews.
Financial and technical support	– *Canada Digital Adoption Program*: supports SMEs in developing digital strategies and e-commerce capacity. – *NRC Industrial Research Assistance Program* (IRAP): advice and funding to increase SME innovation capacity. – *Innovative Solutions Canada* (ISC): funds R&D and prototype testing.

	– *Global Innovation Clusters* (GIC) *Initiative*: fosters industry-led technology clusters to drive research and attract talent. – *Regional Economic Growth through Innovation* (REGI): supports SME scaling and regional innovation ecosystems. – *Strategic Innovation Fund* (SIF): provides repayable and non-repayable contributions to firms and ecosystems across industrial and technology sectors.
Information and facilitation services	No specific measures were reported in the survey response.

Note: This table reflects official policy examples submitted by Canada to the South African G20 Presidency (2025), under the voluntary survey on investment policies for clean energy and digital transformation.

CHINA

Table A.7. Clean-tech investment policy examples

Policy area	Country
	China
Governance	No specific measures reported in the survey response.
Domestic and international regulation	– *Action Plan for Further Strengthening the Standard and Measurement System for Carbon Peaking and Carbon Neutrality* (2024–2025) – establishes enterprise carbon accounting standards, carbon footprint labelling, and product evaluation standards. Targets by end-2025: 20 new measurement standards, 25 technology R&D projects, 50 technical specifications, enabling standardised evaluation systems aligned with global benchmarks.
Financial and technical support	No specific measures reported in the survey response.
Information and facilitation services	No specific measures reported in the survey response.

Note: This table reflects official policy examples submitted by China to the South African G20 Presidency (2025), under the voluntary survey on investment policies for clean energy and digital transformation.

Table A.8. Digital transformation investment policy examples

Policy area	Country
	China
Governance	– *Next Generation Artificial Intelligence Development Plan* (2017–2030) – national roadmap with phased goals to strengthen AI R&D, infrastructure, regulation, and international cooperation. – *Guiding Opinions on Accelerating Innovation in Scenarios for High-Level Application of AI* (2022) – promotes AI deployment in manufacturing, public services, urban governance, tourism, and welfare through scenario innovation, coordinated by multiple ministries.
Domestic and international regulation	– *Measures for the Review of Sci-Tech Ethics* (2023) – introduces data/privacy protection, informed consent, supervision and accountability in sensitive research, including AI and life sciences. – *Administrative Measures for the Labelling of AI-Generated Synthetic Content* (effective 2025) – requires clear labelling of AI-generated text, images, video, and audio to ensure information integrity, prevent misinformation, and provide legal protections for providers.
Financial and technical support	– *Special Action Plan for Digital Empowerment of SMEs* (2025–2027) – coordinated by MIIT, Ministry of Finance, PBoC and regulators to provide financial support, technology services and ecosystem collaboration for SME digital transformation.

	– *14th Five-Year Plan for the Development of the Information and Communication Industry* (2021–2025) – national framework to expand digital infrastructure, upgrade networks, and improve connectivity quality.
Information and facilitation services	– *Guidelines for the Construction of a Comprehensive Standardisation System for the National AI Industry* (2024 edition) – joint government initiative to establish over 50 national AI standards and contribute to 20+ international standards by 2026, enhancing competitiveness, industrial safety, and international cooperation.

Note: This table reflects official policy examples submitted by China to the South African G20 Presidency (2025), under the voluntary survey on investment policies for clean energy and digital transformation.

