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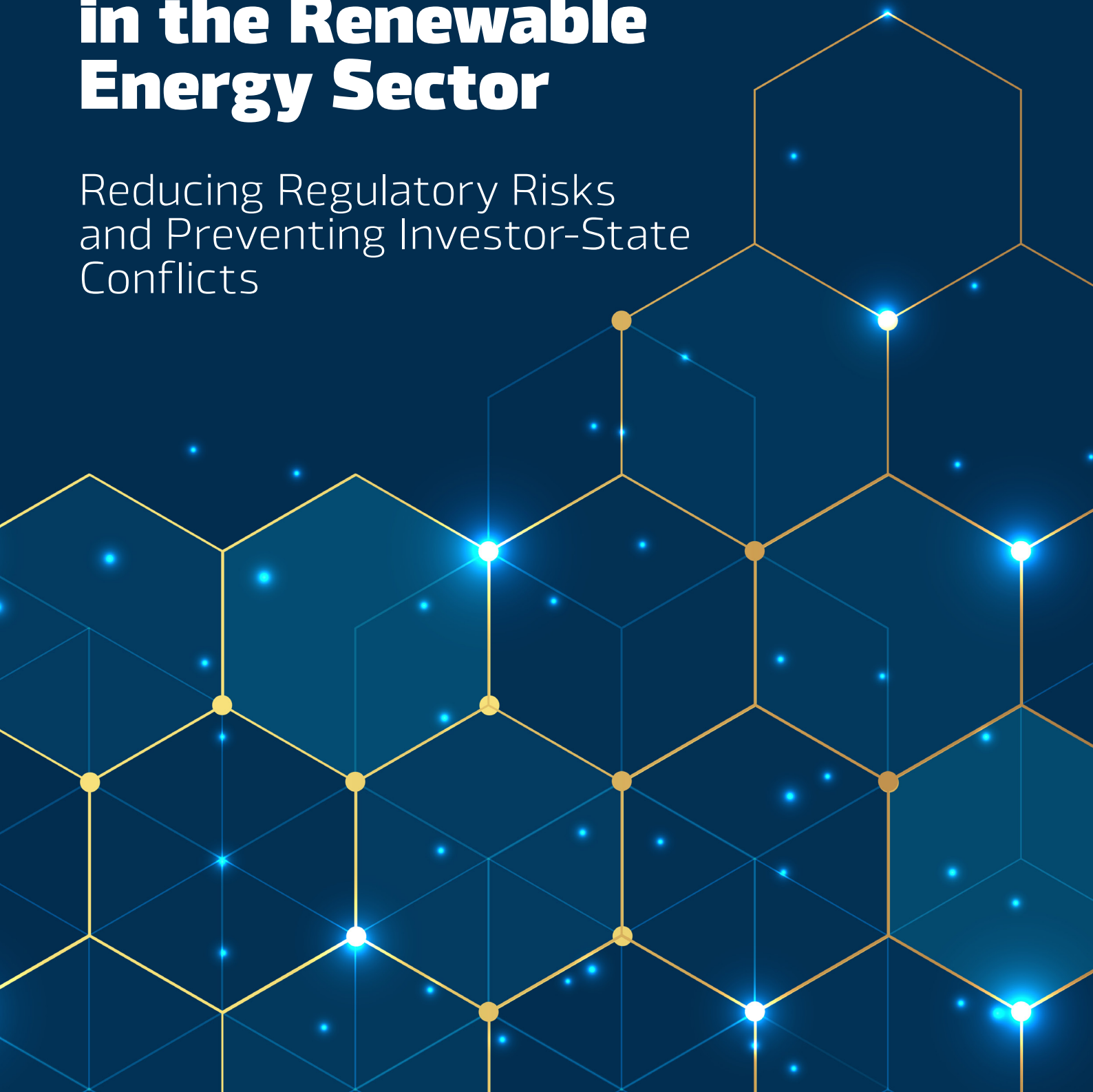
INTERNATIONAL ENERGY CHARTER

Enabling Foreign Direct Investment in the Renewable Energy Sector

Reducing Regulatory Risks and Preventing Investor-State Conflicts



1818 H Street NW
Washington, DC 20433
Telephone: 202-473-1000
Internet: www.worldbank.org

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The World Bank team led by Priyanka Kher (Private Sector Specialist, World Bank Group) comprised Mariana De La Paz Pereira Lopez (Senior Economist, World Bank Group) and Siddharth Ramalingam (Consultant, World Bank Group).

The Energy Charter Secretariat's core team comprised Yuriy Pochtovyk (Legal Official, Energy Charter Secretariat) and Ishita Pant (Investment Official, Energy Charter Secretariat).

The report was prepared under the guidance of Mona Haddad (Global Director, World Bank Group), Asya Akhlaque (Practice Manager, World Bank Group), Ivan Nimac (Lead Private Sector Specialist, World Bank Group) and Alejandro Carballo Leyda (General Counsel, Energy Charter Secretariat).

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Abbreviations and Acronyms

AC	Alternating current
ASEAN	Association of Southeast Asian Nations
BIT	Bilateral investment treaty
BOC	Business Ombudsman Council (Ukraine)
BOO	Build, own, operate
BOOT	Build, own, operate, transfer
BOT	Build, operate, transfer
BPDB	Bangladesh Power Development Board
CAPEX	Capital expenditure
CEO	Chief Executive Officer
CEPA	Closer Economic Partnership Arrangement (China–Hong Kong)
CETA	Comprehensive Economic and Trade Agreement (Canada–EU)
CFIA	Cooperation and Facilitation Investment Agreement
CLFME	Change in Law Force Majeure Event (Pakistan)
CPER	Commissioner for the Protection of Entrepreneurs' Rights (Uzbekistan)
CPTPP	Comprehensive and Progressive Agreement for Transpacific Partnership
DEA	Department of Economic Affairs (India)
ECT	Energy Charter Treaty
EIC	Ethiopian Investment Commission
EMDE	Emerging Market and Developing Economies
EPA	Economic partnership agreement
EPC	Engineering, procurement, and construction
EU	European Union
FDI	Foreign direct investment
FIA	Foreign Investment Agency (Vietnam)
FIDIC	International Federation of Consulting Engineers
FIO	Foreign Investment Ombudsman (Republic of Korea)
FIT	Feed-in tariff (and feed-in tariffs)
FTA	Free trade agreement
GAFI	General Authority for Investment and Free Zones (Egypt)
GW	Gigawatts
IA–CEPA	Indonesia–Australia Comprehensive Economic Partnership Agreement
IAP	Industry Advisory Panel
ICSID	International Centre for Settlement of Investment Disputes (of the World Bank Group)
IEA	International Energy Agency
IGM	Investor Grievance Management
IIA	International investment agreement
IPA	Investment promotion agency
IPP	Independent power plant
IRENA	International Renewable Energy Agency
IWG	Inter-departmental Working Group (Ukraine)
JIC	Joint Coordinating Committee (Bangladesh)
kWh	Kilowatt-hours
LCOE	Levelized costs of electricity
MCIT	Ministry of Commerce, Industry, and Tourism (Colombia)
MIGA	Multilateral Investment Guarantee Agency
$MtCO_2$	Metric tons of carbon dioxide
MW	Megawatt
NAFTA	North American Free Trade Agreement
OECD	Organisation for Economic Co-operation and Development
O&M	Operation and maintenance
PCA	Permanent Court of Arbitration
PCE	Private capital-enabling (and private capital enabled)
PGCB	Power Grid Company of Bangladesh
PIC	Private Investment Committee (Rwanda)
PPA	Power purchase agreement
PPFME	Pakistan Political Force Majeure Event
PPP	Public-private partnership
PV	Photovoltaic
RCEP	Regional Comprehensive Economic Partnership
RCREEE	Regional Center for Renewable Energy and Energy Efficiency
RDB	Rwanda Development Board
RESCO	Renewable Energy Service Company
RISE	Regulatory Indicators for Sustainable Energy
R&D	Research and development
SAR	Special Administrative Region (China)
SCC	Stockholm Chamber of Commerce
SDG	Sustainable Development Goal
SICRECI	State Coordination and Response System for International Investment Disputes (Peru)
SIFAI	System Enabler to Attract Investment (Colombia)
SME	Small and medium enterprise
SOE	State-owned enterprise
SPV	Special purpose vehicle
STEPS	Stated Policies Scenario
TWh	Terawatt-hours
USMCA	United States-Mexico-Canada Agreement
UNCITRAL	United Nations Commission on International Trade Law
UNCTAD	United Nations Conference on Trade and Development
UNEP	United Nations Environment Programme
WGI	Worldwide Governance Indicators

Executive Summary

Increasing private investment is critical to meeting the growing energy needs in developing countries and, more broadly, achieving the Sustainable Development Goals (SDGs). Foreign direct investment (FDI) can contribute significantly—by bridging the financing gap but also by facilitating knowledge and technology transfer. A key factor impeding the ability of countries to attract and retain FDI is political risk, measured as a disruption in business operations caused by sudden political changes or actions (World Bank 2019). One kind of risk (more specifically, a subset of political risks)—regulatory risks caused by regulatory actions—can also lead to costly legal disputes between investors and states. This report explores these risks in the renewable energy (power generation) sector, the prevalence of investor-state disputes associated with such risks, the fiscal and reputational implications of disputes, and policy options for governments to prevent them. Indeed, reducing risk for the private sector to enable greater investment ultimately also contributes to private capital-enabling (PCE)[1] targets.

According to estimates from the International Energy Agency (IEA), by the end of 2022, 774 million people around the world, mainly concentrated in Africa and Asia, still live without access to electricity (IEA 2022d).[2] Moreover, the energy crisis we are currently facing has led, for the first time in decades, to an increase in the number of people without access (20 million increase against 2021). Over the next 10 years, the world's population will grow from today's 7.9 billion to around 8.5 billion (United Nations, 2022). Estimates indicate that under the current and announced policy scenario, by 2030, about 663 million people will still be without access (IEA 2022d). Ensuring everyone is connected to the grid will remain central to discussions on climate change and achieving the SDGs.

Electricity demand has been growing steadily, with an annual 3 percent increase during the past 20 years. By 2050, according to estimates from the IEA, demand is expected to double against the level exhibited in 2020.[3] Currently, renewables can only cover 33 percent of this value. To achieve net zero greenhouse gas emissions[4] and comply with the commitments under the Paris Agreement, an increasing share of renewables in electricity generation is required. Moreover, the increasing competitiveness of renewables, with the costs of electricity sharply decreasing over the past 10 years, generates further incentives to pursue this type of investment for electricity generation.

Recent events such as the war in Ukraine have caused disruptions in the demand and supply patterns of energy in the European and global energy markets, particularly in the case of fossil fuels, and, consequently, have affected energy prices for final consumers and businesses. The effects of these short-term shocks reinforce the need for ramping up investments in renewables and energy efficiency, in line with the net zero goals. Under the net zero scenario, the total share of renewables in total electricity generation is expected to increase globally, from 28 percent in 2021 to an estimated value of 61 percent in 2030 and 88 percent in 2050 (IEA 2022d).[5] Developing countries must see significant investments in renewables to achieve these figures. Estimates indicate that building the required capacity to reach the net zero goals in 2050 would require an increase in average annual investments in renewables for electricity generation from around US$390 billion a year (between 2016 and 2022) to US$1,300 billion a year by 2030 (IEA 2022d). Both public and private capital, domestic and international, is expected to provide the funding required for these projects, with a significant amount coming by way of FDI.

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1 PCE is the amount of private capital enabled by Maximizing Finance for Development-enabling projects and aimed at demonstrating upstream efforts that would lead to the mobilization of private capital.

2 See IEA, "SDG7: Data and Projections" at https://www.iea.org/reports/sdg7-data-and-projections.

3 See figure A.1.

4 Net zero greenhouse gas emissions means balancing the emissions produced and the emissions reabsorbed and removed from the atmosphere. This requires not only that emissions be cut as close to zero as possible, but also, given that in some sectors it is too complex or expensive to cut emissions, residual emissions be removed. Under the Paris Agreement, the states undertook to reach net zero emissions by 2050.

5 See also IEA, "Renewables" at https://www.iea.org/fuels-and-technologies/renewables.

Over US$2.9 trillion was invested in renewable energy by investors of all types during 2013–21. Geographically, Asia and Oceania's share in investments has risen over the past decade – 5 of the top 10 countries receiving the largest investments in 2019 lie in the region. Around 86 percent of total renewables investment in electricity generation is undertaken by the private sector, and this value has been relatively steady during the past six years. The role of the public sector is very limited (IRENA and CPI 2020), with investments being needed largely to trigger private sector investment by reducing initial risks. Renewable investment projects are generally characterized by relatively high upfront investment costs and lower operating costs over time. That is, even though their overall costs have significantly decreased over time, these large initial investments explain the much higher participation of the private sector and FDI in the case of large renewable projects. FDI has played an integral part in funding renewable energy projects globally—in 2019, more than 50 percent of all investment projects globally were in renewable energy, and foreign companies sponsored almost 40 percent of all renewable energy power generation projects during that year (UNCTAD 2020). This figure is even larger for developing countries and transition economies, where the share of FDI in renewable investment exceeds 70 percent; in some developing countries, it is even higher.[6] Although the COVID-19 pandemic has negatively affected investment projects across sectors globally, renewable energy projects have remained somewhat resilient.

Attracting FDI in renewable energy is challenging because of substantial investments at the initial stages of projects and low working capital, both of which lead to increased project risks. Because of these characteristics, long-term contracts have played a key role in facilitating investment in renewables, especially in the case of solar photovoltaic and wind (IEA 2021b). Many of these contracts are linked to incentive schemes that were put in place when the costs of renewable energy were high. Therefore, in the context of the decreasing costs of renewables, some governments became locked into contracts with high rates and had incentives to raise prices to consumers. Evidence suggests that political risks[7] (including the subset of regulatory risk) may be more salient for certain types of FDI than others. Political risk is the probability that business operations are disrupted by political forces or events, especially by government actions, often leading to the cancellation of projects, withdrawal of investment, or disputes with host countries. For instance, political risks tend to arise in economic sectors that have high levels of state intervention. Further, in many countries, some sectors are considered of "public interest" and are subject to close state supervision (for example, utilities, water and electricity distribution, telecommunications, finance, and transportation). Specifically, companies in the utilities sectors, including renewable energy, experience more frequent adverse regulatory changes and expropriation, perhaps because utility assets tend to be geographically specific investments with few alternative uses, a situation that reduces their private bargaining power against the state once investments are completed.

Sustaining the high levels of FDI in renewable energy needed to achieve development and climate goals will require sound strategies to minimize or eliminate risks. The first set of strategies involves creating incentive structures like auctions, feed-in tariffs (FIT), carbon pricing instruments, and tax instruments. The second set involves risk mitigation, especially of political risk, through the choice of legal entities (for example, using joint ventures) and localization (that is, hiring local workers and reinvesting profits), among others. Political risk insurance is also an important proactive measure that can be adopted. However, disputes still arise between investors and host countries, and both parties may take recourse under investment treaties and contracts.

In studying different types of disputes and conflicts in renewable energy (power generation) projects, this report identifies 119[8] investor-state arbitration disputes. Most of the proceedings were instituted against states in Western Europe, Eastern Europe, and Central Asia. Although such disputes currently involve a number of developed countries, developing economies are increasingly becoming exposed to the risks of disputes, given the rising volume of FDI in renewable energy. Solar power generation stands out as the subsector with

6 World Bank and Energy Charter Secretariat calculations using data from UNCTAD (2021b) and IEA (2021c).

7 The Multilateral Investment Guarantee Agency covers risks arising from expropriation, breach of contract, currency inconvertibility and transfer restrictions, adverse regulatory changes, terrorism, war, civil disturbance, and failure to honor sovereign financial obligations (World Bank 2009).

8 Instituted until February 1, 2022.

the most proceedings (due to the technology's market dominance and the spread of measures particularly aimed at such technology), followed by hydropower and wind energy. The analysis shows that the most common political risk raised in the proceedings is adverse regulatory changes—26 types of adverse measures were identified. Almost all proceedings were instituted on the basis of a bilateral or multilateral investment treaty. Almost half of the identified proceedings are still pending. The most common substantive treaty protection invoked is fair and equitable treatment, followed by protection against unreasonable/arbitrary or discriminatory measures.

Although there are no specific mechanisms to prevent investor-state disputes (or to defuse conflicts) for renewable energy investors, there are legal instruments—at the international (international investment agreements (IIAs)), national (domestic laws and institutions), and contractual levels—to avoid and manage conflicts between foreign investors and the host country. For example, IIAs include a "cooling-off" period, state-to-state cooperation arrangements, and a requirement that countries establish grievance management mechanisms in their national frameworks. In contracts, parties often provide for mutual consultations, expert determination, and mediation. Yet, given the specialized nature of renewable energy transactions, more targeted efforts can be made towards the prevention of disputes in the sector. This includes taking systemic measures to improve regulatory measures as well as institutional initiatives to handle investor grievances—at a sector level but also in individual contracts.

Countries can draw from well-established good practice principles on regulatory reform to minimize potential conflicts with foreign investors—such as a transparent and consultative rule-making process, regulatory monitoring, and impact assessments. Where mechanisms such as FIT and auctions are being used, their design needs to be tailored to country-specific conditions.[9] To prevent the escalation of investor grievances into full-scale legal disputes, experience points to the importance of having a lead agency with political support, legal mandate and technical expertise to implement grievance mechanisms. Such a mechanism should have clearly articulated systematic operating procedures and regular monitoring and evaluation of its performance. Governments may choose to make this mechanism available across the sector or as part of standard contracts between investors and public agencies.

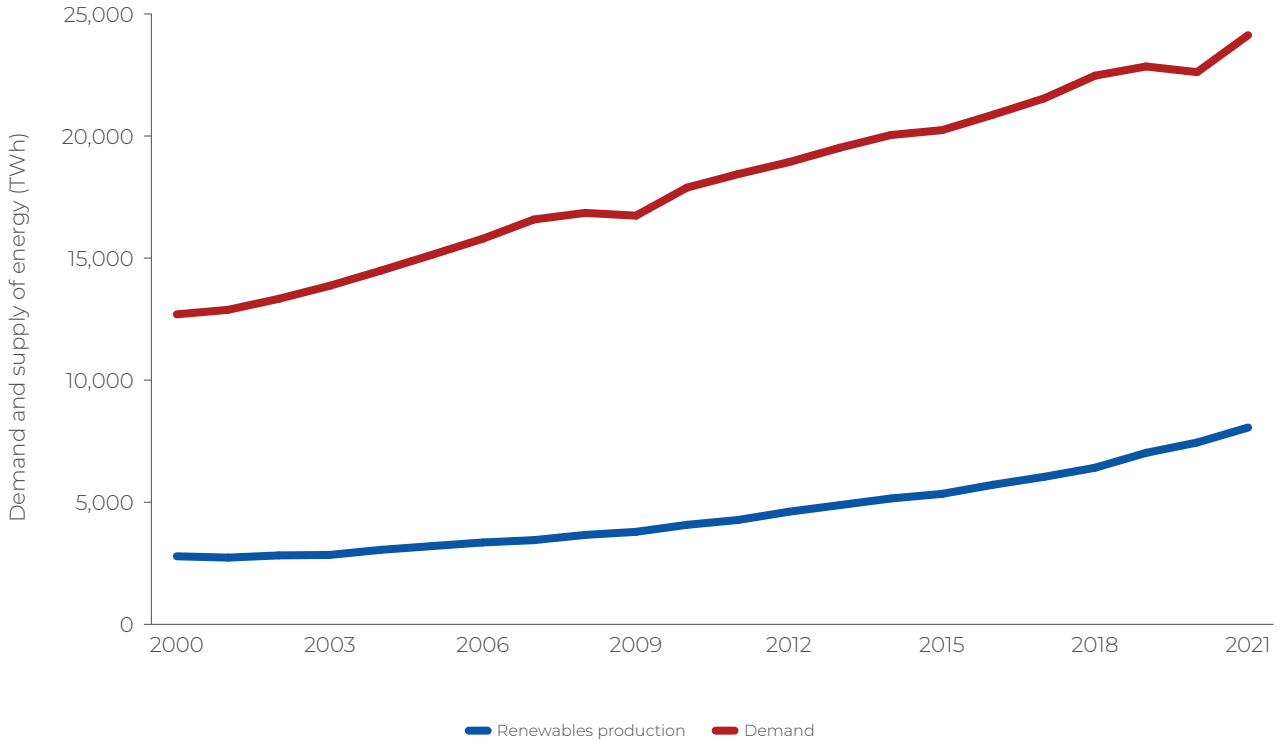
9 For example, design of FIT needs to take into account the market prices, the trends in renewables costs, and the maturity of the market.

Chapter 1: Introduction

This report explores political risks—more specifically, regulatory risks (a subset of political risk) caused by regulatory actions in the renewable energy (power generation) sector, the prevalence of investor-state disputes caused by such risks, and policy options for governments to prevent disputes. From power generation to transmission and distribution, energy forms the bedrock of society and economies. According to the IEA, in 2022, 774 million people around the world, mainly concentrated in Africa and Asia, still lived without access to electricity (IEA 2022d). Furthermore, during the next 10 years, the world's population will grow from today's 7.9 billion to around 8.5 billion (United Nations, 2022). Estimates from the IEA also indicate that under the Stated Policies Scenario (STEPS), which considers current or announced policy, by the decade ending in 2030, yet about 663 million people will still be without access (IEA 2022d). Ensuring everyone has access to electricity will remain central to discussions on climate change and achieving the SDGs.

Electricity demand has been growing steadily, with an annual 3 percent increase during the past 20 years. By 2050, according to estimates from the IEA, it is expected to double against the level exhibited in 2020 (figure A.1). As shown in figure 1.1, renewables can currently cover only about 33 percent of this value. To achieve net zero greenhouse gas emissions[10] and comply with the commitments of the Paris Agreement, countries will need to increase the share of renewables in electricity generation. These commitments mean that renewables should be able to satisfy the growing demand and, at the same time, substitute for other energy sources.

Figure 1.1: Electricity demand and production of renewables, 2000–21



Source: World Bank—Energy Charter Secretariat calculations using consumption data from the IEA and production of energy from IRENA. Renewables include onshore and offshore wind, renewable hydropower, solar photovoltaic, solar thermal energy, and other renewables.
Note: TWh = terawatt-hours.

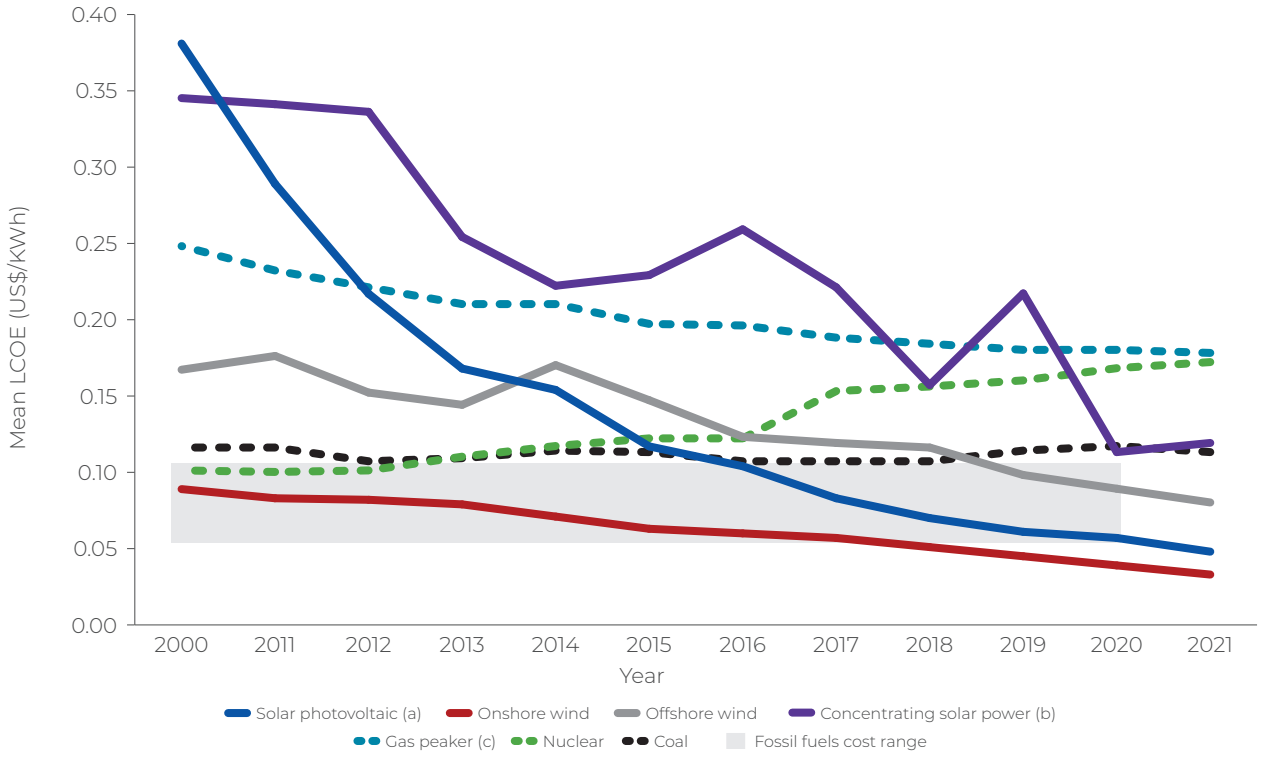
10 Net zero greenhouse gas emissions means balancing the emissions produced and the emissions reabsorbed and removed from the atmosphere. This requires not only that emissions be cut as close to zero as possible, but also, given that in some sectors it is too complex or expensive to cut emissions, residual emissions be removed. Under the Paris Agreement, the states undertook to reach net zero emissions by 2050.