FRANCE

Table A.9. Clean-tech investment policy examples

Policy area	Country
	France
Governance	– *French Strategy for Energy and Climate* (SFEC), including the Multiannual Energy Programming (PPE) and National Low-Carbon Strategy (SNBC). The SNBC sets out France's mitigation roadmap across sectors, while the PPE provides 10-year operational energy policy guidelines. – *Multiannual Strategy for Financing the Ecological Transition* (SPAFTE) (2024): defines policy guidelines to mobilise public and private funding, scale up low-carbon investment, and phase down fossil investment.
Domestic and international regulation	– *Law on the Acceleration of Renewable Energies* (March 2023): simplifies authorisation and territorial planning for renewables, mandates photovoltaic deployment on certain sites, and clarifies the legal framework for offshore wind development.
Financial and technical support	– *Public financial support for renewable energy production*: through top-up payments ("complément de rémuneration") and feed-in tariffs, with costs offset via state expenditure under the public energy service charge (CSPE).
Information and facilitation services	– *Support from ADEME*: provides financial aid to companies, local authorities and associations to conduct feasibility studies for renewable energy solutions.

Note: This table reflects official policy examples submitted by France to the South African G20 Presidency (2025), under the voluntary survey on investment policies for clean energy and digital transformation.

Table A.10. Digital transformation investment policy examples

Policy area	Country
	France
Governance	– *High Committee for Eco-Responsible Digital Technology* (HCNE) (2022): national steering body for ecological planning in digital technologies, co-chaired by three ministries and supported by the CGDD and DGE. It brings together companies, NGOs, researchers, and local authorities to coordinate responsible digital initiatives.
Domestic and international regulation	– *Law for the Reduction of the Digital Environmental Footprint* (REEN Law) (2021): aims to reduce pollution from digital technologies by promoting responsible digital uses, greener data centres and networks, and sustainable local digital strategies.
Financial and technical support	– *Eco-Responsible Digital Acceleration Strategy* (France 2030): launched in 2023 to foster an eco-responsible and sovereign digital economy. Priorities include research on eco-design and digital sobriety, innovation for circular economy models, training in responsible digital technology, and awareness-raising among stakeholders.

Information and facilitation services	No specific measures reported in the survey response.

Note: This table reflects official policy examples submitted by France to the South African G20 Presidency (2025), under the voluntary survey on investment policies for clean energy and digital transformation.

IRELAND

Table A.11. Clean-tech investment policy examples

Policy area	Country
	Ireland
Governance	– *Accelerating Renewable Electricity Taskforce* (ARET), established under *Climate Action Plan 2023* (CAP23). Coordinates cross-government efforts to fast-track deployment of onshore renewables, with working groups on grid, planning and market access. Targets: 9 GW onshore wind, 8 GW solar, 5 GW offshore wind capacity by 2030 to supply 80% of electricity demand from renewables.
Domestic and international regulation	No specific clean-energy regulatory measures reported in the survey response.
Financial and technical support	No specific clean-energy financial or technical support measures reported in the survey response.
Information and facilitation services	– *Decarbonisation Environmental Aid Scheme* (2024–2030): €300 million ring-fenced to support capital investments in high-impact decarbonisation projects across manufacturing (dairy, pharma, food and drinks). Delivered through Enterprise Ireland and IDA Ireland, with regular monitoring of project pipelines and allocations.

Note: This table reflects official policy examples submitted by Ireland to the South African G20 Presidency (2025), under the voluntary survey on investment policies for clean energy and digital transformation.

Table A.12. Digital transformation investment policy examples

Policy area	Country
	Ireland
Governance	– *Harnessing Digital – The Digital Ireland Framework* (2022): a national strategy led by the Department of the Taoiseach, setting coordinated priorities on digital infrastructure, cybersecurity and skills. Provides a governance framework aligning investment and regulatory policy for inclusive digital growth.
Domestic and international regulation	– *National AI Strategy – AI: Here for Good* (2021–2026): establishes Ireland's roadmap for responsible AI adoption, balancing innovation and competitiveness with safeguards for fair competition and IP protection. Applies across public services, SMEs, MNEs, and research institutions.
Financial and technical support	– *Digital Decade Policy Programme: National Strategic Roadmap* (2023): aligns Ireland's transformation with EU Digital Decade objectives. Provides coordinated guidance for ICT infrastructure investment, digital skills development, and acceleration of business and public sector digitalisation.
Information and	– *Adapt Intelligently: Strategy for Sustainable Growth and Innovation 2025–2029* (IDA Ireland): sets a five-year FDI roadmap, targeting digital sectors, semiconductors, AI and sustainability. Focuses on regional balance,

facilitation services	workforce upskilling, R&D scaling, and embedding sustainability in digital investment attraction.

Note: This table reflects official policy examples submitted by Ireland to the South African G20 Presidency (2025), under the voluntary survey on investment policies for clean energy and digital transformation.

NEW ZEALAND

Table A.13. Clean-tech investment policy examples

Policy area	Country
	New Zealand
Governance	– *Invest New Zealand* (2024): a new government agency serving as a "one-door" for investors. It facilitates foreign direct investment into New Zealand, including clean-energy sectors, and administers new investment visa categories. The agency is modelled on Irish and Singaporean approaches to maximise policy coherence and coordination.
Domestic and international regulation	No specific clean-energy regulatory measures were reported in the survey response.
Financial and technical support	– *New Zealand Emissions Trading Scheme* (ETS): a cap-and-trade system requiring firms to measure, report, and surrender one unit per ton of emissions. The government reduces units over time to tighten the cap. Units can be traded between firms, creating a market-based carbon price signal that directs investment into low-emissions technologies.
Information and facilitation services	– *Mandatory Climate-related Disclosures* (2021): requires large organisations to report climate-related risks and opportunities as part of financial disclosures. The measure improves transparency, guides capital flows toward low-emissions activities, and supports investor decision-making.

Note: This table reflects official policy examples submitted by New Zealand to the South African G20 Presidency (2025), under the voluntary survey on investment policies for clean energy and digital transformation.

Table A.14. Digital transformation investment policy examples

Policy area	Country
	New Zealand
Governance	No specific digital governance measures were reported in the survey response.
Domestic and international regulation	No specific digital regulatory measures were reported in the survey response.
Financial and technical support	No specific financial or technical support measures for digital transformation were reported in the survey response.

Information and facilitation services	No specific digital investment facilitation or aftercare measures were reported in the survey response.

Note: This table reflects official policy examples submitted by New Zealand to the South African G20 Presidency (2025), under the voluntary survey on investment policies for clean energy and digital transformation.

RUSSIAN FEDERATION

Table A.15. Clean-tech investment policy examples

Policy area	Country
	Russian Federation
Governance	– *Energy Strategy of the Russian Federation to 2050* (2025): sets long-term priorities for energy sector investment, including predictable fiscal conditions, tariff transparency, incentives for innovation, and support for low-carbon technologies such as hydrogen, CCS, and renewables. – *Concept for the Development of Hydrogen Energy* (2021): outlines measures to stimulate investment in hydrogen technologies, with goals to 2024, 2035, and 2050. – *Strategy for Socio-Economic Development with Low Greenhouse Gas Emissions to 2050* (2021): provides a roadmap for carbon neutrality, introducing low/zero-carbon technologies, green financing, and corporate non-financial reporting.
Domestic and international regulation	– No specific clean-energy regulatory measures were reported separately; relevant provisions are embedded in governance and financial instruments.
Financial and technical support	– *Federal Law No. 34-FZ* (2022): establishes a pilot carbon regulation system in Sakhalin (2022–2028), introducing quotas, trading mechanisms, and verified reporting, with a carbon neutrality target by 2025. – *Resolution No. 449* (2013, amended 2024): supports renewable energy investment through 15-year capacity supply agreements under the wholesale electricity and capacity market. – *Resolution No. 321* (2014, amended 2025): creates a state programme for comprehensive energy sector development, including adoption of clean technologies and simplified administrative procedures.
Information and facilitation services	– *State Information System on Energy Saving and Efficiency*: provides data on legislation, energy intensity, and effective projects to support investment decisions. – *Resolution No. 24* (2004, amended 2024): establishes disclosure standards for electricity market entities, including emissions, investment programmes, and fuel usage. – *Federal Law No. 35-FZ on the Electric Power Industry* (2003, amended 2024): creates a framework for renewable energy support, including competitive project selection, certificates of origin, and disclosure mechanisms.