Country-level analysis shows heterogeneity in both the magnitude and drivers of the gap between electricity demand and the electricity supply from renewables. High-income countries like Canada and Germany have significantly reduced this gap by limiting consumption growth and, at the same time, increasing the supply of renewables (See figure A.2). In contrast, in the case of middle-income countries like China (upper-middle-income) and India (lower-middle-income), though renewables capacity has increased sharply, especially during the past decade, it has not been able to keep up with the demand growth, and thus, the gap has been widening. On the other hand, in some other upper-middle-income countries like Mexico, the gap has widened because the supply of renewables has grown at a very slow rate.

Recent events such as the war in Ukraine have caused disruptions in the demand and supply patterns of energy particularly in the case of fossil fuels, and, consequently, affected energy prices for final consumers and businesses. The effects of these short-term shocks reinforce the need for ramping up investments in renewables and energy efficiency, in line with the net zero goals. In this context, the IEA expects an incremental growth of renewables capacity in the European Union (EU) with the aim of reducing its power sector dependence on the Russian Federation's natural gas (IEA 2022).

As shown in figure 1.2, which analyzes the levelized costs of electricity (LCOE), making it possible to compare costs across different technologies, the cost of electricity generated by renewable technologies has reduced sharply over the past 11 years. This decline is observed primarily in the case of solar technologies, as solar photovoltaic (PV) costs declined by 87 percent during this period while concentrating solar power decreased by 66 percent. Onshore and offshore wind technologies exhibited decreases of more than 50 percent. As a result, newly installed renewable electricity capacity is currently cheaper than the lowest-cost alternatives based on fossil fuels (IRENA 2021a). According to IEA (2022a), even though the costs of solar PV and wind-based capacity have recently increased as a result of different shocks and are expected to remain high in 2022 because of high prices of commodities, raw materials, and

Figure 1.2: Levelized costs of electricity (LCOE) by source



Source: World Bank-Energy Charter Secretariat calculations using data from IRENA and Lazard (2021) for fossil fuels.
Note: KWh = kilowatt-hours.

(a) Solar photovoltaic (PV) refers to the use of solar cells to convert sunlight directly into electricity.

(b) Concentrating solar power (CSP) technologies use mirrors to reflect and concentrate sunlight onto a receiver. This concentrated light is converted into heat which drives a heat engine connected to an electrical power generator.

(c) Gas peaker refers to power producers that rarely run but operate during periods of high electricity demand or shortfalls in electricity supply balancing, therefore, the fluctuations in power requirements of the electricity network.

freight costs, the competitiveness of renewables is improving as natural gas and coal prices sharply increase.

According to the International Renewable Energy Agency (IRENA) (2022), the renewables sector created 5.4 million jobs between 2012 and 2021, reaching a total of 12.7 million jobs in this sector in 2021, including direct and indirect employment. Currently, employment in the solar PV sector accounts for 4.3 million jobs, including employment from large power installations feeding into the grid and off-the-grid applications enabling remote communities to access electricity. Wind sources employ about 1.4 million people, with increased employment in the offshore wind subsector as a factor.

During the past two decades, we have observed an increasing role of developing countries in electricity generation, mainly led by China, especially in the case of nonrenewable energy. However, given the growing competitiveness of renewables and the environmental targets, we have also observed significant renewable sector growth in other developing countries during the past 10 years (See figure A.3). Under the net zero scenario, the total share of renewables in total electricity generation is expected to increase globally, from 28 percent in 2021 to an estimated value of 61 percent in 2030 and 88 percent in 2050 (IEA 2022d).[11] Developing countries must see significant investments in renewables to achieve these figures.

According to the IEA (2022d), achieving net-zero-in-2050 would require a total of 7,360 gigawatts (GW) in new energy capacity to be built between 2020 and 2030, including all types of renewables. Building the capacity needed for achieving the net zero goals in 2050 would require an increase in average annual investments in renewables for electricity generation from around US$390 billion a year (between 2016 and 2022) to US$1,300 billion a year by 2030 (IEA 2022d). Both public and private capital, domestic and international, is expected to provide the funding required for these projects, with a significant amount coming from foreign direct investment (FDI). Like all FDI, investments in renewable energy are susceptible to a range of project risks.

However, like investments in tertiary services, FDI in renewable energy is very susceptible to a subcategory of risks—political risks.[12] Political risk is the probability that business operations are disrupted by political forces or events, especially by government actions, often leading to the cancellation of projects, withdrawal of investment, or disputes with host countries.[13]

Chapter 2 of this report explores the rise in the relevance of renewable energy in recent decades. Renewable energy has been growing in significance over the past decade, both in terms of new projects and money invested and its share in new generation capacity. More than US$2.9 trillion was invested in renewable energy by investors of all types during 2013–21. Geographically, Asia and Oceania's share in investments has risen over the past decade—five of the top 10 countries receiving the largest investments in 2019 lie in the region. FDI has played an integral part in funding renewable energy projects globally. In 2019, more than 50 percent of all investment projects globally were in renewable energy, and foreign companies sponsored almost 40 percent of all renewable energy power generation projects during that year (UNCTAD 2020). This figure is even larger for developing countries and transition economies, where the share of FDI in renewable investment exceeds 70 percent. In some developing countries, it is even higher.[14] Although the COVID-19 pandemic has negatively influenced investment projects across sectors globally, renewable energy projects have remained somewhat resilient. The United Nations Conference on Trade and Development (UNCTAD 2021a) data show that investment activity fell sharply across all SDG sectors except renewable energy, where growth by way of new projects continued, albeit at less than one-fifth of the pre-COVID-19 rate.

Renewable energy, therefore, remains an important sector in international project finance despite pandemic-related setbacks. Attracting FDI in renewable energy is challenging because of substantial investments at the initial stages of projects and low working capital, leading to increased project risks. Further, companies in the utilities sector experience higher political risks than other sectors for a range of reasons. Sustaining

11 See https://www.iea.org/fuels-and-technologies/renewables.

12 MIGA covers risks arising from expropriation, breach of contract, currency inconvertibility and transfer restrictions, adverse regulatory changes, terrorism, war, civil disturbance, and nonhonoring of sovereign financial obligations (World Bank 2009).

13 Regulatory risks are a subset of political risks and cover risks caused by regulatory actions.

14 World Bank calculations using data from UNCTAD (2021b) and IEA (2021c).

the high levels of FDI in renewable energy needed to achieve development goals will require sound strategies to minimize or eliminate risks. The first set of strategies involves creating incentive structures like FIT, carbon pricing instruments, auctions, and tax instruments. The second set involves risk mitigation, especially for political risk, through the choice of legal entities and measures like staying in arrears on contracts and localization, among other measures. Political risk insurance is also an important proactive measure that can be adopted. However, disputes still arise between investors and host countries, and both parties may take recourse under investment treaties and contracts.

In studying different types of disputes and conflicts in renewable energy projects, Chapter 3 identifies 119 investor-state arbitration disputes. Most of the proceedings were instituted against states located in Western Europe, Eastern Europe, and Central Asia. Although such disputes currently involve several developed countries, developing economies have become increasingly exposed to the risks of disputes, given the rising volume of FDI in renewable energy. Most claimants are small and medium enterprises (SMEs), followed by holdings and individual investors. Solar power generation stands out as the subsector with the most proceedings (because of its technology's market dominance and the spread of measures particularly aimed at such technology), followed by hydropower and wind energy. The analysis shows that the most common political risk raised in the proceedings is adverse regulatory changes. The report identifies 26 types of adverse measures. Almost all proceedings were instituted on the basis of a bilateral or multilateral investment treaty. Almost half of the identified proceedings are still pending.

Chapter 4 finds that although there are no specific mechanisms to address investor-state disputes (or defuse conflicts) for renewable energy investors, there are legal instruments—on the international (international investment agreements), national (domestic laws and institutions), and contractual levels—to avoid and manage conflicts between foreign investors and the host country. Those legal instruments include the following:

- **Mechanisms in International Investment Agreements (IIAs):** Chapter 4 examines 131 IIAs—including bilateral investment agreements (BITs), economic partnership agreements (EPAs), and free trade agreements (FTAs) with investment provisions—that were signed from 2015 to 2020.[15] We have examined the agreements to identify the applicable mechanisms, such as the "cooling-off" period, compulsory exhaustion of nonjudicial administrative remedies in parallel to the cooling-off period and before recourse to arbitration, and the use of neutral third-party mechanisms during (or before) the cooling-off period.

- **State-to-state cooperation through bilateral institutional mechanisms:** Recent IIAs have enhanced the role of intergovernmental dialogue and state-to-state cooperation in investment dispute prevention by establishing bilateral governmental arrangements such as joint committees for the administration of IIAs and national focal points or ombudspersons.

- **Investor grievance management mechanisms at the national level:** Governments have established mechanisms to address investor grievances at two stages before they become disputes—(a) before a grievance arises between the investor and the host country and (b) at the start of a grievance between the investor and the host country.

- **Mechanisms established through contractual arrangements:** Besides negotiating the commercial and operational aspects of a project, parties to a contract can identify and decide upon mechanisms that can help them avoid and de-escalate differences in the underlying contract itself. The available options include ongoing monitoring and evaluation of the project's performance, mutual consultations, referral of the problem or disagreement to the senior management of each party, expert determination, and mediation.

Chapter 5 provides an overview of possible options countries can explore to address investor conflicts and ultimately prevent investor-state disputes in the renewable energy sector.

15 The only international agreement reviewed outside this time frame is the ECT because of its pivotal role in energy investment protection and dispute resolution.

Chapter 2: Investment in Renewable Energy

The sharp increases in electricity generation from renewable sources are, of course, accompanied by significant rises in global capacity.[16] Between 2000 and 2021, the total capacity multiplied almost by four, from 837 gigawatts (GW) to 3,278 GW. This increase comes mainly from solar and wind technologies, which at the beginning of this period had negligible participation in total renewables capacity (2 percent), while in 2021, they have a share that slightly surpasses 50 percent (panel a of figure 2.1).[17]

The rise in renewable energy capacity and the concomitant increase in power generation are reflected in their global capacity and generation shares. The share of renewable power in global power capacity increased from 20 percent in 2000 to 40 percent in 2021 (IEA 2022d), and the share of renewable power in global power generation increased from 18.6 percent to 28.4 percent, between 2000 and 2021 (IEA 2022d).

According to the International Energy Agency (IEA) (2022d), under the net-zero-in-2050 scenario, including all types of renewables, between 2020 and 2030, a total of 7,360 GW in new energy capacity will need to be built (panels a and b of Figure 2.1). Renewables are, therefore, expected to increase their current participation in electrical capacity from 40 percent to 81 percent in 2050 (IEA 2022d). The two main renewable technologies driving electricity generation growth, solar photovoltaic (PV) and wind, need to reach annual additions of 633 GW of solar PV and 390 GW of wind by 2030, which is equivalent to four times the record levels reached in 2020 (given a constant annual growth in this capacity). According to IRENA (2022), building the capacity needed for achieving the net-zero-in-2050 goals would require an increase in average annual investments in renewables for electricity generation from US$390 billion a year (between 2016 and 2022) to US$1,300 billion a year by 2030 (IEA 2022d), considering that renewables' costs are expected to keep declining over time.[18] These sizeable investment figures represent enormous opportunities for the upcoming decades. Battery storage systems are also expected to become critical, given the need for flexibility in the renewables market. The capability of storing renewable energy not only leads to higher use of power system assets but also reduces risks and increases revenues. Furthermore, the costs of these storage technologies are also declining, leading to significant investment opportunities in the future (IEA 2019).

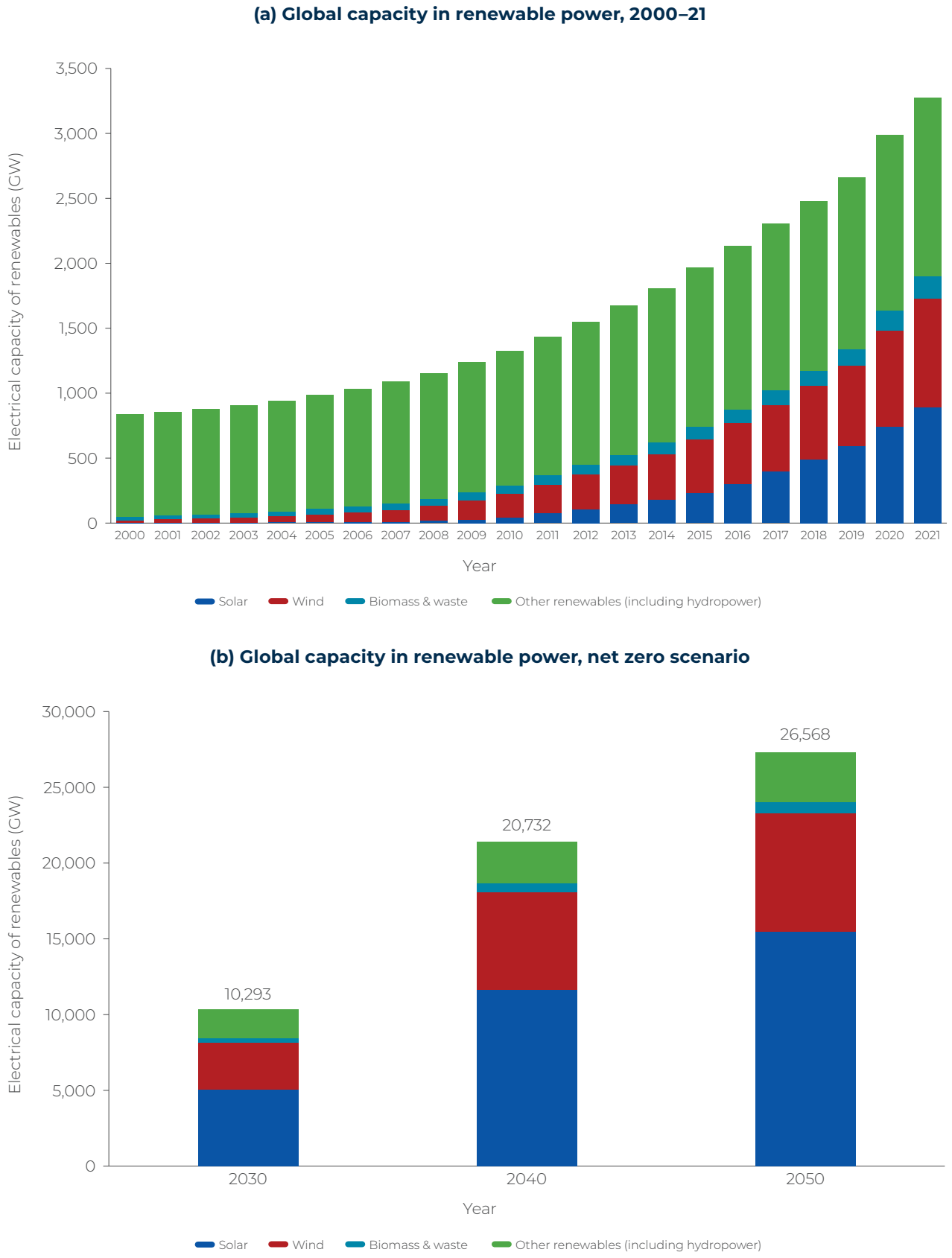
Although private capital and, to a lesser extent, public investment, both domestic and international, will be required to address this need, a significant proportion is expected to be channelled through FDI—in fact, about 40 percent of all renewable energy power generation projects in 2019 were sponsored by foreign companies, according to UNCTAD (2020).

16 Power capacity refers to the maximum level of electric power (electricity) that a power plant can supply, under certain conditions, at a specific point in time. Power generation measures electricity produced over time. For this report, renewables focus mainly on independent power producers (owners or operators of facilities to generate electricity but who are not utilities) and include solar energy (excluding residential rooftops), wind energy, biomass and waste, and other sources (including hydropower).

17 Capacity in solar technologies multiplied by almost 700 over this period, while wind technologies multiplied by almost 50 between 2000 and 2021.

18 In US$ of 2019.

Figure 2.1 Global capacity in renewable power



Source: World Bank–Energy Charter Secretariat calculations using data from IEA (IEA Net Zero by 2050 for estimates).
Note: GW = gigawatts.

Total investment in renewables

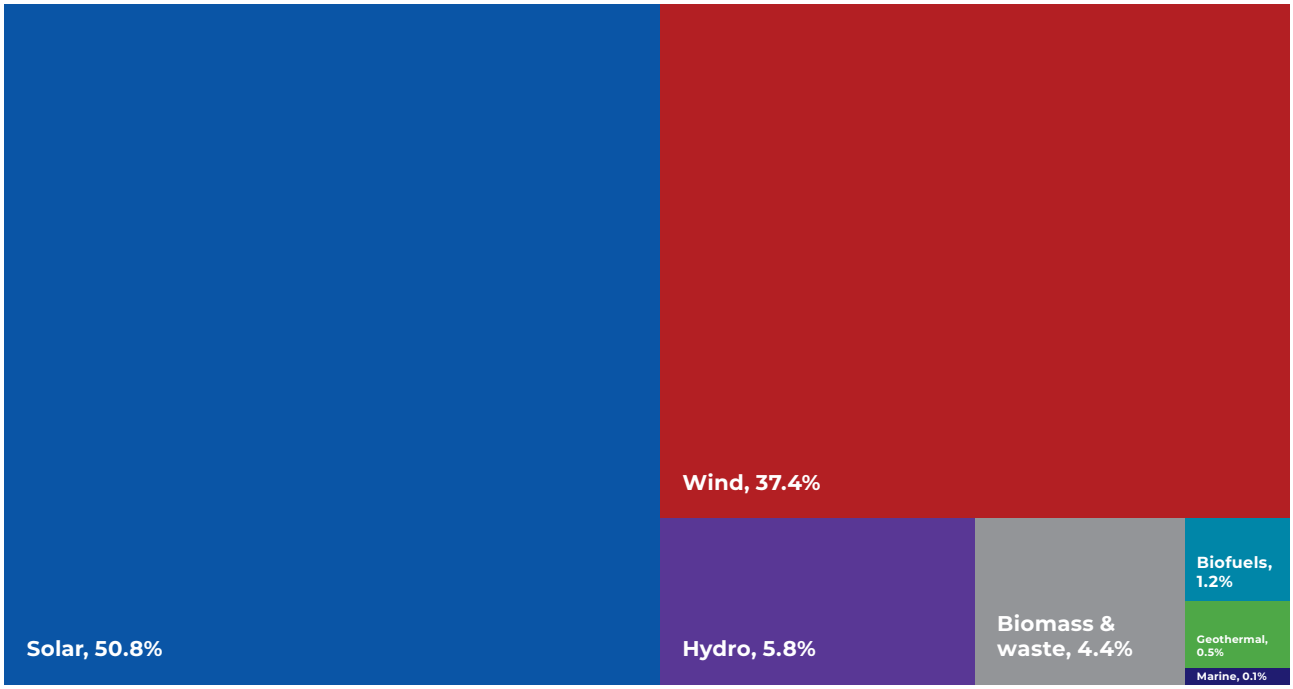
During 2013–21, about US$2.9 trillion was invested in renewable energy projects across the globe, including private and public, as well as domestic and international investors, with wind and solar projects receiving almost 90 percent of these investments (figure 2.2). An additional US$472 billion is expected for 2022 (IEA 2022b).[19] With those investments, renewables, grids, and storage now account for more than 80 percent of the power sector investment.

Globally, investments in renewable energy increased from US$44.8 billion in 2004 to US$301.7 billion in 2019, peaking at US$331.4 billion in 2017, excluding large hydropower projects, which represent between 5 percent and 6 percent of total renewable investments (BloombergNEF, UNEP, and Frankfurt School, 2020).[20] The geographical composition of investments has changed over the years, as can be seen in figure 2.3. In 2004, the Americas, Europe, and Asia and Oceania accounted for 19 percent, 52 percent and 28 percent, respectively. Asia and Oceania's share has risen over the past decade, mainly led by China. Furthermore, in 2019, five of the top ten countries, in terms of investment in renewables, were from that region. Therefore, in 2019, the Americas, Europe, and Asia and Oceania accounted for 26 percent, 19 percent, and 50 percent of all investments in renewable energy, respectively.

When renewables investment is broken down according to development, data show that advanced economies account for 46 percent of the total value between 2015 and 2022,[21] while China accounts for 34 percent and the rest of the Emerging Market and Developing Economies (EMDE) have a share of 20 percent (IEA 2022b).

About 86 percent of total renewables investment in electricity generation is undertaken by the private sector, and this value has been relatively steady during the past six years. Though the role of the public sector is very limited (IRENA and CPI 2020), its investment is needed to trigger private sector investment by reducing initial risks. The public sector is key to covering early-stage development risks, addressing specific barriers to attracting private capital, and leading new

Figure 2.2 Renewable energy capacity investment, 2013–21



Source: IRENA and IEA. Data for 2020 and 2021 are estimates.

19 In prices of 2021.

20 For the purposes of this chapter, investments in renewable energy include expenditure on technology advancement (venture capital, government R&D, corporate R&D), scale-up (private-equity expansion capital, public markets), and projects (asset finance).

21 Values for 2022 are estimates.

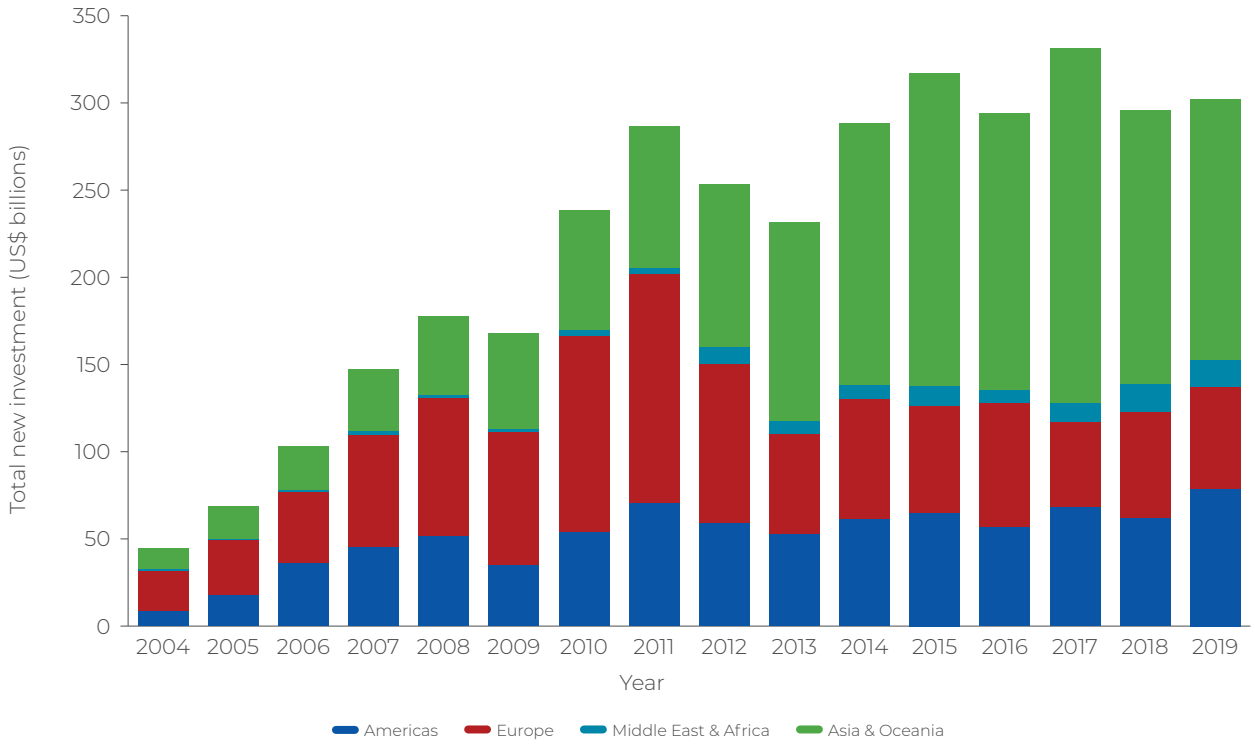
markets to maturity. Public investment occurs mainly through development finance institutions (67 percent of public investment). In the case of developing countries, there is a relatively higher participation of public investment. According to UNCTAD (2022), almost half of the projects in developing countries require some form of public involvement.

According to IEA (2022b), in EMDEs, about half of energy investments occur through state-owned enterprises (SOEs). SOEs tend to be highly indebted. Despite the job-creation potential of investing in renewables, and even though the COVID-19 shock has shown the resilience of the renewable sector with continuing and increasing investments and only some delays in their execution, the current global outlook and the further fiscal strain put by the crisis leave less room for public investments in increasing capacity.

Furthermore, rising borrowing costs present a challenge. Still, as IEA indicates, even in the context of some increasing costs of renewables (due to higher costs of raw materials), increasing fossil fuel prices might represent an opportunity for oil- and gas-dependent economies to accelerate the energy transition.