Note: This table reflects official policy examples submitted by Russian Federation to the South African G20 Presidency (2025), under the voluntary survey on investment policies for clean energy and digital transformation.

Table A.16. Digital transformation investment policy examples

Policy area	Country
	Russian Federation
Governance	– *National Development Goal on Digital Transformation* (Presidential Decree No. 309, 2024): sets strategic objectives including digital maturity in key

	sectors, universal broadband access, ICT investment growth, and anti-fraud measures. – *National Project "Data Economy and Digital Transformation of the State"* (2024): focuses on cybersecurity, digital public administration, domestic platforms, AI integration, and IT workforce development. – *National Plan for Developing Competition 2021–2025* (2021): reduces barriers, improves market conditions, and digitalises antitrust and tariff regulation.
Domestic and international regulation	– *Federal Law No. 258-FZ on Experimental Legal Regimes for Digital Innovations* (2020, amended 2024): allows pilot testing of digital technologies in healthcare, transport, telecoms, and government services; 18 experiments launched with 150+ barriers lifted. – *Federal Law No. 259-FZ* (2019, amended 2024): permits use of digital rights in foreign trade. – *Federal Law No. 221-FZ* (2024, amending 259-FZ): establishes legal conditions for circulation of foreign digital rights. – *Roadmap on Intellectual Property* (2024): introduces measures to strengthen IP protection, simplify registration, and foster innovation. – Federal Law No. 135-FZ on Protection of Competition (2006, amended 2024): provides the legal framework for competition policy, preventing monopolistic practices and safeguarding economic freedom.
Financial and technical support	– *State Programme on Scientific and Technological Development* (2019–2030): promotes R&D investment, reduces administrative barriers, and fosters public–private partnerships in high-tech projects.
Information and facilitation services	– *Federal Law No. 152-FZ on Personal Data* (2006, amended 2025): strengthens investor and user data protection. – *Federal Law No. 41-FZ* (2025): establishes a state information system to combat ICT-related offences, aiming to improve security and trust in digital markets. – *Federal Law No. 149-FZ on Information and IT* (2006, amended 2025): sets the framework for information use and IT protection, creating a stable and predictable environment for investors. – *Federal Law No. 210-FZ* (2010, amended 2024): streamlines electronic provision of state services, reducing administrative burdens for investors and citizens.

Note: This table reflects official policy examples submitted by Russian Federation to the South African G20 Presidency (2025), under the voluntary survey on investment policies for clean energy and digital transformation.

SAUDI ARABIA

Table A.17. Clean-tech investment policy examples

Policy area	Country
	Saudi Arabia
Governance	– *Saudi Green Initiative* (2021): national programme committing to net-zero by 2060, with investment measures for circular carbon economy, renewable energy, energy efficiency, carbon capture, and hydrogen development.
Domestic and international regulation	– No specific clean-energy regulatory measures were reported separately in the survey response.
Financial and technical support	– *Green Financing Framework* (2021): sustainable finance mechanism aligning with Vision 2030 and CCE goals to channel investment into clean energy projects. – *NEOM Green Hydrogen Project* (ongoing): flagship project aiming to produce 600 tonnes of carbon-free hydrogen daily, developed with international investment partners.
Information and facilitation services	– *Energy Policy Pathways to Inform Climate Policy*: supports research and policy development for clean energy transition, including emissions reduction and efficiency improvements.

Note: This table reflects official policy examples submitted by Saudi Arabia to the South African G20 Presidency (2025), under the voluntary survey on investment policies for clean energy and digital transformation.