Renewable investment projects are generally characterized by relatively high upfront investment costs and lower operating costs over time. That is, even though, as we have shown, their overall costs have significantly decreased over time, these initial investments explain the much higher participation of the private sector and FDI in the case of large renewable projects. According to UNCTAD (2020), almost 40 percent of all renewable energy power generation projects carried out in 2019 were sponsored by foreign companies.

Figure 2.3 Global trends in renewable energy investment (2004–19)



Source: BloombergNEF, United Nations Environment Program (UNEP), and Frankfurt School 2020.
Note: New investment volume adjusts for reinvested equity. Total values include estimates for undisclosed deals. Excludes large hydropower projects.

Foreign direct investment in renewables

According to UNCTAD (2020), foreign companies sponsored almost 40 percent of all renewable energy power generation projects in 2019. This is all the more salient because, over the past 10 years, investments in renewable energy have grown manifold. In 2019, more than 50 percent of all investment projects globally were in renewable energy projects.

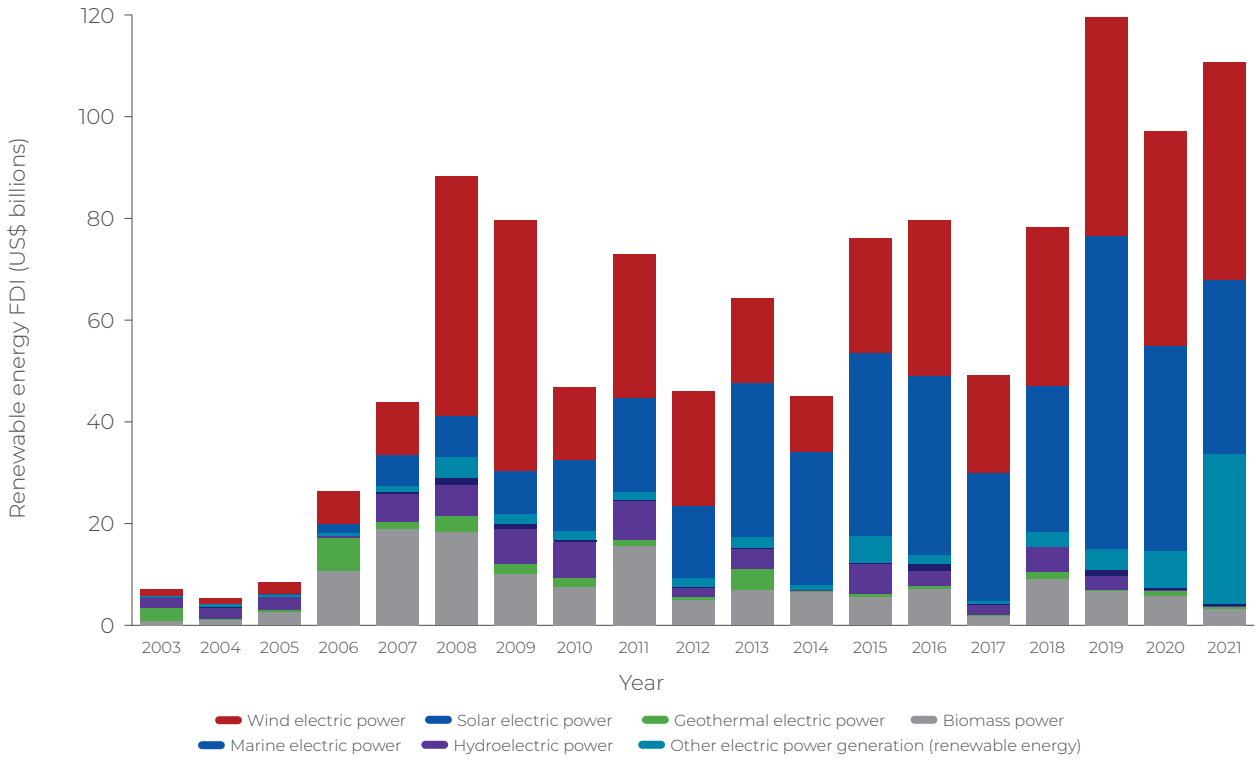
Figure 2.4 captures the global trend in renewable energy FDI across subsectors. Total FDI increased sharply from 2006 to 2009 on the back of large investments in wind energy. Since 2010, overall FDI has shown an upward trend, driven mainly by wind and solar energy investments.

Between 2003 and 2021, FDI in renewable energy was made in 5,634 projects across countries and regions. The top source region for FDI in renewable energy was Europe and Central Asia, with 3,751 projects, followed by East Asia and the Pacific, with 815 (table B.1). Many projects within Europe and Central Asia were sponsored by entities from other countries in the region, like Germany, Spain, France, and Italy.

In terms of destination countries for FDI in renewable energy, Europe, and Central Asia attracted the most FDI projects from 2003 to 2021, with 2,473 projects. They were followed by East Asia and the Pacific, and Latin America and the Caribbean (See table B.3). At a country level, while the United States and the United Kingdom are the top hosts for FDI in renewable energy, developing economies like Brazil, Chile, Mexico, and India attracted a significant number of projects as well (see table B.4).

The COVID-19 pandemic has negatively affected investment projects across sectors globally. As per the World Investment Report (UNCTAD 2020), in April 2020, there was a drop in new project announcements of more than 50 percent from March 2020 and more than 40 percent from the monthly average in 2019, driven mostly by a drop in developing economies. Across sectors, there has been an increase in the number of reported project delays and cancellations, mainly caused by travel limitations, disrupted supply chains of construction materials, nonavailability of laborers because of lockdown measures, delayed or cancelled tender processes, lower demand projections because of COVID-19, and government budget reallocation to tackle the COVID-19 pandemic (World Bank 2020a).

Figure 2.4 Global trends in renewable energy FDI (2003–20) - US$, billions



Source: fDi Markets, a *Financial Times* data set (https://www.fdimarkets.com/).

Despite the dampening effect of the pandemic, renewable energy projects have remained somewhat resilient. UNCTAD's (2021a) data show that investment activity fell sharply across all SDG sectors except in renewable energy, where growth in new projects continued, albeit at less than one-fifth of the pre-COVID-19 rate. Renewable energy remains the most important sector in international project finance despite pandemic-related setbacks to projects in Africa and transition economies. These facts mean that even though the cost of green technology has been falling over the years, renewable energy projects have been larger in size than other projects.[22]

Political risk in renewable energy projects

Achieving effective energy transition, especially in developing countries with a paucity of investable financial resources, is key to achieving SDG aims and combatting climate change. In this regard, the Kyoto Protocol and the Paris Agreement encourage countries with financial resources to engage in FDI in renewable energy projects. However, a wide range of risks demotivates foreign investors despite supportive policies and mechanisms such as deregulation, FIT, and Clean Development Mechanisms (Shimbar and Ebrahimi 2020).

Research suggests that for energy at the aggregate level, FDI is affected by political risks that are caused by investment profile (contract viability/expropriation, profits repatriation, and payment delays), law and order, religious tensions, and corruption. These risks are moderated across countries by other factors such as gross domestic product, economic freedom, and energy demand within host countries (Jiang and Martek 2021).

Attracting foreign investors towards long-term investments in renewable energy is challenging because, in contrast to investments in conventional electricity generation, renewable energy projects entail large investments at the initial stages of projects and low working capital.[23] This fact translates into increased project risks for

Table 2.1 Overview and description of renewable energy risk categories

Risk category	Description
Country risk	Political stability, level of corruption, economic development, legal system, and exchange rate fluctuations.
Social acceptance risk	Negative impacts on installations from "Not-In-My-Backyard" (NIMBY) effects: local communities may benefit from a project and even be in favor of the benefits of renewable energy but are opposed to energy installations being located close to their residence.
Administrative risk	Absence of clear and structured procedures and mechanisms and corruption that can increase lead times in obtaining permits.
Financing risk	Risk of capital scarcity when local financial markets are underdeveloped or unhealthy, or there is global financial distress.
Technical and management risk	Insufficient local expertise, inability to operate the projects, inadequate maintenance of the plants, lack of suitable industrial presence, and limitation of infrastructure.
Grid access risk	Inadequate grid infrastructure for renewable energy, suboptimal grid operation, lack of experience of the operator, and the legal relationship between a grid operator and plant operator.
Policy design risk	Support mechanisms are needed for renewable sources to be competitive, as there is often a cost gap between renewable and conventional energy technologies. Uncertainties arise when policy design does not account for all revenue risks, such as wind yield, demand, and price fluctuations.
Market design and regulatory risk	Uncertainty regarding governmental energy strategy and power market deregulation and liberalization.
Sudden policy change risk	Unexpected, sudden, or even retrospective changes to policies or policy design features.

Source: Noothout et al. 2016.

22 This statement does not apply to large hydroelectric projects, for which the unit cost varies significantly and is not proportional to size. Even though, in general, only small hydroelectric projects are considered renewable energy, we include them in the analysis because the FDI data do not allow us to separate them correctly. Still, as most of the growth in renewables has come from wind and solar, its inclusion in the statistical analysis should not affect the conclusions.

23 In recent years, costs in renewable power generation, especially wind and solar, have been falling because of technological developments.

investors. According to Noothout et al. (2016), nine risk categories can be associated with renewable energy, as follows: country risk, social acceptance risk, administrative risk, financing risk, technical and management risk, grid access risk, policy design risk, market design and regulatory risk, and sudden policy change risk. This list covers risks that may be generated at a broader macroeconomic, sectoral, or specific project level. Table 2.1 summarizes the key characteristics of these risks.

Of those nine risks, a subset falling within the category of political risks (including sudden policy change, policy design risk, and market design and regulatory risk) are of great significance. Diesendorf and Elliston (2018) argue that the principal barriers to renewable electrification are neither technological nor economic; they are primarily political, institutional, and cultural, suggesting the existence of a whole range of project risks that can be clubbed together as political risks. Smith (1997) defines traditional political risks across all investments and project types, both at the economy and the industry level. He identifies the risks as related to expropriation, currency convertibility and transferability, political violence, and regulatory risks, including rules contained in contracts with governments, in laws, and in other regulatory instruments. Another definition of political risk includes expropriation, breach of contract, currency inconvertibility and transfer restrictions, adverse regulatory changes, terrorism, war, civil disturbance, and refusal to honor sovereign financial obligations (World Bank 2009).

Political risk imposes additional transaction costs and risks for businesses, therefore affecting long-term investment decisions. This view has been borne out empirically. Research shows that political risk has a significant negative effect on and creates uncertainty about FDI inflows (Asiedu 2006; Busse and Hefeker 2007; Kher and Chun 2020; Krifa-Schneider and Matei 2010; Sekkat and Veganzones-Varoudakis 2007; Walch and Wörz 2012). Conversely, research suggests that the quality of a country's regulatory and legal environment is positively associated with FDI (Akame, Ekwelle, and Njei 2016; Buchanan, Le, and Rishi 2012; Globerman and Shapiro 2002; Vogiatzoglou 2016; Hebous, Kher, and Tran 2020).

Al Khattab, Anchor, and Davies (2008) interviewed Jordanian international firms and found that the level of institutionalization of political risk assessment within a firm is positively and significantly correlated with a firm's total assets, international revenue, and the number of countries the firm is operational in—the number of countries the firm operates being the most important determinant. The Multilateral Investment Guarantee Agency (MIGA) surveys (2009–13) show that investors engaged in FDI attribute greater weight to government conduct as a source of political risk than to other types of risk, such as war, terrorism, or civil unrest.

According to the *2019/2020 Global Investment Competitiveness Report* (World Bank 2020b), nearly 9 in 10 respondents considered political stability, macroeconomic stability, and a country's legal and regulatory environment to be "important" or "critically important" for investment decisions, ranking them ahead of concerns such as low tax rates, low labor and input costs, and access to resource endowments. Further, as can be seen in figure 2.5, data from the same survey highlight investor sensitivity toward political risks. A significant number of survey respondents would consider cancelling a planned investment in a country in response to irregular government conduct.

The *2017/2018 Global Investment Competitiveness Report* (World Bank 2018) found that while the frequency of expropriation and breach of contract has declined over the past decade, risks associated with transfer and convertibility restrictions have remained middling. Lack of transparency and predictability in dealing with public agencies, delays in obtaining the necessary government permits to start or operate a business, and sudden, adverse regulatory changes are the top reasons for FDI withdrawals and cancellations.

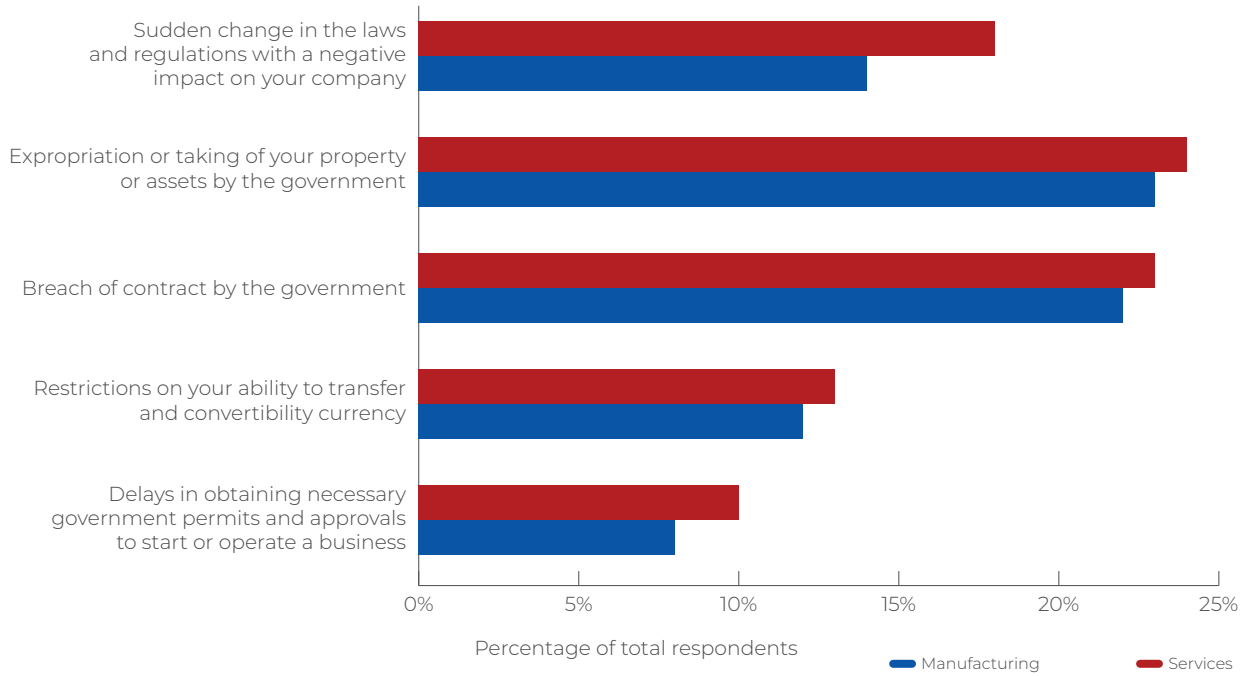
Evidence suggests that political risks may be more salient for certain types of FDI than others. For instance, political risks tend to arise in economic sectors that have high levels of state intervention. Further, in many countries, some sectors are considered of "public interest" and are subject to close state supervision, for example, utilities, water and electricity distribution; telecommunications; finance; and transportation. Specifically, companies in the utilities sectors, including renewable energy, experience more frequent adverse regulatory changes and expropriation and more delays in obtaining permits, thereby negatively affecting investment (Kusek and Silva 2018; Barradale 2010; Luthi and Prassler 2011; Nemet 2010). These regulatory changes are likely because utility assets tend to be geographically specific investments with few

alternative uses. Investors, therefore, have reduced private bargaining power against the state once investments are completed.

Further, renewable-scale technologies, such as wind farms, are characterized by high fixed costs and low marginal operating costs. As a result, policy makers may be incentivized to reduce investor returns by ex-post reducing regulated rates or through other policy changes, knowing that investors will continue to operate as long as marginal operating costs are recovered. Also, the general public consuming the services of renewable energy utilities frequently regards them as essential services to which they have "natural rights." This viewpoint makes pricing such services highly politicized, opening a window for governments to engage in political arbitrage (Holburn 2012). Additionally, renewable energy firms are subject to specific regulatory risks. They often need support through subsidies or other policies, and this need places additional demands on the government's political and economic priorities (Schilling and Esmundo 2009). However, recent evidence (IRENA and CPI 2020) suggests that energy generated using solar and wind energy, especially onshore wind, is cheaper than conventional power generation. In fact, in 2018, IRENA reported that solar PV and onshore wind had become cheaper than conventional power generation, even without subsidies.

Research suggests that sustaining high levels of FDI in renewable energy projects will be difficult unless countries develop, implement, and enforce sound regulations to reduce political risk in a transparent manner (Komendantova et al. 2012). Conversely, Su, Umar, and Khan (2021), through a study of seven Organisation for Economic Co-operation and Development (OECD) countries, show that as government stability, corruption, law and order, democratic accountability, and investment profile improve, and research and development (R&D) in renewables increases, the relative consumption of renewable energy increases, suggesting increasing avenues for investment in renewable energy.

Figure 2.5 Types of government conduct inducing investors to cancel a planned investment or withdraw an existing investment



Source: 2019–20 World Bank Global Investment Competitiveness survey.
Note: The results shown are the percentages of the total respondents.

Reducing regulatory risks

There are two key ways by which FDI in renewables can be increased. The first method involves creating the right incentive structures. Feed-in tariffs (FIT) have been the most significant policy instrument to attract FDI in renewables globally (Wall et al. 2019), though in recent years, we have observed an increasing role of auctions as a mechanism to reveal competitive prices (IRENA 2019). Research has also found some evidence that carbon pricing instruments helped attract FDI in OECD and non-OECD countries. However, public investments such as government funds proved not as attractive to foreign investors.

Given the previously mentioned upfront investment required for renewable technologies, long-term contracts have played a key role in facilitating investment in renewables, especially in the case of solar PV and wind (IEA 2021b). These contracts, which include guaranteed payments and prices, significantly reduce uncertainty about the returns of energy investment. FIT can be designed with decreasing payment levels (a "tariff degression")[24] and yearly revisions, allowing parties to avoid lock-in effects in existing technologies and encouraging innovation and technology diffusion (Frondel et al. 2010; Böhringer et al. 2017; Ma et al. 2021). However, there is a trade-off between the adjustments of these payments because large reductions could disincentivize investments by lowering investors' expected returns. Degression rates include an unpredictability component. Though evidence indicates that FIT have indeed increased investment in renewables in European countries, where they were the main incentive instrument over the past two decades, whether these instruments can induce renewable innovation in the private sector critically depends on the efficient design of the degression rates. It is important to note that many of these FIT were implemented when LCOEs were high. Therefore, in the context of decreasing the costs of renewables, governments were led by poor design or the lack of degression rates to become locked into contracts with high rates when the market costs were much lower.

In the case of auctions, this mechanism has exhibited increasing use in recent years, especially because of its ability to reveal prices and its potential to significantly reduce costs. Auctions can also contribute to other objectives such as "timely project completion, solar and wind integration, and supporting a just and inclusive energy transition (IRENA 2019)." Between 2017 and 2018, about 55 countries used auctions to procure renewables-based electricity, and by the end of 2018, 106 countries had implemented this mechanism at least one time. Auctions are very flexible mechanisms that can be adapted to the different circumstances of the countries (IRENA 2019). If well designed, they can lead to cost efficiency and improve the predictability of the market. Still, in the context of very high competition, they entail the risk of leading to underbidding, reducing financial returns, and sometimes leading to incomplete projects.

As explained in Jenner, Groba, and Indvik (2013), market context and the design of these mechanisms (both FIT and auctions) are crucial because implementing poorly designed policies is not necessarily better than having no policy. The design of auctions needs to be tailored to the country-specific conditions as well as to accomplish the main objectives beyond revealing prices. The design of FIT needs to take into account the market prices and the trends in renewables costs, as well as the maturity of the market. As mentioned in Vinci et al. (2014), "it can be challenging to set support levels appropriately enough to spur market activity and low enough to avoid unintended windfall profits for developers." The second method for increasing FDI in renewables involves reducing risk, especially political risk. According to Sieck (2010), multinational companies actively reduce expropriation risk through the choice of legal entity. Common corporate structures include joint ventures, strategic alliances, and other types of cross-holdings between foreign and domestic stockholders. Apart from using different legal entities, multinational companies also use "defensive measures" to reduce risks. Defensive measures often include limiting assets held in the host country's jurisdiction. Another common "mutually beneficial" measure is localization, wherein companies reinvest profits in the host country and also employ local workers (Vanhonnaeker 2015; Sieck 2010). Technology

24 A tariff degression is a mechanism according to which the FIT decreases over time. The purpose of this degression mechanism is to encourage technological costs reductions (Clark 2017).

transfers and domestic training programs can also be used to sufficiently align host and home countries' interests. Finally, political risk insurance is a key proactive defense measure.[25]

According to Sieck (2010), when disputes between investors and host governments arise, negotiation is often not an option because of the imbalance of power involved in FDI. Once infrastructure improvements or projects are completed, the only way investors may have to resolve disputes is through formal proceedings. Legal recourse is rarely realistic in the host country, and arbitration proceedings must be initiated before a tribunal at the International Centre for Settlement of Investment Disputes (ICSID) or another arbitration institution. Bilateral and multilateral investment treaties and FTAs with investment chapters are among the primary vehicles used by countries to ensure investment protection in host countries. In addition, investors may be able to compel arbitration through multilateral investment treaties like the 1994 Energy Charter Treaty (ECT).

A survey by the Economist Intelligence Unit (EIU) (2011) examines how investors in renewable energy minimize political risk. According to the survey, 55 percent of the energy companies surveyed had used insurers in the past three years to mitigate risk. As explained by IRENA (2016), political risk insurance can be a crucial instrument as it can provide broad coverage of risks related to government action. Further, 51 percent had used external risk and security consultants, 46 percent had relied on government and regulatory bodies, and 40 percent had used lawyers or litigation experts. The survey found that while many large energy companies have a dedicated in-house risk management function, a significant proportion also relies on outside support for managing risk. Further, smaller firms are generally less likely to have an in-house risk management function. Notwithstanding differences between firms of different sizes, all firms predominantly (61 percent) felt they are competent in assessing the scale and scope of risk and mitigating risk. However, fewer (50 percent) respondents transfer their risk successfully to third parties, and some renewable energy firms are less confident about how well they manage risks specific to renewable energy assets, especially political and regulatory risks and weather-related volume risks.

The EIU survey also documents measures taken by renewable energy firms to mitigate political risk. Fifty-nine percent of survey respondents are improving environmental audits; 56 percent are implementing strict environmental standards; 51 percent are engaging in more detailed and frequent communication with policy makers, regulators, and industry bodies; 41 percent are engaging in more communication with the media, consumers, and environmental groups; 39 percent are adopting stricter monitoring of subcontractors' environmental practices; and 24 percent are seeking redress from governments for the impact of adverse policy decisions.

25 It is widely recognized that, from a historical point of view, political risk insurance sector (Ziegler 2010) evolved in response to the need for mechanisms to mitigate and minimize the risks inherent in cross-border investment projects. In fact, in MIGA- guaranteed projects, MIGA provides an umbrella deterrence effect in potential disputes. It helps resolve potential disputes to the satisfaction of all parties, enhancing investor confidence and encouraging the flow of FDI.

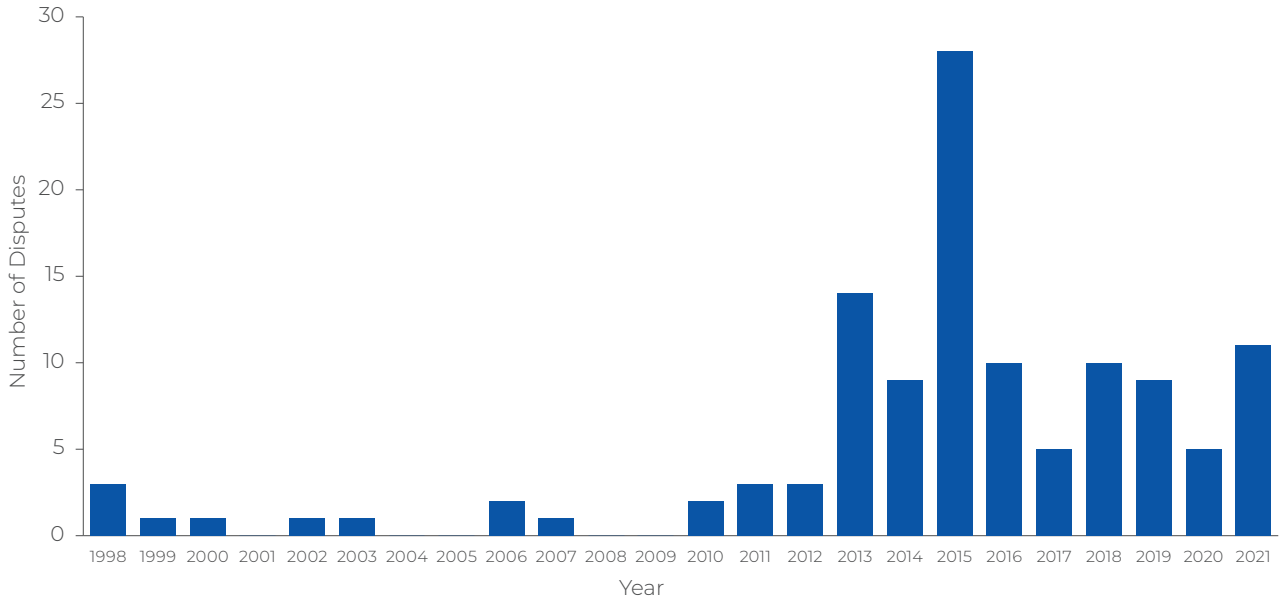
Chapter 3: Investor-State Disputes in Renewable Energy

Political risks not addressed early enough can lead to investor-state disputes. This chapter aims to utilise publicly available information to develop a profile of investor-state disputes arising from renewable power generation projects.[26]

The report identifies a total of 119 arbitration proceedings in investor-state disputes arising out of renewable power generation projects that were instituted before February 1, 2022. Because the existence of arbitration proceedings may be kept confidential, the actual number of investor-state disputes in renewable power generation that escalated into arbitration is likely to be higher.

The very first arbitration proceedings were instituted in 1998. Of those cases, three involved project companies commencing arbitration proceedings against Indonesia for suspending geothermal electricity projects amid the Asian financial crisis.[27] As shown in figure 3.1, most of the identified proceedings were instituted between 2013 and 2016 (53 percent). The rapid increase in the number of proceedings was primarily triggered by regulatory changes in incentive programs for renewable power generation enacted in 2008—14 by several European states. It is worth noting that while arbitration proceedings arose primarily in developed nations, the lessons learned from these can be beneficial for developing countries navigating similar challenges in scaling up renewable power generation. With the rapid fall in the cost of renewables, technological developments, and digitalization of networks, the role of renewable power generation in developing countries is growing substantially. Countries with emerging renewable energy markets, therefore, need to offer investors predictable and resilient enabling frameworks, well-structured incentive programs, viable de-risking instruments, and robust dispute prevention mechanisms.

Figure 3.1 Number of disputes by year of the start of proceedings



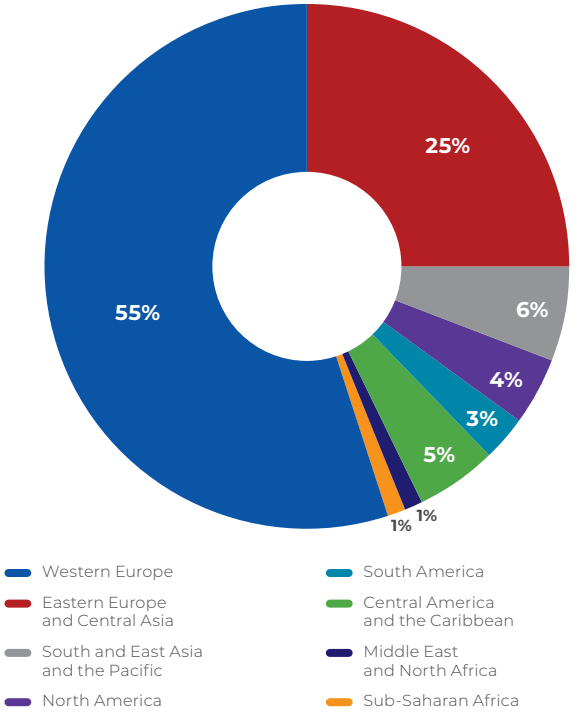
Source: World Bank–Energy Charter Secretariat analysis, 2022.

26 Data for this chapter were collected using open-access databases, specialized reporting services (for example, Global Arbitration Review, Investment Arbitration Reporter), as well as other publicly available governmental, industry, and media sources. Whenever possible, information on specific arbitration proceedings was extracted from arbitration awards, decisions, orders, parties' submissions, and other procedural documents. Where such documents were absent, other sources were used. While every effort was made to create complete profiles of the identified arbitration proceedings, the chapter misses details of some of the proceedings because of the lack of public information.

27 *Himpurna California Energy Ltd. v. Indonesia, UNCITRAL; Karaha Bodas Company LLC v. Indonesia,* UNCITRAL; and *Patuha Power Ltd. v. Indonesia,* UNCITRAL.

As shown in figure 3.2, most of the identified proceedings have been instituted against states in Western Europe (55 percent) and Eastern Europe and Central Asia (25 percent). The share of respondent-states from other geographic regions is less than a quarter of the total number of cases. The substantial number of European respondent-states is explained by the 2013–16 rise in renewable disputes shown in figure 3.3.[28]

Figure 3.2 Geographic distribution of disputes by region



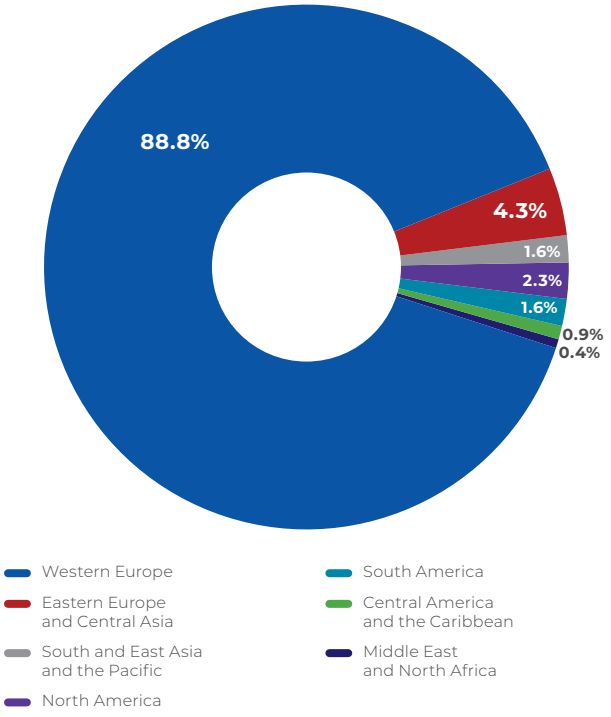
Source: World Bank–Energy Charter Secretariat analysis, 2022.
Note: The classification of the geographic regions is based on the World Bank's regional system, which is used by the ICSID.

The majority of the identified proceedings were instituted against states with developed economies (73 percent).[29] Developing economies accounted for 21 percent of the identified proceedings, whereas economies in transition accounted for only 6 percent of the cases.

Claimants

The majority of claimants[30] in identified proceedings are SMEs (49 percent), followed by holdings (37 percent) and individual investors (9 percent). The share of banks, investment funds, and large corporations is marginal (4 percent total).

Figure 3.3 Nationality of claimants, by region



Source: World Bank—Energy Charter Secretariat analysis, 2022.
Note: Both nationalities of a claimant-dual national in *WalAm Energy LLC v. Kenya*, ICSID Case No. ARB/15/7, are taken into account.

Some of the identified proceedings are instituted by foreign-controlled local companies against states of their nationality (sometimes together with foreign parent companies as co-claimants). Municipal law and the nature of a business operation sometimes require that a foreign investor undertake its investment activities through a company incorporated in the host country. This condition is particularly relevant for investments in renewable energy, which local project companies often operate. The ICSID Convention, the ICSID Additional Facility Rules, and some international investment agreements contain provisions allowing juridical persons to bring investment treaty claims against their home state because of foreign control or ownership. For instance, in *Hydrika 1 S.A.C. and others v. Peru*, six Peruvian subsidiaries of a US company developing

28 This distribution is based on publicly available information, and there may be other unreported cases involving developing countries.

29 For the purposes of this chapter, states are assigned to classification categories based on the groupings prepared by the Economic Analysis and Policy Division of the Department of Economic and Social Affairs of the UN Secretariat for the World Economic Situation and Prospects report in 2022.

30 For the purposes of this chapter: **"Individual investor"** means a natural person. **"Small or Medium Enterprise"** (SME)—in the absence of universal, internationally accepted criteria—means any legal person that does not fall within any of the categories below. **"Holding"** means a legal person whose principal activity is holding shares of other companies and/or other assets. **"Bank"** means a financial institution that provides basic financial services to the general public and companies, among other things. **"Investment fund"** means a legal person used by one or more investors for making investments in various assets. **"Large corporation"** means a legal person included in the Platts Top 250 Global Energy Company Rankings, 2020, or the UNCTAD's World's Top 100 Non-financial MNEs Ranked by Foreign Assets, 2018.

hydropower projects have instituted contract-based ICSID arbitration against Peru.[31]

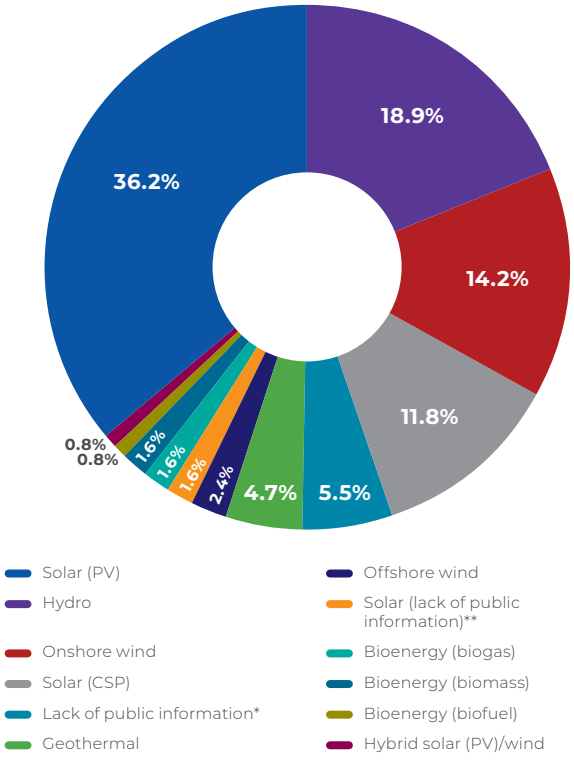
Most of the claimants are natural or legal persons from states with developed economies (95 percent). The share of claimants from states with developing economies and economies in transition remains marginal (5 percent total).[32]

Subsectors

The vast majority of the identified proceedings (figure 3.4) concern solar power generation (49 percent), followed by hydropower (19 percent) and wind energy (16 percent). The total share of other technologies (or subsectors) remains minor (16 percent total). Except for hydropower, the distribution of identified proceedings by subsector appears to match the shares of respective technologies in the renewable energy market (see Chapter 2). The large portion of proceedings concerning solar technology, especially PV, could be attributed to the technology's market dominance as well as the spread of measures (for example, reductions and phase-out of FIT programs) particularly aimed at such technology (see figure 3.6).

Figure 3.5 illustrates the evolving distribution by sectors (fossil fuels, renewables, and nuclear) of arbitration proceedings under the ECT.

Figure 3.4 Distribution by subsector



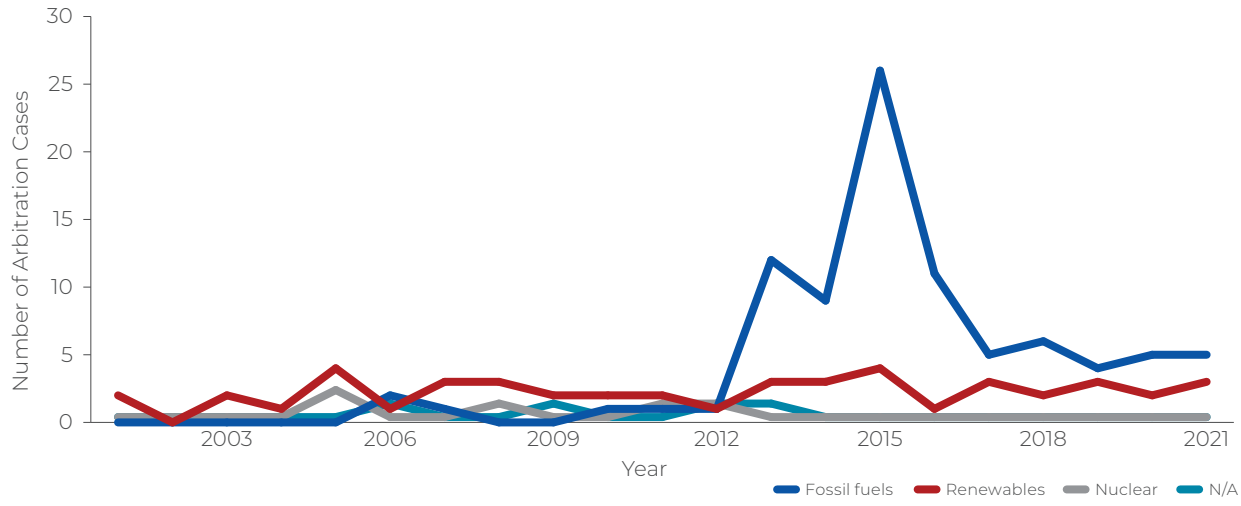
Source: World Bank–Energy Charter Secretariat analysis, 2022.
Note: Cases concerning more than one subsector are included in all of the categories concerned.

* In seven cases, it has not been possible to identify particular renewable energy sources used.

** In two cases, it was not possible to identify the particular solar technology employed.

CSP = concentrating solar power; PV = photovoltaic.

Figure 3.5 Distribution of arbitration cases under the ECT by sector (145 cases)



Source: World Bank–Energy Charter Secretariat analysis, 2022.
Note: In five cases, it was not possible to identify particular energy sources involved; one case involves more than one form of energy source.

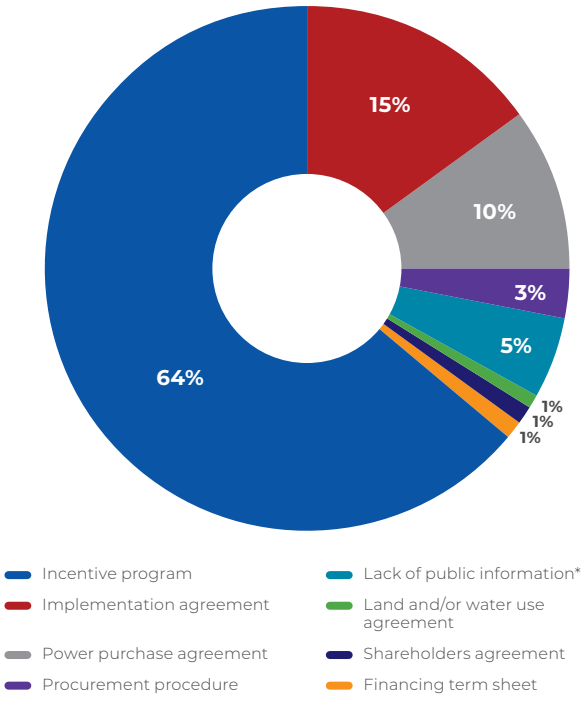
31 *Hydrika 1 S.A.C. and others v. Peru*, ICSID Case No. ARB/18/48.

32 States are assigned to classification categories based on the groupings prepared by the Economic Analysis and Policy Division of the Department of Economic and Social Affairs of the UN Secretariat for the World Economic Situation and Prospects report (2022). Also, both nationalities of a claimant-dual national in *WalAm Energy LLC v. Kenya* are taken into account.

Main causes of disputes

This section provides an overview of the underlying transactions, the nature of issues, and specific adverse measures involved in the disputes. As seen in figure 3.6, most identified proceedings[33] concern national incentive programs for renewable power generation (64 percent). The claimants in these cases allege violations of promised conditions under national or subnational incentive programs for renewable power generation embodied in laws and regulations. Other disputes are based on implementation agreements (15 percent) and power purchase agreements (10 percent). The overall share of other types of arrangements giving rise to disputes is relatively insignificant (9 percent total).

Figure 3.6 Underlying transactions



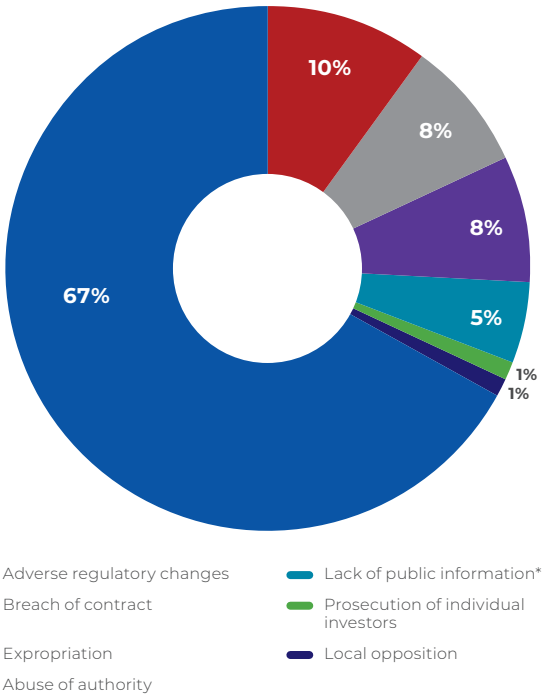
Source: World Bank–Energy Charter Secretariat analysis, 2022.
Note: Cases concerning more than one category are included in all categories concerned.

* In six cases, it was not possible to identify underlying transactions because of a lack of public information.

PPA = power purchase agreement.

As can be seen in figure 3.7, the vast majority of identified proceedings concern adverse regulatory changes in the renewable energy sector (67 percent), predominantly in the form of reductions and phase-out of FIT programs. Breach of contract by the host country or the state entity involved is argued in 10 percent of the proceedings. In 8 percent of the cases, the claimants allege expropriation, typically as a result of the cancellation of the implementation agreement or other contractual arrangement. Another 8 percent of the cases concern abuse of authority by the host country's government or a state agency. The overall percentage of other types of political risk is insignificant (7 percent). Only risks connected with government conduct were identified.

Figure 3.7 Underlying issues



Source: World Bank–Energy Charter Secretariat analysis, 2022.
Note: Cases concerning more than one category are included in all of the categories concerned.

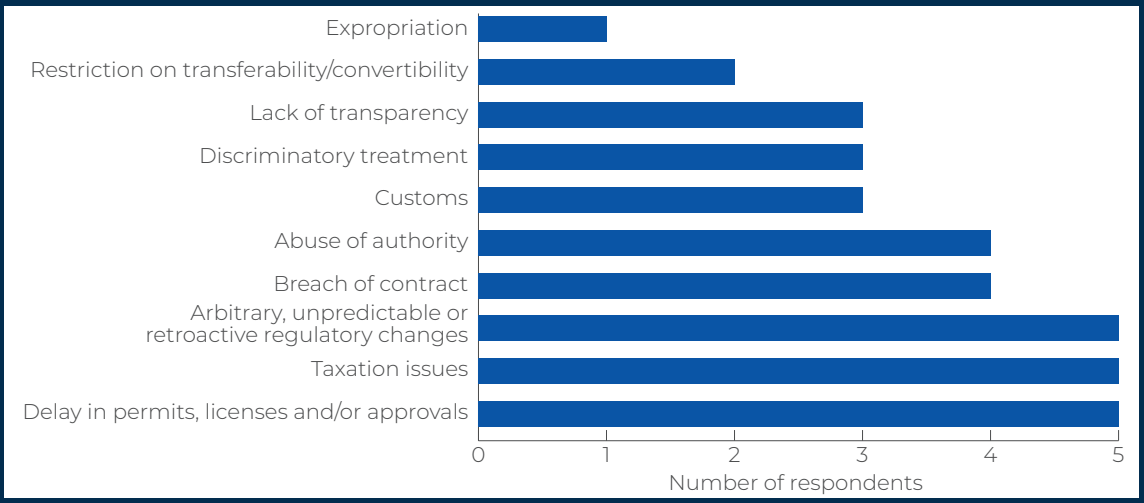
* In six cases, it was not possible to identify underlying political risk because of a lack of public information.

33 For the purposes of this report, "underlying transaction" means the primary investment transaction or source of the claimant's legal right under which a dispute arises.

Box 3.1 Industry perspective—Main types of conflicts

The International Energy Charter Industry Advisory Panel (IAP) comprises leading global energy companies. In preparing this report, consultations were conducted with the renewable energy companies-members of the IAP, as well as nonmember companies, to determine the nature of investment conflicts faced by the private sector in the renewable energy sector, that is, disagreements that have not yet culminated into legal disputes. The respondents indicated delays in permits, licenses, and approvals (5 out of 8 respondents); arbitrary, unpredictable, or retroactive regulatory changes (5); and taxation issues (5) as the main types of conflicts they face when investing in the energy sector in a foreign country. See figure B3.1.1.

Figure B3.1.1 Conflicts faced by the private sector by category



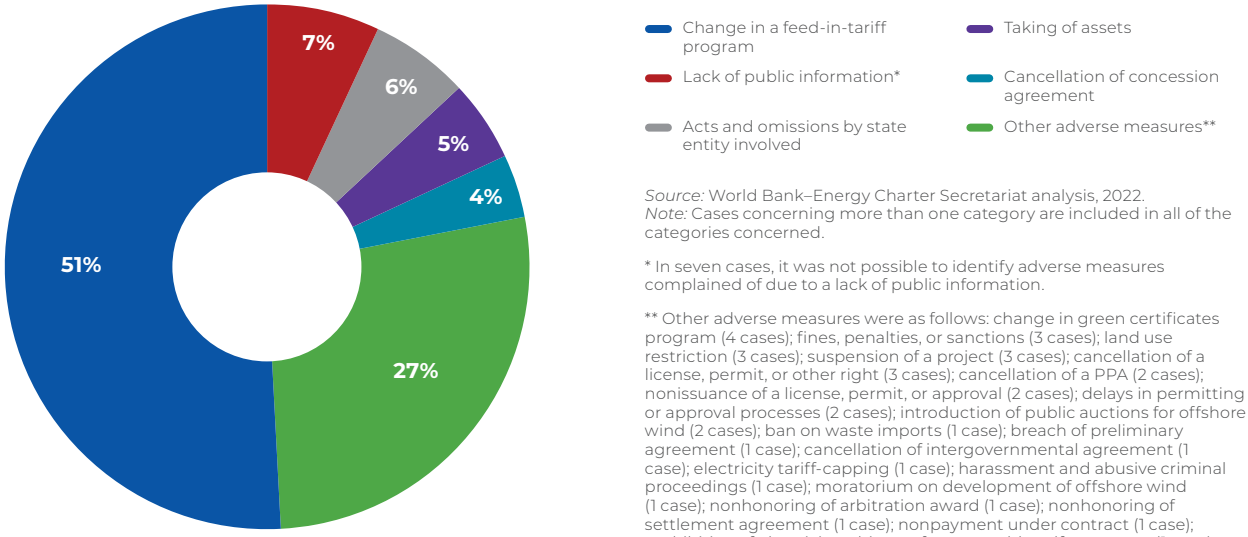
Source: Survey of the renewable energy companies-members of the IAP, as well as nonmember companies, conducted by the Energy Charter Secretariat,2022 (IAP Survey).

The proceedings show that foreign investments in renewable energy can potentially be subjected to a multitude of adverse governmental measures. The chapter identifies 26 types of adverse measures alleged (figure 3.8), among which the most common are changes in FIT programs for renewable electricity generators (51 percent). The significant number of such cases explains the 2013–16 rise in renewable-energy disputes shown in figure 3.1. Other measures that investors complained about include acts and omissions by the state entity involved (6 percent), taking of assets (5 percent), and cancellation of concession agreements (4 percent). The remaining 22 measures identified constitute a marginal percentage (3 percent or less of each type); see the note under figure 3.8.

In the majority of the identified proceedings, the adverse measure was taken at the stage of investment implementation or operation (57 percent), followed by investment entry, establishment, or construction (20 percent). Only three proceedings (3 percent) concerned the investment planning stage or decision to invest[34] —because most treaties do not cover the pre-establishment phase.

34 (1) in *Zhinvali Development Ltd. v. Georgia,* ICSID Case No. ARB/00/1, the claimant sought to recover pre-investment expenditures incurred in connection with a proposal for the rehabilitation of a hydropower plant; (2) the case of *Gamesa Eólica, S.L.U. v. Syria,* PCA Case No. 2012-11, arose out of the host country's call upon a bank guarantee posted by the claimant-company as part of the tendering process following cancellation of the wind project; (3) the claimants in *Jetion Solar Co. Ltd and Wuxi T-Hertz Co. Ltd. v. Greece,* UNCITRAL, alleged certain difficulties with the licensing of a potential solar project.

Figure 3.8 Main types of adverse measures



Source: World Bank–Energy Charter Secretariat analysis, 2022.
Note: Cases concerning more than one category are included in all of the categories concerned.

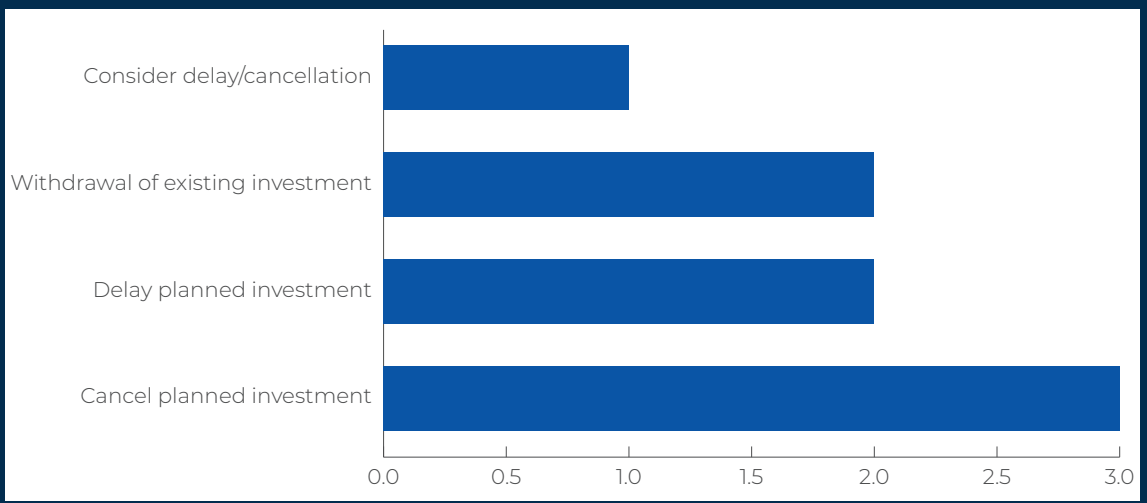
* In seven cases, it was not possible to identify adverse measures complained of due to a lack of public information.