Table A.18. Digital transformation investment policy examples

Policy area	Country
	Saudi Arabia
Governance	– *Digital Government Strategy 2023–2030*: establishes a framework for digital identities, interoperability, privacy, and online services for citizens and businesses. – *National Strategy for Data & AI*: focuses on ethical AI use, data protection, and digital innovation under Vision 2030.
Domestic and international regulation	– No specific digital regulatory measures were reported beyond governance frameworks.
Financial and technical support	– *Saudi Digital Economy Policy*: supports investment in digital infrastructure, fintech, and emerging technologies to accelerate transformation.
Information and	– *Saudi Cloud First Policy*: promotes secure, scalable cloud infrastructure across sectors, encouraging public and private investment in digital services.

facilitation services

Note: This table reflects official policy examples submitted by Saudi Arabia to the South African G20 Presidency (2025), under the voluntary survey on investment policies for clean energy and digital transformation.

SPAIN

Table A.19. Clean-tech investment policy examples

Policy area	Country
	Spain
Governance	– *Integrated National Energy and Climate Plan* (PNIEC 2021–2030): sets targets including 74% renewable electricity by 2030 and climate neutrality by 2050, providing the roadmap for public and private investments.
Domestic and international regulation	– *Renewable Energy Self-Consumption Framework* (RDL 15/2018 and RD 244/2019): removed disincentives such as the "sun tax" and enabled collective self-consumption, simplified permitting, and surplus power compensation. – *National Programme on Green Algorithms* (PNAV): promotes "green by design" artificial intelligence, funding research and competitions to integrate sustainability into AI applications and advance the green–digital transition.
Financial and technical support	No measure reported.
Information and facilitation services	No measure reported.

Note: This table reflects official policy examples submitted by Spain to the South African G20 Presidency (2025), under the voluntary survey on investment policies for clean energy and digital transformation. The PNAV is a cross-cutting measure (green–digital) but is included here as per Spain's survey submission.

Table A.20. Digital transformation investment policy examples

Policy area	Country
	Spain
Governance	– *Digital Spain 2025 Agenda* (2020): national digital strategy with nearly 50 measures across 10 axes, targeting universal connectivity, digital skills, and innovation, mobilising ~€70 billion in investment including EU NextGen funds. – *Science and Innovation Missions on AI* (2022): funds R&D projects addressing strategic challenges, with dedicated streams for large firms and SMEs, aligned with the Recovery and Resilience Plan.
Domestic and international regulation	– *Startup Law – Law 28/2022* (Ecosystem of Startups Act): reduces corporate tax for startups, streamlines company creation, increases investor deductions, and introduces new visa categories for entrepreneurs and digital nomads.
Financial and technical support	– *Digital Toolkit* (Kit Digital) *Programme* (2021–2023)*: €3 billion voucher scheme for SMEs to adopt digital solutions (websites, e-commerce, cybersecurity, etc.).*

	– *Plan for the Promotion of Sectorial Data Spaces* (2021–2026): €500 million programme to build secure data-sharing infrastructures across sectors. – *Strategy for the Promotion of 5G Technology* (2021–2025): €2 billion investment plan for 5G spectrum, deployment and regulation. – *UNICO Broadband Programme* (2021–2025): extends ultrafast broadband coverage to 100% of the population, prioritising underserved areas. – *UNICO Rural Demand Programme*: subsidises subscriptions and equipment to guarantee affordable 100 Mbps broadband in remote areas.
Information and facilitation services	– *Invest in Spain – Tech Investment Facilitation* (ICEX): provides tailored advisory and facilitation for investors in the digital and ICT sectors. – *GovTechLab*: fosters innovation in public services through challenge-based competitions, AI applications, and blockchain-enabled initiatives. – *AI Chairs Programme*: funds university–enterprise collaborations on applied AI research, supporting ~150 researchers over four years under the National AI Strategy.

Note: This table reflects official policy examples submitted by Spain to the South African G20 Presidency (2025), under the voluntary survey on investment policies for clean energy and digital transformation.