** Other adverse measures were as follows: change in green certificates program (4 cases); fines, penalties, or sanctions (3 cases); land use restriction (3 cases); suspension of a project (3 cases); cancellation of a license, permit, or other right (3 cases); cancellation of a PPA (2 cases); nonissuance of a license, permit, or approval (2 cases); delays in permitting or approval processes (2 cases); introduction of public auctions for offshore wind (2 cases); ban on waste imports (1 case); breach of preliminary agreement (1 case); cancellation of intergovernmental agreement (1 case); electricity tariff-capping (1 case); harassment and abusive criminal proceedings (1 case); moratorium on development of offshore wind (1 case); nonhonoring of arbitration award (1 case); nonhonoring of settlement agreement (1 case); nonpayment under contract (1 case); prohibition of electricity arbitrage for renewable self-generator (1 case); reduction of electricity tariffs (1 case); reduction of ethanol price (1 case); and unfair and nontransparent administration of a FIT program (1 case).

Box 3.2 Industry perspective—Effects of conflicts on investments

The respondents indicated cancellation of a planned investment as the main negative consequence of a conflict with the host state (3 respondents out of 8). Delaying planned investment (2), withdrawal of an existing investment (2), and considering delaying or cancelling investment (1) were also selected among the effects of conflicts faced by investors. See figure B3.2.1.

Figure B3.2.1 Consequences of conflict, reported by survey respondents, by category



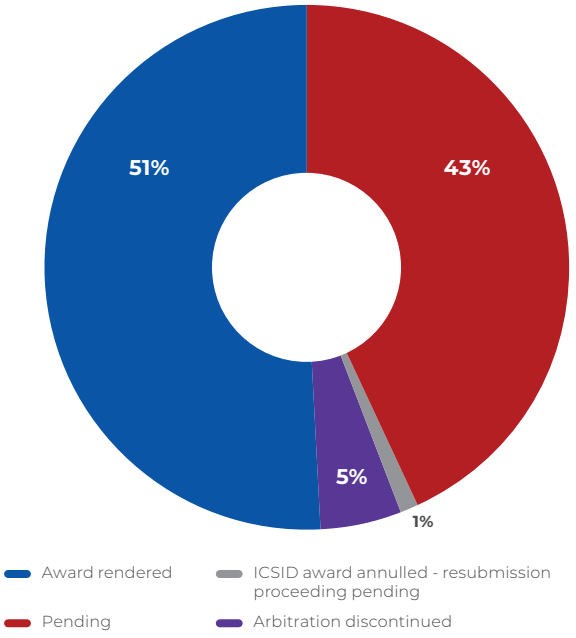
Source: IAP Survey.

Instruments invoked

The vast majority of identified proceedings (94 percent) have been instituted on the basis of a bilateral[35] or multilateral investment treaty (ECT, North American Free Trade Agreement (NAFTA), or Eurasian Investment Agreement); they are seldom invoked together with contracts (3 cases) and domestic law (1 case). Four proceedings (4 percent) were brought solely under a contract; two proceedings (2 percent) were instituted pursuant to the respondent domestic investment law. Among the instruments invoked, the ECT has been the most-invoked treaty (70 percent; in 6 percent of those cases, it was invoked together with a BIT, and one proceeding was brought under the ECT, BIT, and domestic investment law), followed by the NAFTA (5 percent).

Outcome of proceedings

Figure 3.9: Case status

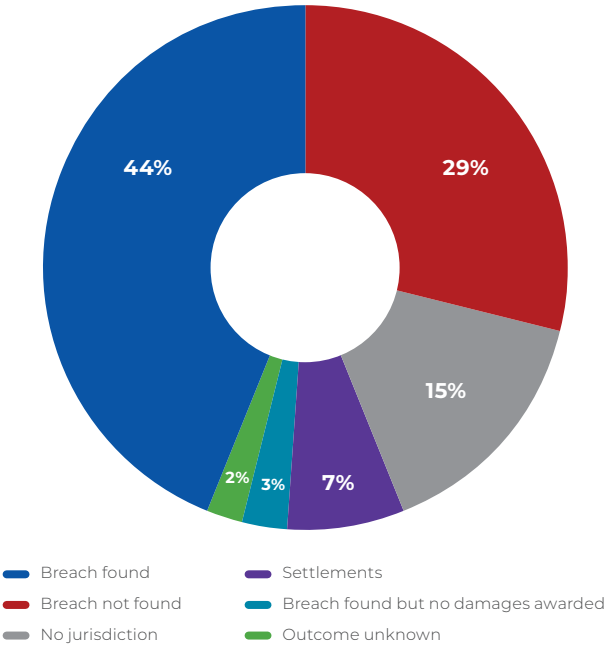


Source: World Bank–Energy Charter Secretariat analysis, 2022.

ICSID = International Centre for Settlement of Investment Disputes.

As shown in Figure 3.9, as of 1 February 2022, almost half of the identified proceedings were still pending (51 cases or 43 percent). A final award resolving the issues of jurisdiction or merits (or a settlement award) was rendered in 61 cases (51 percent). The final award in one case, *Eiser Infrastructure Limited and Energía Solar Luxembourg S.à r.l. v. Spain*[36] was annulled by an ICSID annulment committee. The dispute was resubmitted to a new tribunal. A total of six proceedings were discontinued. Five cases were discontinued at the request of claimants, including two cases for the reason of settlement. The circumstances of the discontinuance of the remaining case are unknown.

Figure 3.10 Outcome of final awards (61 awards)



Source: World Bank–Energy Charter Secretariat analysis, 2022.

Claimants and respondents have been relatively equally successful in the identified proceedings (figure 3.10). Claimants have prevailed in 44 percent of cases. In two cases (3 percent), damages were not awarded despite breaches being found. Respondents have prevailed in 15 percent of cases on the issue of jurisdiction and 29 percent on the issue of merits. In four cases (7 percent), the arbitration proceedings were concluded with an award, by settlement: in three cases, the settlement agreements were embodied in the awards, whereas in one case, the award dismissed the claims with prejudice as a result of the settlement. The outcome of one case remains unknown because of lack of public information. On average, successful claimants were awarded less than half of their initial claim of damages.[37] See box 3.3.

35 For the purposes of this chapter, **"bilateral investment treaty (BIT)"** includes bilateral FTAs with investment provisions: Peru—USA FTA and Central America—Panama FTA.

36 ICSID Case No. ARB/13/36.

37 Damages claimed and damages awarded are shown in appendix C.

Box 3.3 The potential fiscal cost of claims

On average, the amounts awarded in investor-state disputes considered in this chapter could represent about 0.35 percent of public expenditure in a respondent state in a given year (for countries where we have the data available on the amounts awarded).

Though the amounts claimed in these disputes are relatively high, as shown in appendix C, considering cases for which this information is publicly available, claimants receive, on average, 25 percent of the value claimed. Moreover, in some cases, the claimants and a respondent state may reach a settlement agreement either during an ongoing arbitration proceeding or afterwards when an award of damages is rendered in favor of the claimants. Such a settlement agreement may reduce the amounts to be paid to the claimants or provide for certain nonmonetary remedies and, therefore, further lower the economic impact of a dispute on the respondent state.[a]

Governments in countries where incentive programs for renewable power generation were not correctly designed, are no longer in line with the actual market prices and where equity issues and high electricity prices have become a burden for the consumer – may decide to modify these programs. This decision would come at the expense of getting involved in disputes with investors and generating political risk and uncertainty that could affect future investments. It is important to note that the designs of incentive programs have evolved over time and are currently more flexible, so governments can envisage degression mechanisms to adapt to the changing market conditions and regulate public expenditure.

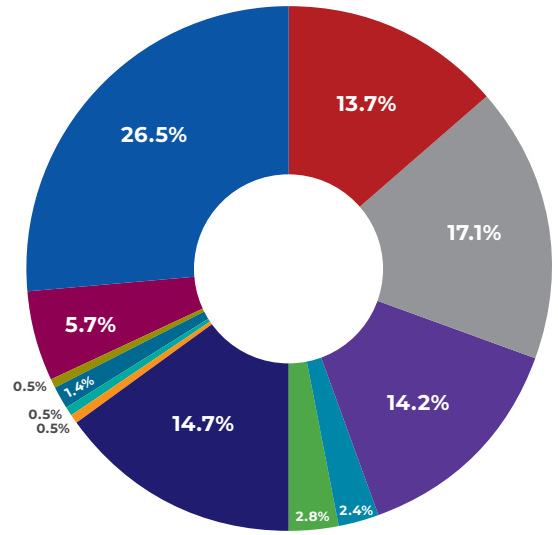
Note: The results on values awarded are based on 48 cases (including 30 countries) where this information is publicly available and do not account for legal representation and arbitration costs. These costs could be sizeable, and depending on the circumstances of each case, both disputing parties, prevailing and losing, may need to bear part of them. For arbitration awards on jurisdiction and/or merits where arbitration costs are publicly available (46), the average is approximately US$867,000 (median–US$766,000). On average, the respondent state's costs in investment arbitration were US$3.6 million (median–US$2.2 million) for the subset of cases where this information is publicly available (39). These values are relatively aligned with previous estimates (not specifically for the case of renewables) that, according to Hodgson, Kryvoi, and Hrcka (2021), are on average, US$1 million (median- US$760,000) on arbitration costs and US$4.7 million (median-US$2.6 million) in respondent state's costs.

a. For example, in the cases of *Masdar Solar & Wind Cooperatief U.A. v. Spain*, ICSID Case No. ARB/14/1, *RREEF Infrastructure (GP) Limited and RREEF Pan-European Infrastructure Two Lux S.à.r.l. v. Spain*, ICSID Case No. ARB/13/30, and *The PV Investors v. SpainPCA Case No. 2012-14*, the claimants renounced their right to collect damages in exchange for a new incentive scheme under Royal Decree-Law 17/2019.

The most common substantive treaty protection invoked (figure 3.11) is fair and equitable treatment (about 27 percent), followed by protection against unreasonable/arbitrary or discriminatory measures (17 percent). The protection against expropriation is invoked in approximately 15 percent of cases, whereas the "umbrella clause" and the standard of full protection and security appear in about 14 percent of cases each. The share of the remainder of the invoked substantive protections remains small (14 percent total). In addition, while the case of *WalAm Energy LLC v. Kenya*[38] was brought solely under a contract, the claimant reportedly alleged expropriation and a breach of the minimum standard of treatment under customary international law.

38 ICSID Case No. ARB/15/7.

Figure 3.11: Substantive protections invoked



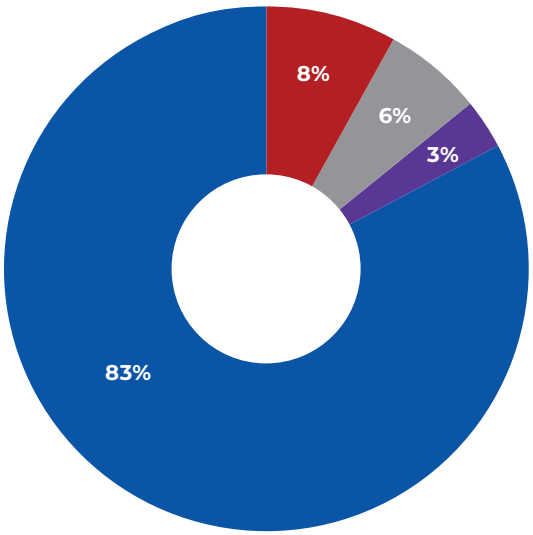
- Fair and equitable treatment
- Effective means for assertion of claims and enforcement of rights provision
- Full protection and security
- Expropriation
- Unreasonable/ arbitrary or discriminatory measures
- Transfer of funds provision
- Umbrella clause
- Ensure a state enterprise conducts activities in a manner consistent with a Contracting Party's obligations
- National treatment
- Performance requirements
- Most-favored-nation treatment
- Stable, equitable, favorable, and transparent conditions provision*

Source: World Bank–Energy Charter Secretariat analysis, 2022.
Note: Based on 60 cases (as of 1 February 2022, some of them were still pending). The remaining 59 cases are not considered because of a lack of public information.

* First sentence of Article 10(1) of the ECT.

The most common treaty breach (figure 3.12) found is the violation of the standard of fair and equitable treatment (83 percent). The protection against unreasonable/arbitrary or discriminatory measures, the "umbrella clause," and stable, equitable, favorable and transparent conditions provision[39] account for 8 percent, 6 percent, and 3 percent of cases, respectively. No other breaches have been established. See box 3.4 for information about the main factors in disputes.

Figure 3.12 Treaty breaches found



- Fair and equitable treatment
- Umbrella clause
- Unreasonable/arbitrary or discriminatory measures
- Stable, equitable, favorable, and transparent conditions provision

Source: World Bank–Energy Charter Secretariat analysis, 2022.
Note: Based on 29 awards and interim decisions on liability in which a breach was found and such information is publicly known.

39 First sentence of Article 10(1) of the ECT.

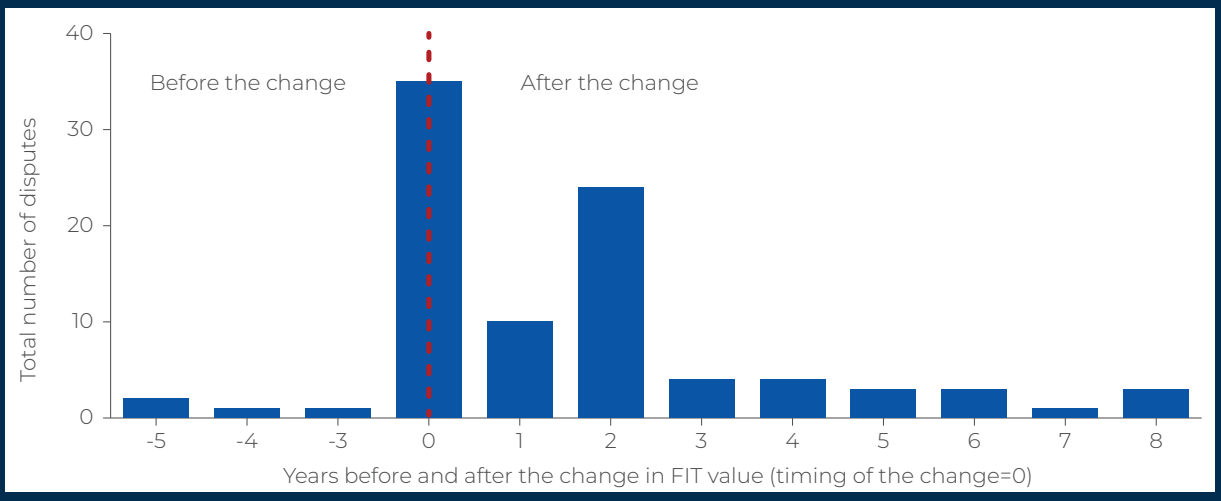
Box 3.4 Country-level factors associated with disputes

An analysis of disputes and country characteristics indicates that the main factor clearly associated with disputes has to do with political risk (that is, sudden and unexpected changes in regulations).

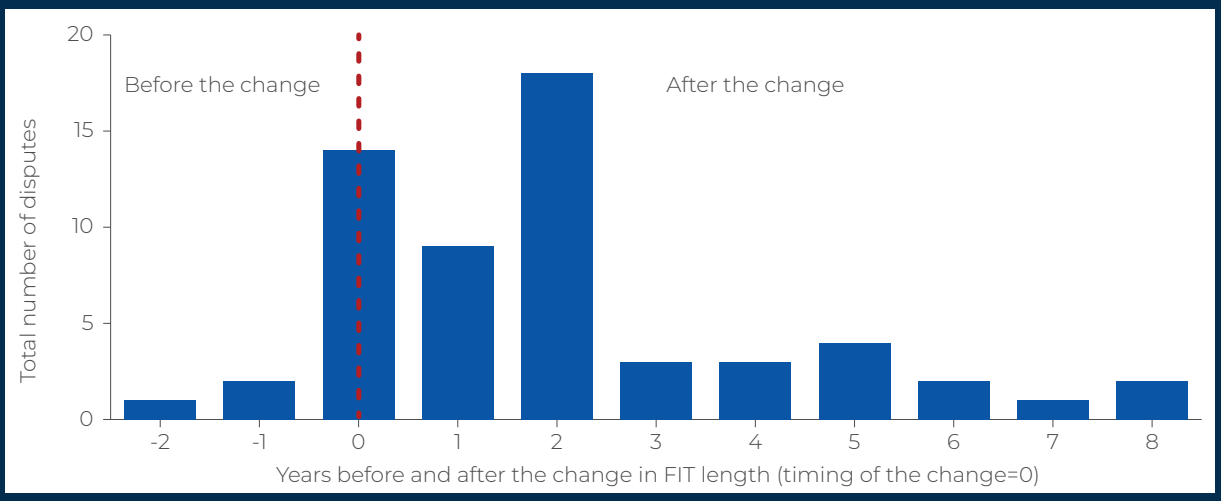
An initial factor that could be thought to be potentially correlated with a higher level of disputes is the length and the value of FIT. Using data from the International Energy Agency-Organisation for Economic Co-operation and Development (IEA-OECD), we observe that there is no correlation between the total number of disputes that a country has in a given renewable technology and the length or the value of the FIT. Instead, as shown in figure B3.4.1, disputes are more related to sudden changes (of length or value) in regulations. If we define period "zero" as the moment in which the value of the FIT changes in an event-study-like setting, we observe that the number of disputes tends to be relatively low for periods before the change in FIT. When the change happens, the number increases sharply, and more disputes come after two periods, and it takes at least five years to reach a level of new claims similar to before the change.

Figure B3.4.1 Timing of changes in feed-in tariffs and the number of disputes

(a) Changes in the value of feed-in tariffs



(b) Changes in the length of feed-in tariffs



Source: World Bank–Energy Charter Secretariat calculations using data from IEA-OECD on FIT and data from the Energy Charter Secretariat, 2022.
Note: The x-axes of these graphs indicate the years before (negative), and after (positive), the FIT change was instituted at 0. For example, a value of –5 means 5 years before the FIT change, while a value of 5 means 5 years after the FIT change.

FIT = feed-in tariff

In table E.1, we analyze a set of different country-level characteristics that could potentially be correlated with the number of disputes in the renewable sector. First, we analyze a set of risk measures based on the *2019/2020 Global Investment Competitiveness Report* (World Bank 2020b). We explore three different country-level measures of regulatory risk. The first concerns transparency regarding the content and the process of making laws and regulations that apply to investors. The second deals with the extent of legal protection provided to investors against arbitrary, unpredictable, or nontransparent government actions. The third is about access to effective mechanisms at the domestic level for recourse in case of grievances or disputes. We use this information for a large set of countries (depending on the availability of these risk indicators) and define a dependent variable that takes a value of one if a country has had disputes and a value of zero if it has not had any.[a] Then we estimate a probit model analyzing the probability of a country having disputes over these regulatory risks, controlling by GDP per capita and initial renewable capacity (total electrical capacity in 2000). Each of the coefficients of these estimations (shown in table E.1) can be interpreted as the rise in the probability of having disputes, given a one-unit increase in the risk indicator for countries with similar characteristics (other risks, GDP per capita, and initial renewable capacity). These results, of course, do not have a causal interpretation but are merely correlations between these risks and the probability of having disputes. As shown in the table, the only factor that is correlated with the probability of having disputes is recourse. Still, this correlation is negative, meaning that higher risk is correlated with fewer disputes. Although, in principle, this finding might seem counterintuitive, it makes sense because, in the context of a lack of mechanisms for recourse, claims are not even made.

Analyzing factors from the Regulatory Indicators for Sustainable Energy (RISE), which are directly associated with renewables, we see in columns 4 and 5 that none of the subindexes related to the characteristics of the renewable energy sector are associated with a higher probability of disputes. The only factors that are weakly and negatively correlated with disputes are the "Attributes of financial regulatory incentives" and "Planning for renewable," which might be somewhat related to the causes of the sudden changes in FIT conditions. Still, these coefficients are not statistically significant.

Finally, when we analyze Worldwide Governance Indicators (WGI), we observe that better "Rule of law" and better "Control of corruption" are correlated with fewer disputes. On the other hand, "Voice and accountability" and "Regulatory quality" are positively correlated with claims. These findings, once again, signal being in a context where it is feasible to file these claims.

In conclusion, the main factor clearly associated with disputes has to do with political risk—the sudden and unexpected changes in regulations. Lower recourse risk, Voice and accountability, and regulatory quality are associated with a higher probability of disputes as they are preconditions for having the possibility of making claims.

a. We do not use the total number of disputes by country because there is not a lot of variation in this variable (that is, most countries have only one dispute)

Chapter 4: Existing Measures for Managing Conflicts between Investors and the Host Country

Given the impact of irregular government conduct on investor decision-making, governments worldwide are now developing policy responses to anticipate disagreements with foreign investors and address grievances before they develop into full-scale disputes. This chapter identifies measures that countries have taken at the international, national, and contractual levels to avoid and manage conflicts between foreign investors and the host country (see box 4.1). One of its key findings is that despite the increasing significance and amount of investment in renewable energy, host countries have not yet established specific and targeted mechanisms dedicated to addressing issues or grievances specifically of renewable energy investors at the international and national levels. Dispute avoidance clauses and institutional arrangements in IIAs and domestic legal frameworks invariably apply to all "investments" across different sectors. That said, it is important to note that the conflict prevention mechanisms discussed in this chapter, although generic, still apply to renewable power generation projects and are used by energy investors and host countries.

Mechanisms in international investment agreements

Over the past years, there has been an increase in the number of dispute prevention and avoidance provisions in IIAs. Countries are employing different options to resolve conflicts with foreign investors without recourse to adversarial processes. Such options include direct negotiation and consultation and the use of mediation, conciliation, good offices, and other nonbinding third-party procedures. A few IIAs also establish inter-institutional dispute prevention and conflict resolution arrangements between the contracting parties, set up information-sharing arrangements on foreign investment issues, or appoint a lead agency to deal with investor grievances.

This chapter examines 131 IIAs signed from 2015 to 2020 (available on the UNCTAD Investment Policy Hub)—including BITs, EPAs and FTAs with investment provisions—to identify conflict prevention mechanisms. The only international agreement reviewed outside this time frame is the ECT because of its pivotal role in energy disputes.

"Cooling-off" period

A cooling-off period is the time between the notification of a dispute and the actual commencement of arbitration (request for arbitration according to the applicable arbitration rules), during which the foreign investor and the host country must try to settle their dispute amicably. It is the most common conflict de-escalation option found in IIAs. All pre-arbitration consultations, negotiations, and nonbinding third-party mechanisms to amicably resolve investor-state differences usually fall within the cooling-off period. Of the 131 IIAs reviewed, 110 contain a cooling-off period with durations ranging from 60 days to 12 months (including IIAs signed by countries that previously did not always include a definite time frame, such as Australia). The most prevalent time frame is six months—mentioned in more than 85 of the IIAs analysed.

A unique example is the Nigeria–United Arab Emirates BIT which sets different cooling-off time frames for each party's investors. For investments in the United Arab Emirates, if the parties cannot resolve a conflict amicably in three months, the foreign investor must exhaust local remedies in the United Arab Emirates for six months before recourse to arbitration. On the other hand, for an investment made in Nigeria, an aggrieved foreign investor can submit a dispute for arbitration if three months of amicable negotiations fail to resolve it.

Apart from defining the time frame, some IIAs also describe the information that must be included in the cooling-off period notice and other minimum requirements that the parties must meet. For instance, to commence the cooling-off period, the Kenya–United Kingdom EPA requires an

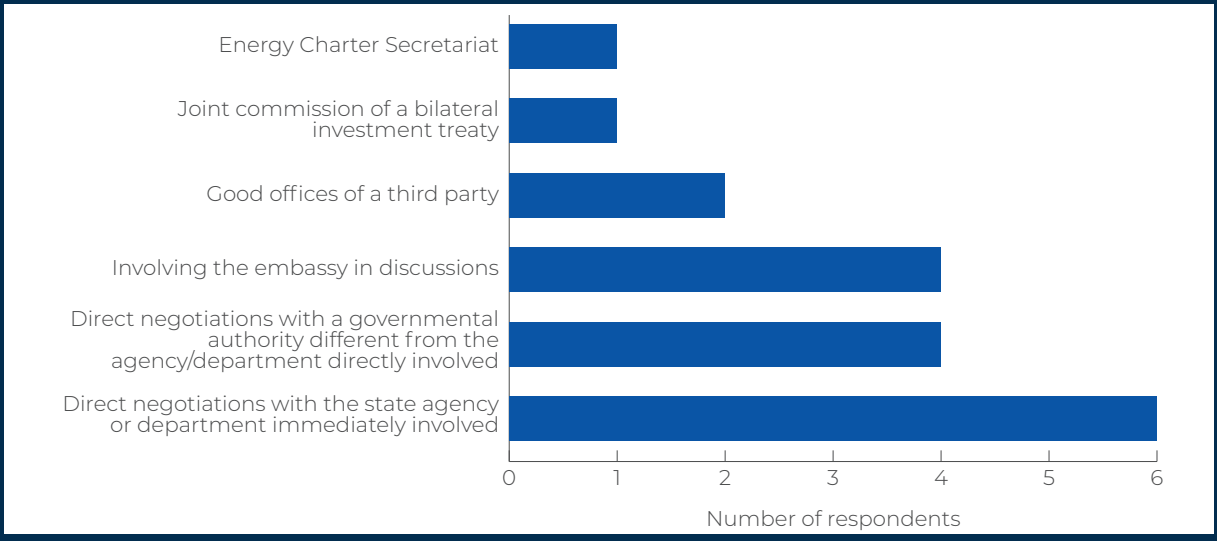
Box 4.1 Industry Perspective – Measures to mitigate potential disputes

The IAP Survey found that six out of eight respondents had undertaken measures to mitigate potential disputes before investing in a foreign country. Among such measures, the following were specified:

- Conducting due diligence, including legal, regulatory, and country risks
- Investing in countries that are parties to IIAs and intergovernmental agreements
- Entering into host government agreements
- Deploying carefully drafted contractual provisions, including dispute resolution provisions and waiver of sovereign immunity provisions; subjecting the contract to the governing law other than the one of the host country; using a familiar jurisdiction or home jurisdiction for dispute resolution; and providing arbitration clauses (international arbitration)

The IAP Survey also shows a preference for amicable settlement discussions as a tool for conflict and dispute prevention. Direct negotiations (referring here to amicable settlement discussions) with the state agency or department immediately involved had been used by six out of ten respondents. Four respondents had engaged in direct negotiations with a governmental authority different from the agency or department directly involved. Also, four respondents had tried to involve their embassies in discussions. Three respondents indicated that engaging in direct negotiations with the state agency or department immediately involved or governmental authority different from the agency or department directly involved was the most effective tool for preventing or managing conflicts and disputes (figure B4.1.1).

Figure B4.1.1: Tools used for conflict, dispute prevention



Source: IAP Survey.

Among the challenges in using those tools for conflict and dispute prevention, the respondents indicated the following:

- Lack of political and legal authority or mandate to resolve conflicts
- Delays and long or undetermined timelines
- Absence of any operating guidelines or procedures
- Lack of political will of the host country's government to proceed in good faith
- Reluctance of authorities of the host country to respond to problems on time

aggrieved party to give the other party a written notice requesting consultations. The notice must stipulate (a) the place of the consultations, (b) the time frame for concluding the discussions, and (c) the obligation of the parties to maintain the confidentiality of the process.[40] Some recent IIAs also name the governmental body or institution that can receive consultation requests from an investor. This provision is beneficial because it saves time and effort in identifying the state actor responsible for resolving the investor's grievance. One such example is the Trilateral China–Japan–Republic of Korea Agreement to promote, facilitate, and protect investments.[41]

Compulsory exhaustion of nonjudicial administrative remedies in parallel to the cooling-off period and before recourse to arbitration

Some IIAs require the investor to exhaust internal nonjudicial administrative remedies—usually parallel to the cooling-off period—before recourse to arbitration.[42] For instance, the Ghana–Türkiye BIT (not in force at the time of writing) requires an investor to submit a claim for an internal administrative review in the host country before submitting it to domestic courts or international arbitration. Such an administrative review should be concluded within six months from its initiation by an investor. The BIT further provides that an investor may initiate consultation, negotiation, or mediation parallel to the review. Similarly, the FTA between China and the Republic of Korea allows an aggrieved Party to pursue investment arbitration only after it has (a) tried to settle the matter amicably for four months and (b) exhausted the domestic administrative review procedure when applicable.

Use of neutral third-party mechanisms during (or before) the cooling-off period

Out of the 131 IIAs examined in this chapter, nine encourage the use of nonbinding third-party mechanisms before initiating arbitration proceedings but do not specify what these may be.[43] This approach is reminiscent of earlier IIAs that referred to an amicable resolution in a general manner. On the other hand, a higher number of recent IIAs specify the nonbinding, third-party procedures the parties can refer to before submitting a matter for arbitration (as part of the cooling-off period or even preceding it). Twenty-one IIAs expressly allow the investor and the state to enter mediation before arbitration,[44] while 18 IIAs require compulsory conciliation at this stage.[45] Nine IIAs mention good offices[46] as an option to resolve investor-state conflicts before arbitration.[47]

Although the use of nonbinding neutral third-party mechanisms during the cooling-off period is voluntary and at the parties' discretion in most cases, this requirement may be more stringent in some IIAs. For example, the Hong Kong, Special Administrative Region (SAR), China–United Arab Emirates BIT, signed in 2019, allows an investor to pursue arbitration only after it has attempted to (a) amicably settle the dispute through direct negotiations and (b) undertaken mandatory conciliation. Another IIA that makes conciliation an obligatory precondition to arbitration is the Indonesia–Australia Comprehensive Economic Partnership Agreement (IA–CEPA) FTA. See figure 4.1.

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40 Other IIAs of a similar nature are Azerbaijan–Turkmenistan BIT; Argentina–United Arab Emirates BIT; Singapore–Sri Lanka FTA; Colombia–United Arab Emirates FTA; Moldova–United Arab Emirates BIT; Armenia–United Arab Emirates BIT; and Islamic Republic of Iran –Slovak Republic BIT.

41 See Article 15.2 of the China–Japan–Republic of Korea Trilateral Investment Agreement.

42 Singapore–Sri Lanka BIT; Colombia–United Arab Emirates BIT; Ghana–Türkyie BIT; China–Republic of Korea FTA; India–Kyrgyz Republic BIT.

43 Argentina–Japan BIT; United Arab Emirates–Uruguay BIT; Belarus–India BIT; Central America–Republic of Korea FTA; Israel–Japan BIT; Islamic Republic of Iran–Slovak Republic; Honduras–Peru FTA; Republic of Korea–New Zealand FTA; Armenia–Japan BIT.

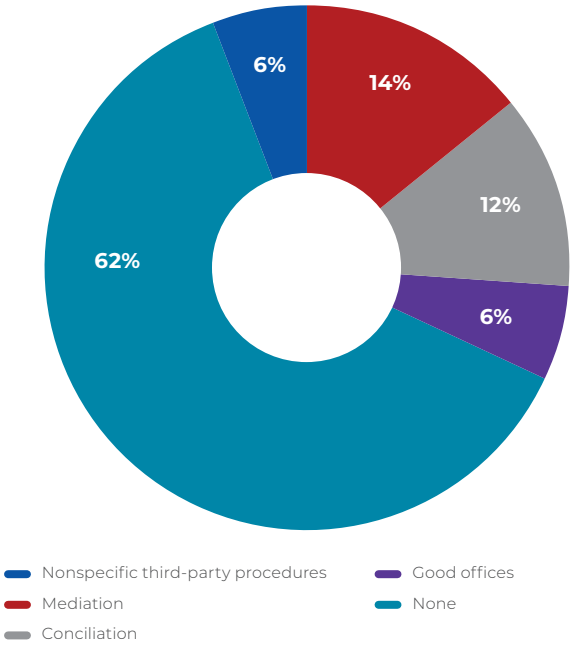
44 Japan–Morocco BIT; EU–Vietnam Investment Protection Agreement; Australia–Hong Kong SAR, China Investment Agreement; Agreement between the United States of America, Mexico, and Canada; EU–Singapore Investment Protection Agreement; Argentina–United Arab Emirates BIT; Kazakhstan–United Arab Emirates BIT; Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP); Central America–Republic of Korea FTA; Australia–Peru FTA; Colombia–United Arab Emirates BIT; Rwanda–United Arab Emirates BIT; China–Hong Kong SAR, China Closer Economic Partnership Arrangement (CEPA); ASEAN–Hong Kong SAR, China Investment Agreement; Chile–Hong Kong SAR, China BIT; Canada–EU Comprehensive Economic and Trade Agreement (CETA); Armenia–United Arab Emirates BIT; Ghana–Türkiye BIT; Trans-Pacific Partnership; Eurasian Economic Union–Vietnam FTA; Burkina Faso–Canada BIT.

45 Japan–Morocco BIT; Colombia–United Arab Emirates BIT; Rwanda–United Arab Emirates BIT; Angola–United Arab Emirates BIT; Chile–Hong Kong SAR, China; Armenia–United Arab Emirates BIT; Trans-Pacific Partnership; Eurasian Economic Union–Vietnam FTA; Hong Kong SAR, China–United Arab Emirates BIT; Australia–Hong Kong Investment Agreement; IA–CEPA; Agreement between the United States of America, Mexico, and Canada; Argentina–United Arab Emirates BIT; ASEAN–Hong Kong SAR, China Investment Agreement; Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP); Mali–United Arab Emirates BIT; Central America–Republic of Korea FTA; Australia–Peru FTA.

46 A trusted third party helps to establish contact between the disputing parties and explore ways to reach an amicable settlement. This move is usually a preliminary mechanism that could lead to a structured negotiation or to mediation.

47 Japan–Morocco BIT; Australia–Hong Kong SAR, China Investment Agreement; Agreement between the United States of America, the United Mexican States, and Canada; Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP); Australia–Peru FTA; Chile–Hong Kong SAR, China BIT; ASEAN–Hong Kong SAR, China Investment Agreement; Trans-Pacific Partnership; Eurasian Economic Union–Vietnam FTA.

Figure 4.1: Use of neutral third-party mechanisms during the cooling-off period



Source: World Bank–Energy Charter Secretariat analysis.

Some IIAs take a "fast-track" approach by allowing mediation, conciliation, or good offices during the negotiation and consultation phase,[48] whereas others envisage a multi-layered cooling-off period. For example, the Hong Kong SAR, China–United Arab Emirates BIT sets out a two-tiered system where parties must first try to resolve the grievance through consultations (without specifying the tools to be used). If this fails within six months, the host country can require that the matter be submitted for compulsory conciliation before arbitration can be considered (however, conciliation is not compulsory if the investor decides to file the complaint before the local courts). The IA–CEPA, like the Hong Kong SAR, China–United Arab Emirates BIT, also requires the investor and the host country to resolve their differences through consultations initially. If the parties cannot resolve the matter within 180 days, the disputing party may initiate a conciliation process (this step is mandatory for the disputing investor). Only after the completion of this two-step cooling-off period may the parties initiate arbitration proceedings.

The lack of a specific reference to nonbinding neutral third-party mechanisms does not mean the parties cannot use these mechanisms to resolve their conflict during the cooling-off period (or even in parallel to the arbitration or domestic proceedings). On the contrary, it may indicate greater discretion and autonomy for an investor and the host country. For example, the ECT does not constrain the parties from employing any specific third-party mechanism. Instead, it gives them the freedom to pursue "amicable settlement" for three months using the mechanisms they find most appropriate. In 2014, the Energy Charter Conference[49] mandated the Energy Charter Secretariat to assist with good offices, mediation, and conciliation. In keeping with this mandate, the Secretariat provides the necessary support through its Conflict Resolution Centre.[50] In 2016, the Energy Charter Secretariat, with the support of United Nations Commission on International Trade Law (UNCITRAL), International Center for Settlement of Investment Disputes (ICSID) and several prominent arbitration and mediation institutions, developed the Guide on Investment Mediation to assist governments and companies in seeking the amicable resolution of investment conflicts. The Energy Charter Conference endorsed the Guide, encouraging the ECT's contracting parties to resort to voluntary mediation at any stage of investment disputes and to use the good offices of the Energy Charter Secretariat.[51]

48 Chile–Hong Kong SAR, China BIT; Eurasian Economic Union–Vietnam FTA; Japan–Morocco BIT; Australia–Hong Kong SAR, China Investment Agreement; Agreement between the United States of America, the United Mexican States, and Canada; Australia–Peru FTA.

49 The Energy Charter Conference is the governing and decision-making body under the ECT. The Energy Charter Conference and its permanent supporting body, the Energy Charter Secretariat, are informally referred to as International Energy Charter. See https://www.energycharter.org/who-we-are/energy-charter-conference/.

50 See https://www.energychartertreaty.org/conflict-resolution-centre/overview/.

51 See Decision of the Energy Charter Conference (CCDEC201612) of July 19, 2016, *Guide on Investment Mediation* at https://www.energycharter.org/fileadmin/DocumentsMedia/CCDECS/2016/CCDEC201612.pdf

State-to-state cooperation through bilateral institutional mechanisms

Recent IIAs have enhanced the role of intergovernmental dialogue and state-to-state cooperation in investment dispute prevention by establishing bilateral governmental arrangements such as consultations, joint committees, national focal points, and national ombudspersons.

Consultations

Certain IIAs may include provisions on state-to-state consultations to be requested on an ad hoc basis by one of the state parties with respect to the measures of another party that may be in breach of the agreement at issue. The consultations are called upon with the view of avoiding a possible legal dispute and recourse to the applicable dispute settlement mechanism.

Under Article 31.4 of the United States–Mexico–Canada Agreement (USMCA), state parties may request consultations with another party on several grounds, including when an actual or proposed measure of such party may be inconsistent with obligations under the USMCA or when the state otherwise failed to observe an obligation under the agreement. The parties should make every attempt to arrive at a mutually satisfactory resolution of a matter. If the matter cannot be resolved by means of consultations, a consulting state party may request the establishment of a dispute settlement panel under Article 31.6.

In July 2022, the United States requested consultations with Mexico under the USMCA regarding several measures favoring Mexican state entities, which were adopted in the course of an energy reform.[52] According to the United States, such measures, among other things, prioritize the dispatch of electricity generated by state entities over that produced by the US investors in renewable power generation and further hinder the ability of US companies to operate renewable power generation projects by delaying, denying, and revoking certain permits. It is also reported that Canada has launched consultations with Mexico on the same grounds.[53]

Joint committees for the administration of international investment agreements

Joint committees are established under IIAs to enhance state-to-state cooperation. A joint committee represents the interest of all the parties to the agreement and ensures that they jointly monitor and review the agreement's implementation. The contracting parties to an IIA may make the joint committee responsible for sharing investment-related information between them and investors.[54] It may also be empowered to invite nongovernmental entities to discuss specific issues and hold meetings with the private sector. IIAs signed by Japan are particularly notable in this respect. Out of Japan's 13 IIAs (signed from 2015 to 2020), nine allow their respective joint committees to establish subcommittees that will enhance cooperation in different areas and share information with investors on encouraging favorable investment conditions.[55]

Some countries have expanded the general cooperation functions of joint committees to include handling investment disputes expressly. The most significant example in this respect is Brazil's cooperation and facilitation investment agreements (CFIA).[56] The CFIAs grant joint committees the right to "resolve the issues or controversies related to investments of the investors of the Parties in an amicable manner."[57] Apart from the Brazilian CFIAs, seven other IIAs have taken a similar approach and expressly granted joint committees or similar institutional bodies the task of facilitating the consultation,

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52 See Office of the United States Trade Representative, 'United States Requests Consultations Under the USMCA Over Mexico's Energy Policies' July 20, 2022) at https://ustr.gov/sites/default/files/US%20Cons%20Req%20Mexico%20energy_072022.pdf.

53 See Government of Canada, 'Statement by Minister Ng on Canada launching Canada-United States-Mexico Agreement consultations on Mexico's new energy policies' (July 21, 2022) at https://www.canada.ca/en/global-affairs/news/2022/07/statement-by-minister-ng-on-canada-launching-canada-united-states-mexico-agreement-consultations-on-mexicos-new-energy-policies.html.

54 Japan–Mongolia EPA; Japan–Uruguay BIT; Japan–Ukraine BIT; Thailand–United Arab Emirates BIT; Brazil–Mozambique CFIA; Brazil–Angola CFIA; Brazil–Mexico CFIA; Brazil–Malawi CFIA; Brazil–Colombia CFIA; Brazil–Chile CFIA; Islamic Republic of Iran–Japan BIT; Chile–Hong Kong SAR, China BIT; Morocco–Nigeria BIT; Israel–Japan BIT; Intra-MERCOSUR Cooperation and Facilitation Investment Protocol; Armenia–Japan BIT; Brazil–Ethiopia CFIA; Japan–United Arab Emirates BIT; Brazil–Suriname CFIA; Argentina–Japan BIT; Brazil–Guyana CFIA; Brazil–United Arab Emirates CFIA; EU–Vietnam Investment Protection Agreement; EU–Singapore Investment Protection Agreement; Brazil–Ecuador CFIA; Brazil–India CFIA; Fiji–USA TIFA; Regional Comprehensive Economic Partnership Agreement (RCEP); Kenya–UK EPA; Japan–Jordan BIT.

55 Japan–Mongolia EPA; Japan–Uruguay BIT; Japan–Ukraine BIT; Armenia–Japan BIT; Argentina–Japan BIT; Islamic Republic of Iran–Japan BIT; Israel–Japan BIT; Japan–United Arab Emirates BIT; Japan–Jordan BIT.

56 Brazil–Guyana CFIA; Brazil–United Arab Emirates CFIA; Brazil–Morocco CFIA; Brazil–Suriname CFIA; Brazil–Ethiopia CFIA; Brazil–Chile CFIA; Brazil–Mozambique CFIA; Brazil–Angola CFIA; Brazil–Mexico CFIA; Brazil–Malawi CFIA; Brazil–Colombia CFIA.

57 Brazil–India CFIA; Brazil–Ecuador CFIA.

negotiation, and amicable settlement of investment disputes.[58]

The procedure under the CFIAs is available exclusively to the contracting parties, and there is limited direct recourse available to investors in this process. Therefore, although the contracting parties can use the CFIA's provisions to prevent disputes through consultations and negotiations before submitting the matter to the joint committee for examination, investors cannot unilaterally trigger this procedure. Only the investor's home country is eligible to submit to the joint committee a specific matter that affects its investors. To initiate the process, the investor's home country must submit its request for consultations in writing, specifying the affected investor's name, details of the incompatible regulatory measure, and the factual and legal grounds that motivate the written request. The CFIA's joint committee must meet within 60-90 days to resolve the matter. It is at this time that the affected investor may participate in the joint committee's proceedings. An investor dissatisfied with the outcome of the joint committee's examination must then convince its home country to file for arbitration—a recourse not available to the investor by itself.

Sometimes IIAs that establish joint committees to support dispute de-escalation outline the scope and conduct of the proceedings. An example is the Nigeria–Morocco BIT, whose Article 26 on "dispute avoidance" sets out the procedure followed by the joint committee in resolving investor conflicts that are brought to it before they are submitted for formal dispute settlement.

National focal points or ombudspersons

Although several countries have established ombudsperson authorities to address foreign investors' grievances, these authorities are primarily domestic.[59] Brazil has taken a proactive approach by establishing an "Ombudsperson" through its CFIAs and giving it a substantial role in the dispute prevention process. The CFIAs make it a treaty-level obligation for each contracting party to appoint and name the body that shall act as ombudsperson within its territory. The primary responsibilities of an ombudsperson are to follow up on the requests and inquiries of foreign investors and assess, in consultation with the relevant government authorities, suggestions and complaints received from foreign investors. It can also make recommendations to the joint committee on actions to improve the investment environment. More prominently, the CFIAs mention that an ombudsperson must seek to prevent differences in investment matters, collaborate with government authorities and relevant private entities, and report to the joint committee. Ombudspersons also facilitate the exchange of information on regulatory issues affecting all investments or specific projects.

Brazil's CFIAs stipulate a two-staged dispute prevention procedure. In the first stage, an ombudsperson examines a foreign investor's grievance and recommends specific actions to resolve it. The joint committee operates at the second level when it receives a written inquiry about a government measure's incompatibility with the invoked CFIA. Only if the contracting parties to a CFIA cannot resolve the conflict through the ombudsperson and the joint committee can they initiate arbitration proceedings.

Brazil has also broadened access to its ombudsperson (called the Direct Investments Ombudsman (DIO)) to include investors from all counties even in the absence of a ratified Cooperation and Facilitation Investment Agreement with a particular country. In April 2019, the Brazilian government issued Decree No. 9770 establishing the DIO covering all investors regardless of their nationality. DIO's two main functions are to address (i) inquiries to provide information to potential and existing investors concerning legal and regulatory procedures to enter and operate in the country and (ii) investors' grievances (that is, issues with public agencies). Both inquiries and grievances are jointly addressed with the public agency responsible for the specific matter at the federal, state or municipal level with the help of a Network of Focal Points designated across the government.

Two IIAs signed by the Association of Southeast Asian Nations (ASEAN) stand out for taking the midway approach by granting substantive protection to investments throughout their life

58 Türkiye–UK FTA; Kenya–UK EPA; EU–Vietnam Investment Protection Agreement; EU–Singapore Investment Protection Agreement; Morocco–Nigeria BIT; Thailand–United Arab Emirates BIT; China–Hong Kong Closer Economic Partnership Arrangement (CEPA)t; Japan–United Arab Emirates BIT; Canada–EU Comprehensive Economic and Trade Agreement (CETA).

59 See section "Mechanisms to prevent or manage grievances at national level" below for a more detailed discussion.

cycle and including provisions on addressing investor issues before a dispute. The older ASEAN–Hong Kong SAR, China Investment Agreement of 2017–expressly obliges its contracting parties to establish one-stop investment centers so investors can approach these entities for assistance and advisory services on investment-related matters.

The Regional Comprehensive Economic Partnership Agreement (RCEP) of 2020 goes further. It requires that contracting parties "endeavor" to establish or maintain contact points, one-stop investment centers, focal points, or other entities that assist investors, among other things, in amicably resolving complaints or grievances against government bodies. For this purpose, they may receive and, where appropriate, consider any investors' complaints relating to government activities affecting their investments. The RCEP also stipulates that each party may, to the extent possible, consider establishing intergovernmental mechanisms to identify and address recurrent issues affecting foreign investors. At the same time, the respective competent authorities in each contracting party should facilitate the exchange of knowledge and hold regular consultative meetings.

Mechanisms to prevent or manage grievances at the national level

Some countries implement stand-alone conflict prevention policy measures at the domestic level, while others address them in combination with international and contractual mechanisms.[60]

Usually, governments can address investor grievances at two stages before they become disputes:

- **Stage 1: Before a grievance has arisen between an investor and a host country.** At this time, the government adopts upfront best practices even though no grievance is brought to its attention. The emphasis is on conflict "prevention" rather than conflict "management."
- **Stage 2: After a grievance has commenced between an investor and a host country.** At this stage, the investor faces an actual problem and approaches the government authorities for its resolution. The government authorities make coordinated, inter-institutional efforts to manage and respond to the conflict.

None of the countries examined in this report has identified or created dedicated mechanisms to address grievances for renewable energy investors. That said, Rwanda appears to take a more specific approach than others. Rwanda's leading government authority on investor grievances—the Rwanda Development Board (RDB)—has a multisector mandate extending, in the energy sector, to independent power plants (IPPs), stand-alone solar systems and solar, hydropower, and biomass mini-grid systems.

Policy measures for stage 1: Before a grievance has arisen between an investor and a host country

Practices adopted during this stage include mapping international legal obligations undertaken by the host country, monitoring sensitive sectors, compiling and analyzing data on foreign investors in the country, and studying problems, conflicts, and disputes the host country experienced in the past.

(1) *Develop and maintain a comprehensive database of international legal obligations undertaken by the host country, including all the investment treaties, investment contracts, and any other special arrangements with foreign investors. A lead agency should collect, centralize, and update the database and periodically review the related obligations.*

Typically, countries will designate a ministry to develop such a database. For instance, in Colombia, the Ministry of Commerce, Industry, and Tourism (MCIT) maintains the primary database of IIAs signed by the government.[61] The Office of International Legal Affairs of

60 In some instances, the distinction may not be clear. For instance, the Indian Ministry of New & Renewable Energy (MNRE) has set up a Dispute Resolution Committee (DRC) consisting of eminent persons to deal with disputes between MNRE's Renewable Energy Implementing Agencies and renewable energy developers. The DRC deal with disputes relating to specific requests for (1) extension of time due to recognized force majeure events, (2) requests of extension of time not covered under the terms of the contract, and (3) disputes other than those pertaining to the extension of time. This is an example of a situation where ministerial orders (national-level mechanisms) and contractual mechanisms co-exist and can be seen as an intermediate step before the parties resort to arbitration or litigation. Please note that all mechanisms discussed in this section of the report are based on publicly available information. The section only maps available measures and mechanisms but does not assess their efficacy and efficiency in practice.

61 See http://www.tlc.gov.co/acuerdos/a-internacional-de-inversion.

the MCIT coordinates with the Ministry of Foreign Affairs in preparing and interpreting international treaties. It permanently monitors the dispute settlement schemes agreed upon between foreign investors and public authorities. Similarly, under the Ministry of Finance, the Indian Department of Economic Affairs (DEA) maintains a database of all IIAs signed by the country.[62] It also leads the negotiations, inter-ministerial coordination, and the conclusion of BITs with other countries and the investment chapter of some FTAs.