SWITZERLAND

Table A.21. Clean-tech investment policy examples

Policy area	Country
	Switzerland
Governance	– *Energy Strategy 2050*: long-term framework to phase out nuclear, expand renewables, cut emissions, and improve efficiency. – Whole-of-government coordination: policies consulted across ministries to ensure coherence.
Domestic and international regulation	– *Federal Act on Energy Supply (EnG)*: ensures secure, sustainable, and efficient supply, with measures to expand renewables. – *Federal Act on the Promotion of Renewable Energy (EEG)*: provides feed-in tariffs and investment grants for solar, wind, hydro, and biomass. – *Federal Act on Environmental Protection (USG)*: requires impact assessments for energy projects. – *Cantonal Energy Laws*: complement federal law with local targets and measures. – *Building Energy Act*: sets efficiency standards for buildings, promoting renewable use in construction/renovation.
Financial and technical support	– *Swiss CO_2 Act*: carbon tax on fossil fuels and linked ETS with the EU, incentivising emission reductions. – *Feed-in tariffs*: guaranteed payments for renewable producers. – *Investment grants*: federal and cantonal support for renewable projects and efficiency. – *Tax deductions*: incentives for businesses/households investing in solar, efficiency, insulation, etc.
Information and facilitation services	No specific clean-energy facilitation measures were reported in the survey response.

Note: This table reflects official policy examples submitted by Switzerland to the South African G20 Presidency (2025), under the voluntary survey on investment policies for clean energy and digital transformation.

Table A.22. Digital transformation investment policy examples

Policy area	Country
	Switzerland
Governance	– Whole-of-government coordination: all digital policies consulted across ministries.
Domestic and international regulation	– *Digital Switzerland Strategy*: promotes transformation via innovation, infrastructure, and digital skills, covering education, health, and administration. – *E-Government Strategy, Swiss Digital Initiative, Federal Act on Data Protection (FADP)*: frameworks supporting digital adoption and regulatory safeguards.

Financial and technical support	– No specific financial or technical support measures for digital transformation were reported in the survey response.
Information and facilitation services	No specific facilitation or aftercare measures were reported in the survey response.

Note: This table reflects official policy examples submitted by Switzerland to the South African G20 Presidency (2025), under the voluntary survey on investment policies for clean energy and digital transformation.

TÜRKIYE

Table A.23. Clean-tech investment policy examples

Policy area	Country
	Türkiye
Governance	– *Renewable Energy 2035 Roadmap* (2024): sets a target to quadruple installed solar and wind capacity to 120 GW by 2035, including 2,000 MW of new YEKA tenders annually, 5,000 MW offshore wind, 33.9 GW storage-integrated capacity, and $80 billion projected investment. Introduces permitting reform and investment facilitation. – *Türkiye Hydrogen Technologies Strategy and Roadmap* (2024): outlines phased development of green hydrogen production, storage, distribution, and use, aligned with the 2053 net zero target. Supports R&D, domestic manufacturing, and international partnerships.
Domestic and international regulation	– *Regulation on Renewable Energy Resource Zones (YEKA)* (2016, amended): auction model granting rights to generate renewable electricity with requirements for local manufacturing and R&D. By mid-2025, 418 MW of wind and 1,868 MW of solar YEKA zones completed. – *Second National Energy Efficiency Action Plan (2024–2030)*: 108 measures across sectors to reduce primary energy use by 15% by 2030, with updated regulatory and fiscal support. – *Renewable Energy Law* (No. 5346): provides feed-in tariff mechanisms under YEKDEM. – *Energy Efficiency Law* (No. 5627): establishes obligations and incentives for efficiency in industry, buildings, and public sector. – *Law No. 7554 on Amendments to Certain Laws* (2025): accelerates investment processes, streamlines approvals, and strengthens decision-making for renewables.
Financial and technical support	– *Renewable Energy Resources Support Mechanism (YEKDEM)*: 10-year fixed-price guarantees for renewable electricity. – *YEKA Auctions*: provide long-term PPA-based incentives linked to local manufacturing and R&D. – *Energy and Carbon Reduction (EKA) Support Programme*: up to TRY 10 million for firms reducing energy or carbon intensity, targeting industry. – *Investment Incentive System (Decree No. 9903)*: offers tax exemptions, duty relief, site allocation, and financing support for green transformation projects.
Information and facilitation services	*EPİAŞ Transparency Portal*: provides real-time market data to investors on energy markets, improving transparency and risk assessment.