Peru has established the State Coordination and Response System for International Investment Disputes (SICRECI)—attached to the Ministry of Economy and Finance—that operates and maintains a centralized electronic database of the country's IIAs, contracts, licenses, and treaties with investor-state dispute settlement mechanisms.[63]

(2) *Create and analyze a database of foreign investors present in the country, historical data on conflicts with foreign investors, and patterns of noncompliance by foreign investors in executing investment licenses and permits.*

Colombia has established a public/private tool—the System Enabler to Attract Investment (SIFAI)—to identify and centralize issues faced by investors in conducting business. The database allows government authorities to take a targeted approach to resolving sectoral problems and formulate solutions at the initial stages of the conflict continuum. SIFAI is managed by a technical committee consisting of the Minister of Commerce, Industry and Tourism, the Senior Adviser of Public and Private Management, the National Planning Director, the President of PROCOLOMBIA, and the President of the Private Competitiveness Council (private sector representative).

In Rwanda, it is the investment authority responsible for gathering information on investor conflicts. RDB ensures the daily monitoring of registered investors' operations. It keeps records of all investment certificates, work permits, visas, and other registered investment enterprises' documents. It also monitors investment projects to ensure that incentives are directed to projects that conform with the RDB's requirements and comply with the initial business plan submitted to it.

(3) *Analyze potential incompatibilities between investment-related domestic legal provisions and international treaties binding on the host country.*

Invariably, this activity is undertaken by the ministry responsible for the investment and trade-related matters or the ministry of justice. For instance, in Colombia, the Foreign Investment and Services Directorate of the MCIT identifies trade and investment regulations that need to be adjusted according to Colombia's international commitments.

(4) *Strengthen links between local governments that deal with investors and the central government that negotiates the IIA. To this end, governments can facilitate communication and information sharing among public authorities and create robust inter-institutional links.*

Peru's SICRECI sets out a detailed information-sharing mechanism to facilitate intra-governmental cooperation in resolving investor complaints. It operates an online information-sharing portal through the Ministry of Economy and Finance. This online portal allows the central government to keep the provincial and municipal authorities and state agencies continually informed of the international commitments it undertakes (including IIAs and the related obligation, investor-state dispute settlement cases, and dispute settlement clauses in contracts). The platform also allows subnational government authorities to inform the central government of potential disputes and seek higher-level involvement at the initial stages of a dispute. Investors can also raise issues with the central government authorities and seek solutions through the information system.

62 See https://dea.gov.in/.

63 See https://www.mef.gob.pe/es/acerca-de-las-asociaciones-publico-privadas-apps/sicreci.

Policy measures for stage 2: After a grievance has commenced between an investor and a host country

Governments employ different institutional arrangements based on their existing legal framework, needs, and specific situation, to facilitate and streamline their response to investor grievances.

(1) *Establish a systematic investment retention mechanism (also called a dispute prevention mechanism or Investment Grievance Management Mechanism (IGM)) wherein a lead agency manages and coordinates the resolution of issues and grievances of foreign investors. This lead agency communicates between public authorities, coordinates information collection and dissemination, and leads discussions with the affected investor (World Bank 2019).* See Chapter 5 for further details.

Rwanda has designated its investment promotion agency, the RDB, to facilitate the amicable settlement of conflicts between an investor and a state organ.[64] Rwanda also established the Private Investment Committee (PIC) to discuss investors' issues and propose acceleration measures to resolve them. Both RDB and PIC's mandates come from a legal instrument, the Law on Investment Promotion and Facilitation, so it has authority to ensure interagency collaboration in resolving a grievance. The RDB works directly under the President's Office's supervision and is governed by a board of directors comprising global entrepreneurs and experts.

Ethiopia set up a Investor Grievance Management Unit within the Ethiopian Investment Commission (EIC). The unit is in charge of identifying and resolving investor issues that could lead to potential investor-state disputes or withdrawal or cancellation of investments. The unit has its legal foundation in the Investment Proclamation. Sections 25–27 of the Investment Proclamation allow investors to lodge complaints. It also clarifies that the Ethiopia Investment Board, an inter-ministerial body, will serve as the escalation mechanism to resolve issues needing higher-level political decisions. The unit registers investor issues, collects information, analyses the investor issue regarding its legal implications and economic impact, shares information with other agencies, and engages in problem-solving. It maintains records on all investor issues and monitors their resolution process. It also records the amount of investment at risk because of investor issues and the amount retained as a result of effective issue resolution.

In the Republic of Korea, the Foreign Investment Ombudsman (FIO) is the lead authority that requires public agencies to cooperate and resolve complaints received from foreign investors and foreign capital invested companies. The FIO is commissioned by the president and mandated to address investor grievances under Article 15 of the Foreign Investment Promotion Act. The public agencies must present the results of resolving complaints or their opinion on such matters within seven days.

The Peruvian SICRECI ensures a timely and appropriate response to an investor's complaint and coordinates the necessary actions among the concerned public authorities. SICRECI is composed of the Ministry of Economy and Finance (Coordinator), the Special Commission, and all the public authorities that sign treaties, agreements, and contracts establishing mechanisms to resolve disputes between foreign investors and the country. SICRECI centralizes information on IIAs signed by Peru as well as on emerging investment conflicts and disputes. It acts as an alert mechanism against the emergence of potential conflicts and defines the coordination procedure between the public entities involved.

Brazil broadened access to its ombudsperson (called the Direct Investments Ombudsman (DIO)) to include investors from all counties even in the absence of a ratified Cooperation and Facilitation Investment Agreement with a particular country. In April 2019, the Brazilian government issued Decree No. 9770 establishing the DIO covering all investors regardless of their nationality. DIO's two main functions are to address (i) inquiries to provide information to potential and existing investors concerning legal and regulatory procedures to enter and operate in the country and (ii)

64 See Article 16 of the Rwanda Law No. 006/2021 of February 5, 2021 on Investment Promotion and Facilitation at https://rdb.rw/wp-content/uploads/2021/04/New-Investment-code-2021.pdf.

investors' grievances (that is, issues with public agencies). Both inquiries and grievances are jointly addressed with the public agency responsible for the specific matter at the federal, state or municipal level with the help of a Network of Focal Points designated across the government.

(2) *Identify the public entities involved in the conflict and transmit the case to the suitable agency.*

In some cases, a designated authority may collect investor grievances, identify the agencies directly involved in the matter, and forward the complaints to them for resolution. For instance, the Greek Investor Ombudsman is an impartial mediator that provides these services upon investors' request. However, it only deals with private investment projects of €2,000,000 or more, facing delays, disputes, or other difficulties arising at any stage of the licensing procedure. The Ombudsman identifies the competent public authorities related to the complaint about each case.

(3) *Empower a government authority to consider investors' appeals against administrative decisions taken by public agencies during investment activities.*

An example of this policy measure is Uzbekistan's Commissioner for the Protection of Entrepreneurs' Rights (CPER),[65] which considers investors' appeals about problems arising while carrying out investment activities. If necessary, the commissioner of the CPER can request state bodies and local government bodies, enterprises, institutions, and organizations to give it all the relevant information needed to consider investors' appeals. After its assessment, the CPER makes recommendations to resolve these appeals. Once the state bodies and local government bodies receive the CPER's recommendations, they must provide a written response on the results achieved. Apart from these tasks, the CPER Is empowered to help investors address emerging issues in court and pretrial procedures.

In Rwanda, the investment promotion agency can hear appeals from investors. Rwanda's Law Relating to Investment Promotion and Facilitation empowers the RDB to hear appeals for reconsidering decisions regarding the cancellation of investment certificates. Where the investor is not satisfied with the decision taken, he or she may appeal against it to the head of the RDB within 10 working days as of the date of notification of the decision. Each case should be decided within 10 working days of the date the appeal was filed.

Egypt's Investment Law No. 72 of 2017 allows for an administrative review by three specialized committees: the Grievances Committee, under the General Authority for Investment and Free Zones (GAFI), entertains complaints filed against administrative decisions of GAFI or other administrative authorities on the issuance of the approvals, permits, and licenses.[66] The Ministerial Committee for Investment Disputes Resolution investigates applications, complaints, or disputes between investors, state bodies, authorities, or companies. The Ministerial Committee for Investment Contracts Disputes Settlement resolves disputes arising from investment contracts to which the state or one of its bodies, authorities, or companies is a party.

In Ukraine, the Business Ombudsman Council (BOC) is a specialized multi-stakeholder Alternate Dispute Resolution mechanism jointly set up by the government, the European Bank for Reconstruction and Development, OECD, and the largest local business associations. It is empowered to investigate and facilitate the pretrial resolution of business malpractice instances on the part of public authorities, as specified in the complaints lodged by businesses. As of the date of this report, the BOC has received more than 10,500 complaints from investors since May 2015 and secured direct financial impact for complainants exceeding HRV 19.5 billion. The BOC receives and investigates complaints from businesses concerning acts or omissions, including decisions of state and municipal authorities, businesses within their scope, and their officials. Investors can approach the BOC after exhausting at least one instance of an

65 See https://biznesvakil.uz/uz/menu/legal_basis/.

66 See https://www.investinegypt.gov.eg/flip/library/LawsAndRegulations/PDFs/Law72_and_Exec_reg_en.pdf.

administrative review appeal, but before a court or tribunal can hear the case.

The BOC can request the state and municipal authorities to provide all the information, Documents, and other data needed to process and address an investor's complaint. The BOC is not vested with binding authority. But because of its reputation, state and municipal authorities are likely to implement specific remedial steps recommended by the BOC and provide a detailed explanation of the investigation status and the steps to resolve the issues. The latest example is the situation resolved in the first quarter of 2022. The state enterprise "Guaranteed buyer" owed HRV 3 billion to DTEK Renewable Energy (DTEK VDE) Group of companies for electricity it sold in 2020–21 at the "green" tariff (FIT). The BOC sent its extensive and detailed legal position to state bodies responsible for resolving the complainant's issue. After two years of negotiations, correspondence, and meetings, the state enterprise finally transferred HRV 3.03 billion to DTEK VDE.

It is noteworthy that the BOC received 8,524 complaints as of February 26, 2021. Businesses lodged almost 111 complaints from the "energy and utilities" category. The BOC rejected 34 complaints and concluded the investigation of 74 cases. BOC's direct intervention resulted in the conclusion of 44 investigations. In five of the 74 concluded investigations, the BOC issued individual recommendations that it continues to monitor. In 15 instances, the BOC closed its investigation without achieving a successful outcome for the complainant.

If the investor who lodges a complaint with the BOC also sends a notice of arbitration, the Ministry of Justice would invite a representative of the BOC to sit in an Inter-departmental Working Group (IWG) (which operates not as a permanent body but as an ad hoc platform with varying composition tasked to seek possible reconciliation and develop a defense strategy). The ministry usually invites a representative of the BOC even in cases not being formally investigated by the latter. Most of the IWG's meetings comprise nonconfidential and confidential parts: the former is designed to enable the investor and its counsel to present the case (or otherwise ensure that its position is heard) in front of the representatives of the public authorities appointed to the respective IWG. Currently, the BOC is represented in at least two IWGs set up in connection with a notice of arbitration lodged by investors in the renewable energy sector.

Mechanisms established through contractual arrangements

Although most investor-state arbitration cases identified in this report concern national incentive programs for renewable power generation (68 percent), it is noteworthy that 12 percent relate to concessions and five percent to power purchase agreements (PPAs). Therefore, government authorities and investors involved in such contractual arrangements often establish methods to address issues in the underlying contract. This approach helps ensure that problems are dealt with early on and do not become severe over time, leading to a breakdown of relations between the investors and the host country. Including measures for dispute prevention within the contract can be especially useful for two reasons. First, the contractual parties will want to avoid adversarial processes that can damage relations, halt the project, and result in financial losses for all the stakeholders. Second, the resolution of business and technical disputes requires expertise, and business managers can better control the costs, quality, and other aspects of their business relationships. Using internal dispute prevention, de-escalation, and resolution techniques allows the parties to remain in control of the conflict.

A typical contractual structure of renewable energy projects involves multiple players, including the following:

- The host country
- Buyer/purchaser/offtaker (often a state-owned utility or public-sector agency that is owned or authorized by the government)
- Project company/seller (owner of the independent power plant [IPP])[67]
- Investors (that is, shareholders of the project company) and contractors (for the construction or operation and maintenance of the power facility)
- Lenders

Renewable energy projects have multiple contracts that define the parties' relationship, rights, and obligations and allocate the project risks between the different parties. Not all of these contracts require the government's direct involvement. For example, lending agreements and shareholders' agreement between the project company shareholders and the subcontractors of the operating contract and the construction contract determine the relationship between the project company and the special purpose vehicle members exclusively. This report examines only the types of contracts that directly involve the government or state-owned utilities, which are the following types:

- An implementation or public-private partnership (PPP) agreement. This type of agreement is between the government and the project company (and its shareholders). Such an agreement's contractual structure can vary depending upon the needs and requirements of the project and the parties (figure 4.2). For instance, it can be structured as a concession to develop, build, and operate a power plant, known as BOO (Build, Own, Operate), which can be amended for BOT (Build, Operate, Transfer) and BOOT (Build, Own, Operate, Transfer). The more robust the host country's regulatory framework, the narrower the scope of the implementation agreement will be.
- A land and or water use agreement.
- A PPA is between the project company/seller and the buyer/purchaser/offtaker. In such an arrangement, the project company/seller's primary responsibility is to deliver the agreed amount of electricity. In turn, the buyer/purchaser/offtaker is obliged to purchase the energy produced and pay the agreed tariff for a pre-agreed time. The electricity sold can be from an existing or a new power generation facility (requiring the project company/seller also to build, operate, and maintain the facility). Various elements of renewable energy PPAs depend on the underlying incentive scheme. Usually, the government will provide a grid connection and a site, but the parties may amend this arrangement in off-grid projects. A PPA may be awarded through competitive or administrative bidding.[68] The pricing framework in PPAs typically covers capacity-related charges and energy charges. Capacity charge is payable by

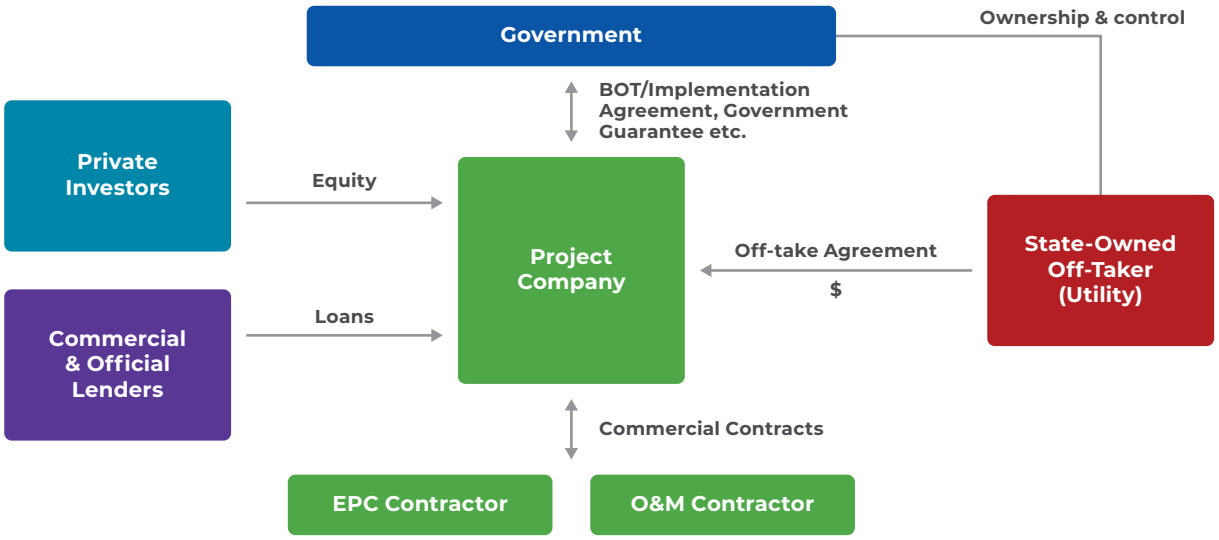
67 The project company is usually set up as a SPV. It may be fully owned by the project developer or established as a joint venture (with an investor and lenders). At some point in time, the project developer will usually sell the SPV to the investor.

68 In countries with deregulated energy markets, power producers also build merchant power stations. A merchant power plant is built or purchased from private equity and does not have a PPA in place. Instead, the producer sells electricity in the open market and takes the market price. This type of arrangement generally does not require an agreement between the project company and the government.

the offtaker in consideration of the power plant operator making generation capacity available to the offtaker and is usually the channel to recover fixed cost. Energy charge is usually referenced to the volume of electricity actually delivered and is intended to cover the project company's variable costs.[69]

- A turnkey or an engineering, procurement, and construction (EPC) agreement is between a project company and a contractor. Usually, the parties base the contractual terms on the red and yellow books of the International Federation of Consulting Engineers (FIDIC) and use them in an amended form because there is no specific model for renewable energy projects. There may be no need for EPC contracting in small projects, and there may be different supply and installation agreements.
- In cases where a project company does not wish to undertake the operations itself, it may enter into an operation and maintenance (O&M) agreement with a contractor to carry out the necessary activities.
- A financing agreement is between the project company and the lenders.

Figure 4.2: Structure of a public-private partnership



Source: Multilateral Investment Guarantee Agency (MIGA), World Bank.

It should be noted that none of the contracts examined in this report use the term "conflict prevention" or "investor grievance or issue redressal" explicitly. Existing conflict prevention procedures in contracts are typically part of the "dispute resolution" process. However, in substance, the purpose of these procedures is to de-escalate a problem early. Therefore, even though contracts use the term "disputes," the de-escalation options mentioned as follows are all used by the parties (1) when the matter is still in a conflict stage and (2) before they resort to arbitration or other adversarial proceedings.

Option 1: Ongoing monitoring and evaluation of the project's performance

Because of the considerable number of steps involved in renewable energy projects, the parties usually establish mechanisms to ensure that the day-to-day operations run as planned. These mechanisms aim to resolve problems and disagreements as and when they occur and not let them accumulate over time. The nature and need of these mechanisms will vary according to the scope of the contract. For instance, where PPAs and implementation agreements require a project company to design and build a power facility, the parties will define a role for the engineer[70] to monitor and evaluate time and cost variations and run tests before the facility's scheduled

69 See https://ppp.worldbank.org/public-private-partnership/sector/energy/energy-power-agreements/power-purchase-agreements.

70 Also referred to as "owner's engineer."

commercial date of operations, among other things. In other cases, parties may insert joint review clauses in the contract to assess the work's progress and address any issues that may come to their attention early on. Contracts that require the project company to operate and maintain a power generation facility may establish committees specifically to support the parties in setting operating procedures and ensuring the plant's safe and smooth functioning. Therefore, mechanisms in each contract will vary depending upon the work to be done, and not all contracts have (or should have) all of the mechanisms in place.

In 2015, the Tanzanian Ministry of Energy and Minerals issued Model PPAs for seven energy technologies, including solar, wind, hydro, and geothermal. Each PPA envisages an independent engineer to continually monitor and evaluate the agreement's performance.[71] The parties must appoint an independent engineer[72] before the scheduled commercial operation date of the power generation plants. Among other things, the engineer monitors and evaluates any cost variations that occur due to geological conditions, cost escalations in the civil works associated with the facility's construction, and resettlement costs. The engineer must prepare monthly reports on these matters before the power plant's commissioning tests. The reports allow the parties to get a provisional and final valuation of the seller's costs and time spent on variations. If the parties are dissatisfied with the engineer's valuation, payment, opinion, or certification, they may ask them to redetermine the findings. The engineer should make any redetermination only in consultation with the parties. The engineer's decision at this stage is binding upon the parties.

Because the engineer's involvement in the project is continual, Model PPAs require the engineer to be available six months before the plant's scheduled commencement date until the parties decide to discharge them. The seller recruits the engineer through a competitive selection process and with the purchaser's approval. The engineer must work to the highest professional standards and exercise the duty of care toward the seller and purchaser. The Model PPAs explicitly mention that the engineer's appointment terms and conditions should require them to act impartially, based on their expertise, experience, and knowledge on all referred matters.

As mentioned previously, apart from providing for an engineer, some agreements may also set up oversight committees for specific works. For instance, Pakistan's Standard Energy Purchase Agreements for solar, wind, and small hydro-powered generation complexes require a seller to operate and maintain the power generation complexes constructed under the respective agreements. For this, each PPA establishes an Operating Committee that advises the parties on the following:

- Coordination of the programs and procedures for the construction, operation, and maintenance of the seller's interconnection facilities, the power generation complex, the purchaser's interconnection facilities, and the related equipment
- Steps to be taken in case a force majeure event affects a party, the power generation complex, or the grid system
- Steps to be taken in case of a shutdown or reduction in the complex's capacity for any reason affecting the purchaser, including interconnection facilities, the grid system, the complex, or any related equipment
- Safety matters affecting the complex, the purchaser's interconnection facilities, the grid system, the parties, or their contractors
- Review and revision of protection schemes
- Development of testing procedures for the purchaser's interconnection facilities and the seller's interconnection facilities
- Any other matter agreed upon by the parties

Option 2: Mutual consultations

Once a disagreement arises, contracts will generally grant parties the right to resolve it amicably through mutual discussions, consultations, and negotiations. Although this step is usually a mandatory one that should be undertaken to de-escalate a dispute, most clauses

71 The PPAs relating to solar, wind, and geothermal power are for the designing, engineering, construction, insurance, commissioning (as defined in the respective PPA), operation, and maintenance of the generation plants covered under each PPA. The Model PPA relating to hydropower is for the sale of power from a hydropower generation plant of installed capacity more than 10 MW. See https://www.ewura.go.tz/2015/08/28/the-model-power-purchase-agreements-for-different-power-generation-technologies-2/.

72 An "Independent Engineer" is defined identically in all the Model PPAs as "an independent consulting engineer, or engineering Seller, of international repute acceptable to the Purchaser, the Seller and the Finance Parties selected from the list included in Schedule [-] for the purposes of monitoring the construction and certifying the results of Commissioning."

require that the parties only make "best efforts" or "reasonable endeavours" to resolve the dispute at this stage.

The Bangladesh Implementation Agreement relating to a 50 MW (AC) Grid Tied Solar Power Project (Bangladesh Sample Implementation Agreement),[73] the 2018 PPA on waste to energy,[74] and the 2019 PPA for the 50–60 MW solar power plant[75] set out multilayered dispute escalation processes that start with a discussion between the parties on any disagreement or dispute. The parties must attempt, in good faith, to settle any dispute through consultations within 30 days. The exception to this clause is a dispute involving invoice amounts, in which case the matter may be referred to an expert if it is not resolved after 10 days of mutual discussions (the role of an expert in dispute de-escalation is covered in a separate section below in this chapter).

The Land Use Agreement Model for Renewable Energy Electricity Generating Facilities in the Regional Center for Renewable Energy and Energy Efficiency (RCREEE) Member States[76] requires the contractual parties to make reasonable endeavors toward settling any dispute or difference amicably. The agreement requires the parties to continue performing their obligations while the amicable settlement procedure is in progress. Although the agreement does not allow the parties to initiate arbitration proceedings before completing the amicable settlement procedure, there is an exception to this rule. A party may cut short or bypass the amicable settlement procedure if it has a good cause to avoid damage to its business or protect or preserve any right of action it may have. The agreement, however, does not define how the parties will determine if the conditions to use this exception exist and who will make this determination.

Option 3: Raise the problem or disagreement with the senior management of each party

Some contracts have an "internal referral" mechanism that allows the parties to settle a disagreement through executive-level discussions between previously uninvolved senior management representatives. To ensure structured discussions, parties must flesh out the relevant contractual clause by indicating who will engage in discussions at this stage, defining the steps involved and setting the time frame for each step.

Examples of this option are the Open Solar PPA Model Agreement and the Open Solar Implementation Agreement which envisage the possibility of structured high-level negotiations. As per these agreements, if a matter cannot be settled through mutual consultations within 14 days, the parties may refer it in writing to a Management Committee comprising one senior manager of each disputing party. The Management Committee must meet within 14 business days to consider the information available and then provide a written opinion on the matter within 28 days of the referral. If all the Management Committee members sign a decision resolving the issue, it is considered final and binding on the parties. However, any other kind of opinion, award, or findings by the Management Committee is not binding.

Option 4: Expert determination

Project participants can also agree on expert determination clauses to reach a swift resolution of technical and commercial conflicts.

Because of the complex nature of renewable energy disputes and the substantial costs involved, parties typically consider the following key points when including an expert determination clause in an agreement:

- Specify the types of disputes that will fall under the expert's authority.
- List the qualifications and skills the expert should possess or create mutually agreed terms of reference based on the types of disputes. For instance, an expert on billing disputes should possess different qualifications from an expert ruling on operating procedures, facility commissioning tests, and other technical matters.

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73 The agreement is for a project company to design, engineer, manufacture, insure, finance, acquire, construct, complete, permit, test, commission, own, and operate a solar power project with a capacity of 50 MW to supply electric power to the Bangladesh Power Development Board. See https://www.bpdb.gov.bd/bpdb/IPP%20Solar%20Power%20Project/Netrokona/Final%20IA%20for%2050%20MW%20Solar.pdf.