Note: This table reflects official policy examples submitted by Türkiye to the South African G20 Presidency (2025), under the voluntary survey on investment policies for clean energy and digital transformation.

Table A.24. Digital transformation investment policy examples

Policy area	Country
	Türkiye
Governance	– *Strategic Plan of the Ministry of Energy and Natural Resources (2024–2028)*: identifies digitalisation of the energy sector as a strategic objective, promoting smart grids, real-time data, infrastructure investment, and inter-institutional coordination.
Domestic and international regulation	No specific digital regulatory measures were reported in the survey response.
Financial and technical support	– *Investment Incentive System (Decree No. 9903)*: supports digital transformation projects over TRY 50 million under the Strategic Thrust Scheme, and those under TRY 50 million under the Priority Scheme. Instruments include VAT exemption, customs duty exemption, tax reduction, social security premium support, interest support, machinery support, and investment site allocation.
Information and facilitation services	No specific digital facilitation or aftercare measures were reported in the survey response.

Note: This table reflects official policy examples submitted by Türkiye to the South African G20 Presidency (2025), under the voluntary survey on investment policies for clean energy and digital transformation.

UNITED KINGDOM

Table A.25. Clean-tech investment policy examples

Policy area	Country
	United Kingdom
Governance	– *Clean Power 2030 Action Plan* (2024): sets roadmap to achieve 95% clean electricity by 2030, with oversight through the Clean Power 2030 Unit, Solar Roadmap, Offshore Wind Council, and annual CfD Allocation Rounds. – *Industrial Strategy* (forthcoming, 2025): 10-year plan to provide stability and confidence for investment in high-growth, green sectors, supported by an Industrial Strategy Advisory Council.
Domestic and international regulation	– Updated *National Policy Statements* on energy planning for NSIPs, including enhanced thresholds for solar and onshore wind projects. – *Connections Reform* led by NESO to streamline grid access processes and reduce queueing. – *Contracts for Difference* scheme: provides long-term market access and price certainty for renewables. – *Environmental standards*: Environmental Impact Assessments, Habitats Regulations Assessments, and the Offshore Wind Environmental Improvement Package.
Financial and technical support	– *UK Emissions Trading Scheme*: cap-and-trade system covering power, aviation, and energy-intensive industries. – *National Wealth Fund* (£27.8 billion): mobilises private investment in clean energy and growth sectors. – *Great British Energy*: publicly owned company accelerating deployment, supply chain strengthening, and regional investment. – *Contracts for Difference (CfD)*: fixed-price contracts for renewables, including the Clean Industry Bonus to support sustainable offshore wind supply chains. – *Energy Skills Passport* and regional training schemes: help workers transition from fossil fuel to clean energy jobs, especially in identified growth regions.
Information and facilitation services	– *Clean Power 2030* serves as an investment promotion and awareness-raising platform, positioning the UK as a clean energy hub. – *Great British Energy* provides investment facilitation, aftercare, and communication of opportunities to domestic and international stakeholders.

Note: This table reflects official policy examples submitted by United Kingdom to the South African G20 Presidency (2025), under the voluntary survey on investment policies for clean energy and digital transformation.

Table A.26. Digital transformation investment policy examples

Policy area	Country
	United Kingdom
Governance	No specific governance measures for digital transformation were reported in the survey response.

Domestic and international regulation	No specific governance measures for digital transformation were reported in the survey response.
Financial and technical support	No specific governance measures for digital transformation were reported in the survey response.
Information and facilitation services	No specific governance measures for digital transformation were reported in the survey response.

Note: This table reflects official policy examples submitted by United Kingdom to the South African G20 Presidency (2025), under the voluntary survey on investment policies for clean energy and digital transformation.