74 PPA relating to a 5 MW (net) Waste to Power Generation Facility.

75 PPA relating to a 50–60 MW (AC) Grid Tied Solar Power Project.

76 The 17 Member States of the RCREEE are Algeria, Bahrain, Djibouti, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Mauritania, Morocco, West Bank and Gaza, Somalia, Sudan, the Syrian Arab Republic, Tunisia, and Yemen. See https://rcreee.org/sites/default/files/land_use_agreement_model_for_reegf_rcreee_ms.pdf.

Box 4.2 Defining technical and valuation disputes under renewable energy contracts

At the outset, it is important to understand that there is no "straitjacket" definition of what constitutes a technical or valuation dispute and can thus be referred for expert determination. The concerns will differ on the basis of each project's deliverables and the nature of each dispute.

India
Under the Open Solar Model Implementation Agreement, each time there is a conflict, the parties must go through a Technical Dispute Determination Option[a] to decide if it fits within the definition of a technical dispute.[b] Because no issues are recognized as prima facie "technical," the parties must always use the Technical Dispute Determination Option to decide if a conflict can be classified as a technical dispute.

Another agreement, the Open Solar Model PPA Agreement, takes a slightly different approach. Apart from carrying a generic definition of technical disputes, similar to the one in the Open Solar Model Implementation Agreement, it also identifies some matters as having a technical nature, such as disputed payments, the determination and amount of deemed energy payments,[c] and the power plant's operating and dispatch procedures. Disputes on these matters are subject to expert determination without going through the Technical Dispute Determination Option.

PwC Australia
PwC Australia Model PPA envisages the possibility of expert determination where a dispute relates to any industry or technical standard or any rules, practices, or customs of any trade or profession. However, it does not specify any prima facie "technical disputes."

Georgia
Georgia's Implementation Agreement for the Nenskra Hydroelectric Project[d] sets out multiple criteria to assess if a matter may be referred to an expert determination. It defines a "technical dispute" as one having the following: a technical nature, an aggregated claim of maximum US$1,000,000, relation to the issuance of a takeover certificate, or a specific mention in the agreement as capable of a referral to expert determination. That said, the agreement also recognizes some issues as clearly within the expert's purview, such as the following: delays in financing the project or its refinancing, land parcels that the government must give to the project company, specifications of the transmission line and connection facilities, the metering and check-metering devices, and the energy rate's increase or decrease.[e]

Tanzania
Some agreements narrow the scope of expert determination to finite issues without leaving room for interpretation. For instance, Tanzania's Model PPAs[f] explicitly list matters that fall within the expert's purview because of their technical nature. Disputes on inclusions, exclusions, and modifications to the draft and final operating procedures fall within the expert's purview. Disputes concerning the accuracy of the facility's net energy output measurement[g] and verification and outcomes of dependable capacity testing[h] should also be referred to by the parties for expert determination. Any dispute raised by either party concerning payment and billing statements should also be settled through mutual discussions and, failing this process, by the expert.

Pakistan
Pakistan's Standard Energy Purchase Agreements for solar, wind and small hydro-powered generation complexes expressly mention critical issues that should be subject to expert determination, such as revisions to the facility's draft and final operational procedures, failure of the parties to agree upon the plant's meter readings, outcomes of the commissioning tests, disputed payments, and disagreements on the facility's maintenance.

Bangladesh

Bangladesh's 2018 PPA for waste to energy generation does not define a technical dispute but identifies the types of disagreements that the parties should refer to an expert determination. For instance, it states that any differences in the applicable bank rate, the plant's testing and commissioning certificate, meter readings' accuracy, and billing and invoice amounts should be referred to the expert for resolution.

Jordan

Jordan's Standard PPA relating to a Photovoltaic Power Plant Facility stipulates that if the facility's commissioning is delayed and the parties cannot agree upon an equitable adjustment to the Implementation Schedule within 30 days, they should refer the matter to an expert. Moreover, the PPA requires the parties to submit for an expert determination of any differences between them on the operating procedures and metering that cannot be resolved through mutual discussions.

a. "Technical Dispute Determination Option" means the method for determining whether a dispute is a technical dispute as identified in the Key Information Table of the agreement.
b. A "technical dispute" relates to a technical, engineering, operational, or accounting issue or a related matter.
c. Energy that otherwise could have been generated and delivered to the Delivery Point during the Buyer Curtailment Period (period during which the Facility's ability to generate and deliver Energy to the Delivery Point is reduced) as calculated in accordance with Schedule 4 (Determination of Payments) shall constitute"Deemed Energy" The payment made by the Buyer to the Project Company in respect of such Deemed Energy is the"Deemed Energy Payment"
d. The Implementation Agreement is for the Project Company to design, engineer, develop, finance, construct, own, operate, maintain, and transfer the Facility (or, as applicable in accordance with the terms of the Put and Call Option Agreement, for the Private Shareholders to transfer their Shares) at the expiration of the Term or upon early termination of this Agreement.
e. Energy rate is defined and determined in Schedule 3 of the Agreement.
f. The PPAs relating to solar, wind, and geothermal power plants are for the designing, engineering, construction, insurance, commissioning (as defined in the respective PPA), operation, and maintenance of the powered electric generation facility under each PPA. The Model PPA relating to hydropower is for the sale of power from a Hydro Power Generation Plant of installed capacity more than 10 MW.
g. "Net Energy Output" means net energy delivered by the Seller for sale to the Purchaser at the Point of Supply in accordance with the Purchaser's Dispatch as measured in accordance with the agreement.
h. "Dependable Capacity" means the sustained capacity in MW from the Plant as declared by the Seller in writing to the Purchaser.

- Set out a mechanism to decide who will appoint the expert when the parties cannot make a mutually acceptable decision. Parties may already identify an appropriate appointing authority that will select the expert in the contract. Again, the nature of the dispute can be a factor in deciding the appointing authority. For example, an engineering body may be better suited to select an expert for technical construction-related issues since it will have experience in the area.
- Identify the procedure or the institutional rules that will govern the expert determination process.
- Explicitly mention that the expert must be independent and impartial. There could also be an additional obligation to disclose any conflict of interest.
- Specify the nature of the expert's determination. Parties should know whether the expert's decision is final and binding. The contract should also define the status of the expert's determination in relation to formal arbitration proceedings.

See box 4.2 for examples of contract provisions in several countries.

Expert determination of disputes arising from force majeure political events, change of law, tax, and insurance

Some PPAs and implementation agreements contain clauses on how the parties should resolve differences following force majeure political events and changes to laws and taxes. Some of the agreements examined contain clauses in this respect. These contracts are for power supply and the construction of new generation facilities. Some contracts for designing, building, operating, and

maintaining renewable energy power generation facilities contain such clauses.[77]

(1) Expert determination of disputes following a political force majeure event or a change in law

Georgia's Implementation Agreement for the Nenskra Hydroelectric Project requires that disputes regarding revisions to the project's timeline and costs, following specific force majeure events must be settled by an expert. The Seller (in this case, the project company) should hire an independent engineering consulting firm to prepare a restoration report if the power generation facility needs restoration or modifications as a result of a political force majeure event,[78] a change in law,[79] or a change in the grid system.[80] The report must describe the trigger event and the damage caused, assess whether the restoration is technically feasible, give an estimate of the restoration time and cost, a revised cash flow forecast of the power generation facility, and an estimate of the recoverable insurance proceeds. If a party disputes any aspect of the report, it has the option to raise the matter for expert determination. However, the contract does not make such referrals mandatory.

The agreement also states that the Seller should give the government a "notice of increased costs" if its annual revenue decreases or the aggregate project costs exceed US$100,000 as a result of (a) a change in law, (b) a political force majeure event, (c) a restoration,[81] (4) a change to the grid system, (5) the connection facilities and/or the transmission line, or (6) a grid event.[82] Following the notice, the parties should discuss and try to agree on the adjustments or lump sum compensation that the Seller should receive. If the compensation amount cannot be agreed upon within 45 days of the notice, then the matter should be resolved by the expert.

Pakistan's Standard Energy Purchase Agreements for solar, wind, and small hydro-powered generation complexes also require experts to resolve disputes arising from changes in laws and political events caused by force majeure. Following a Pakistan Political Force Majeure

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77 For example, Georgia's Implementation Agreement for the Nenskra Hydroelectric Project is for the Seller to design, engineer, develop, finance, construct, own, operate, maintain, and transfer the Facility; the Pakistan Standard Energy Purchase Agreement for Solar Powered Power Generation Complex is for the Seller to design, engineer, construct, insure, commission, operate, and maintain a solar-powered complex (generation capacity not specified in the model agreement) on build-own-operate basis; the Jordanian PPA between the National Electric Power Company (Buyer) and the project company (Seller) is for the development, design, financing, construction, ownership, operation, and maintenance of the power generation facility and to sell all the electricity therefrom to the buyer; the Bangladesh Implementation Agreement is for the Project Company to design, engineer, manufacture, insure, finance, acquire, construct, complete, permit, test, commission, own, and operate a Solar Power Project with a capacity of 50 MW to supply electric power to the Bangladesh Power Development Board.

78 Where the Political Force Majeure Events resulted in uninsured damage to the Facility with an aggregate estimated cost in excess of US$100,000 (or its equivalent amount in another currency) in any Annual Generation Period (including following application of the proceeds of any insurance in accordance with Clause 26.1 (Application of Proceeds of Insurance Following a Force Majeure Event). As per the Agreement, a Political Force Majeure Event means each of the following events to the extent that (other than in paragraph (g) below) such event results in an adverse Material Company Effect: (a) any act of war (whether declared or undeclared), invasion, armed conflict, or act of foreign enemy, blockade, embargo, revolution, riot, insurrection, civil war, civil commotion, or act or campaign of terrorism or political sabotage including any politically motivated intrusion into any IT system, in each case directly affecting or occurring in Georgia or occurring as a result of an act or omission of GoG or any Public Authority; (b) any chemical contamination, radioactive contamination, or ionizing radiation in each case directly affecting or occurring in Georgia or occurring as a result of an act or omission of GoG or any Public Authority; (c) any Lapse of Consent; (d) any strike, work-to-rule, go-slow, or analogous labour action that is politically motivated and is widespread or nationwide in Georgia; (e) any pre-existing Environmental Condition; (f) any grant of third-party rights by GoG or any Public Authority to: (i) impound, use, or divert any of the waters in the Catchment Area at a location upstream of the Facility; (ii) dam water downstream in a manner that results in the Facility being flooded ; or (iii) use water in any manner that conflicts with the water use rights of the Company and the exercise of such third-party right results in a claim being brought against the Company or a restriction on the Company's rights; or (g) any Changes in Law or Changes in Tax that (i) make any material undertaking or obligation of the GoG, the Offtaker, or the Fund under any Project Agreement, any Finance Document, the EPC Contract or the O&M Contract unenforceable, invalid or void, (ii) render it unlawful for the Company or render the Company unable to, or materially affect its ability to, (A) repatriate dividends to any Shareholder, or to (8) pay any amount the Company is required to pay to the Finance Parties under the Finance Documents, (iii) render it unlawful for the Company or render the Company unable to, or materially affect its ability to. Receive any material payment, perform any material obligation, or enjoy or enforce any material benefit under any of the Project Agreements, the Finance Documents, the EPC Contract or the O&M Contract or (iv) prior to Actual COD, causes, or will cause, any delay to the performance of the Company's obligations under this Agreement to the extent that such delay arises as a direct result of any extensions of time granted to the EPC Contractor in accordance with the terms of the EPC Contract.

79 Where compliance by the Company with any one or more occurrence of a Change in Law requires a modification or a capital addition to the Facility in aggregate with an estimated cost in excess of the Change in Law Threshold Amount. Per the Agreement, a Change in Law means the adoption, promulgation, bringing into effect, modification, amendment, repeal or reinterpretation of any Applicable Law, other than any Applicable Law pertaining to Taxes, including: (a) the adoption, promulgation, bringing into effect, modification, amendment, repeal or reinterpretation of the Grid Code or the Market Rules, in each case as in effect as at the Execution Date; (b) the imposition by the GoG or a Public Authority of any term or condition in connection with the issuance, renewal, extension, replacement, or modification of any Consent; or (c) the imposition by the GoG or a Public Authority of any additional Consent that in any such case: (i) establishes any requirement for the development, design, construction, financing, ownership, operation, maintenance or transfer relating to the participation by any Party, any Contractor, any Shareholder or any Finance Party in the Project that is more onerous or restrictive than the requirements: (A) in effect as at the Execution Date; (B) specified in any applications, or other documents filed in connection with such applications, for any Company Consents filed by the Company on or before Actual COD; and (C) agreed to by the Company in any of the Project Agreements; or (ii) otherwise has an adverse Material Company Effect.

80 Where any changes to the Grid System, the Connection Facilities and/or the Transmission Line that in aggregate have the effect of requiring a modification or a capital addition to the Facility with an estimated cost in excess of US$I00,000 (or its equivalent amount in another currency) in any Annual Generation Period.

81 Restoration has the meaning given to such term in Clause 26.2(a) (Preparation of Restoration Report Following a Political Force Majeure Event, Change in Law or Change in Grid System).

82 Grid Event means unavailability whether in full or in part, of the Grid System, Connection Facilities or the Transmission Line, in each case for any reason (including any Natural Force Majeure Event affecting the ability of any party constructing or operating the Transmission Line) other than as a direct result of a default by the Company or the Sponsor under this Agreement, the PPA or the Shareholders' Agreement (as applicable).

Event (PPFME)[83] or change in the law,[84] the Seller (project company) must prepare and give the government a preliminary estimate of the compensation it should receive for any material damage, modifications, or capital addition.[85] The preliminary estimate must state the projected cost range of restoration (after deducting the insurance proceeds available or likely to become available to the Seller), the threshold amount,[86] a schedule of activities, and a time frame for undertaking the restoration. The parties should meet within 15 days of preparing the Preliminary Estimate to conclude the discussions. If the Seller's restoration cost estimate exceeds the threshold amount—and the government disagrees with the estimate—then the matter (along with any disagreement regarding the restoration schedule) must be referred to an expert within 20 days from the start of the disagreement.

Expert determination in Pakistan's Standard Energy Purchase Agreements for solar, wind, and small hydro-powered generation complexes is more definitive than in Georgia's Implementation Agreement, which allows the parties to refer any expert determination to arbitration.[87] The Pakistani PPAs clearly state that an expert's decision on any disputes concerning compensation following a PPFME or a CLFME (Change in Law Force Majeure Event) is final and binding. The parties cannot appeal against the decision unless they agree to the contrary at the time of the expert's selection. It further states that the parties expressly waive, to the fullest extent permitted by law, all rights to contest the expert's decision before an arbitration tribunal or any court or other adjudicatory or administrative body.

Jordan's Standard PPA relating to a Photovoltaic Power Plant Facility (generation capacity not specified in the PPA) lists seven grounds for a "Government Force Majeure,"[88] including a change in the law. It states that if a force majeure event occurs before the commercial operation date, resulting in material damage to or loss of the facility, or a delay in achieving the commercial operation date, the parties shall consult with each other as soon as practicable concerning the effect of the event on the implementation schedule. If the parties cannot agree on an adjusted implementation schedule within 30 days, the matter should be referred to the expert for determining the commercial operation date, the Long Stop Date,[89] and any payments due because of the delayed commissioning. Moreover, if a force majeure event (including a Government Force Majeure event) causes an Event of Loss,[90] in that case, the project company (Seller) must rebuild,

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83 The following political events that occur inside or directly involve Pakistan (each a "Pakistan Political Event," and to the extent also a Force Majeure Event, a "Pakistan Political Force Majeure Event"): (i) any act of war (whether declared or undeclared), invasion, armed conflict or act of foreign enemy, blockade, embargo, revolution, riot, insurrection, civil commotion, or act or campaign of terrorism or political sabotage; or (ii) any Lapse of Consent that shall have existed for thirty (30) consecutive Days or more; or (iii) any strike, work-to-rule, go-slow, or analogous labor action that is politically motivated and is widespread or nationwide.

84 Per the Agreements, change in law means (a) the adoption, promulgation, repeal, modification or re-interpretation after the date of this Agreement by any Public Sector Entity of any Law of Pakistan (including a final, binding and non-appealable decision of any Public Sector Entity); (b) the imposition by a Relevant Authority of any material term or condition in connection with the issuance, renewal, extension, replacement or modification of any Seller Consent after the date of this Agreement; or (c) the imposition by a Relevant Authority of any additional Seller Consent, that in the case of each of clause (a), (b), or (c) hereinabove establishes either a material change in cost or in revenue, or any requirement for the design, construction, operation, maintenance or financing of the Complex that is more restrictive than the most restrictive requirements (i) in effect as of the date of this Agreement, (ii) specified in any applications, or other documents filed in connection with such applications, for any Seller Consents filed by the Seller on or before the Commercial Operations Date, and (iii) agreed to by the Seller in any of the Project Agreements.

85 The PPAs relating to solar and small hydro-powered generation complexes define "Material damage" or a "material modification" or "material capital addition" as out-of-pocket expenditures on such damage, modifications or capital additions as are, or are reasonably expected to be, in excess of the equivalent of (i) the higher of the product of US$5,000 and Contract Capacity or US$100,000 in respect of any single event resulting in damage or requiring a modification or addition; or (ii) the higher of the product of US$20,000 and Contract Capacity or US$250,000in the aggregate in any Year (in each case adjusted annually from the Commercial Operations Date for changes in the United States consumer price index from the value existing on the date hereof). The PPA relating to wind powered generation complex defines "material damage" or a "material modification" or "material capital addition" as out-of-pocket expenditures on such damage, modification or modifications or capital addition or additions are or are reasonably expected to be in excess of the equivalent of (i) US$250,000 in respect of any single event resulting in damage or requiring a modification or addition; or (ii) US$1,000,000 in the aggregate in any Year (in each case adjusted annually from the Commercial Operations Date for changes in the United States consumer price index from the value existing on the date hereof).

86 "Threshold Amount" shall mean, for any event, the EPC Cost multiplied by a percentage equal to twenty-five percent (25%) at any time prior to or on the Commercial Operations Date and such percentage decreasing annually as a straight-line basis to five percent (5%) at one year prior to the end of the Term, and remaining at five percent (5%) thereafter until the end of the Term.

87 This item is only the case for disputes concerning compensation following a PPFME or a Change in Law Force Majeure Event (CLFME).

88 "Government Force Majeure" means Force Majeure which consists of any or any number of the following events: (i) acts of war (whether declared or not), invasion, armed conflict, act of foreign enemy or blockade in each case involving, occurring within Jordan; (ii) acts of rebellion, riot, civil commotion, nationwide strikes of a political nature, act or campaign of terrorism, or sabotage of a political nature, or industrial disturbances, lock outs, or any prolonged civil action that blocks access to Government of Jordan or Government Authority; (iii) any boycott, sanction, embargo penalty or other restriction imposed directly on Jordan by the government of during the period up to and including the Commercial Operation Date; (iv) any action or failure to act by a Government Authority that results in any Government Authorization: (a) ceasing to remain in full force and effect; or (b) not being issued or renewed in a timely manner upon due application having been made, provided that the reasonable exercise of any rights of a Government Authority pursuant to any Government Authorization shall not constitute Government Force Majeure; (v) National Electric Power Company Grid Failure to the extent such failure is caused as a result of Government Force Majeure; (vi) nationalization, expropriation initiated or pursued directly by the Government of Jordan of the PV Facility; and (vii) a Change in Law that prevents the Project Company from building or operating the PV Facility or which otherwise cannot be cured under Article 13.11.

89 "Longstop Date" means the date falling three (3) months after the Required Commercial Operation Date as identified as such in the Implementation Schedule as adjusted from time to time in accordance with this Agreement.

90 "Event of Loss" means an event that causes all or a portion of the PV Facility to be damaged, destroyed, or rendered unfit for normal operation.

repair, and restore the facility once the event ceases. For this purpose, it should use all insurance proceeds and other amounts received on account of the Event of Loss (together called the "Casualty Proceeds"). Before the Seller receives the Casualty Proceeds, it must provide the government (Buyer) with a report on whether the restoration is commercially feasible and whether the Casualty Proceeds are sufficient for this purpose. If the Buyer disputes the Seller's determination, it may submit the matter to the expert.

Moreover, the PPA gives the Buyer the right to refer a dispute to the expert if it believes that the Seller is not pursuing any restoration aspect "diligently." In such a situation, the expert's determination is limited to creating a reasonable restoration timetable, and the Seller must adhere to this timetable. The PPA also states that if a party wishes to raise any other dispute regarding the other party's compliance with its restoration obligations, it should refer this dispute to the expert for resolution.

Pakistan's Standard Energy Purchase Agreement and Bangladesh's Sample Implementation Agreement differ regarding the weight attached to the expert's determination. Contrary to the approach taken in the former, Bangladesh's Implementation Agreement states that an expert's decision is not final and binding unless agreed otherwise between the parties. Moreover, parties to Bangladesh's sample Implementation Agreement can contest the expert's decision before an arbitration tribunal—an avenue not open to parties under Pakistan's PPA. Therefore, the Bangladesh Sample Implementation Agreement treats the expert as an additional avenue for de-escalating disputes, whereas Pakistan's PPA makes it an alternative to arbitration. It should be noted that neither agreement allows the parties to challenge the expert's determination before courts or administrative bodies.

(2) Expert determination of disputes following a change in taxation

Georgia's Implementation Agreement for the Nenskra Hydroelectric Project states that the Seller (project company) should give the Buyer (government) a notice of increased cost if it experiences a decrease in revenue or an increase in costs of US$100,000 (aggregate) or more in any annual generation period because of a change in taxes.[91] Following the notice, the parties should discuss and try to agree on the adjustments or lump sum compensation to which the Company is entitled. In the event the parties have not agreed to an amount within 45 days of the Increased Costs Notice, then the dispute shall be resolved through an expert determination.

Pakistan's Standard Energy Purchase Agreements for solar, wind, and small hydro-powered generation complexes follow a similar approach to the Georgian agreement but only to a degree. The Standard Energy Purchase Agreements state that if an actual or anticipated change in tax[92] causes the Seller to incur any tax costs,[93] realize its tax savings,[94] or lead to a variation in the withholding tax rate, then either party may give notice of these changes to the other. This notice should be done within 30 days of becoming aware that the change in taxation will alter the Seller's tax costs or tax savings. Within 45 days of the change in tax notice, the Seller must give the Buyer a detailed written calculation of the affected tax costs, tax savings, or withholding taxes. The calculations should be accompanied by a statement from an international accounting firm or other reputable and qualified professional consultant certifying that the Seller will incur, realize, or become subject to additional tax variations.

The agreements state that the parties must resolve any dispute on the amount of the tax costs or tax savings resulting from a tax change, the adjustment to the energy price, or set-off

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91 Change in Tax means: (a) any substantive deviation between the Tax Implications and the Tax Ruling (substantive, for the purpose of this definition, meaning a deviation that causes a financial impact to the Company of equal to or greater than the Change in Tax Threshold Amount) or, after the Execution Date, the adoption, promulgation, bringing into effect, modification, amendment, increase, repeal, interpretation, reinterpretation or application of any Applicable Law relating to any Tax including any application of any Tax, which is imposed on the Company or any Private Shareholder (including any withholding Taxes on distributions to Shareholders or the payment of amounts due and payable to the Finance Parties) ; and (b) until the Final Debt Maturity Date, for invoices paid in any Annual Generation Period, any event where the aggregate GEL amount paid to the Company pursuant to Clause 8.2(b) (Payment) of the PPA in that Annual Generation Period is lower than the aggregate GEL amount that would have been paid to the Company in respect of those invoices if, for each such invoice, the GEL amount had been calculated by reference to the official exchange rate posted by the National Bank of Georgia on the date of payment of that invoice and not by reference to the official exchange rate posted by the National Bank of Georgia on the last day of the TOP Period that that invoice applies to (and, for avoidance of doubt, the amount of such deficit shall be deemed to be a decrease in revenue).

92 After the date of the agreement, the adoption, enactment, promulgation, coming into effect, repeal, amendment, re-interpretation, change in application, change in interpretation or modification by any Public Sector Entity of any Law of Pakistan relating to any Tax or Taxes.

93 An amount equal to the amount of any new or additional Tax or an increase in an existing Tax payable by the Seller in relation to the Project as a result of a Change in Tax, but excluding any withholding Tax on dividends.

94 An amount equal to the amount of any decrease or reduction in or elimination of a Tax, other than withholding Tax on dividends, payable by the Seller in relation to the Project as a result of a Change in Tax.

against the energy payment, according to the dispute resolution clause. It does not explicitly require expert determination, unlike the Georgian Implementation Agreement for the Nenskra Hydroelectric Project. Therefore, the parties may avail the option of an expert determination, but that step is not mandatory, and they may decide to bypass the step and directly take recourse to arbitration.

Option 5: Mediation

Contractual dispute de-escalation processes may include recourse to mediation[95] or conciliation in some instances. For example, the Open Solar PPA and Implementation Agreement give parties this option. The use of mediation under these agreements is not compulsory. Parties may, at any time and without prejudice to any other proceedings, seek to settle a dispute following agreed mediation rules. On the other hand, the new Indian Model PPA for the Implementation of Off-Grid Solar Power Plants in the Renewable Energy Service Company (RESCO) model makes it mandatory for the parties to undertake conciliation. The agreement requires that if the purchaser and the power producer cannot settle differences or disputes by mutual consent, they must resort to conciliation before recourse to arbitration.[96] Jordan's Standard PPA relating to a Photovoltaic Power Plant Facility requires that any dispute or difference, except those of a technical nature, be settled amicably by the parties within two months. If this is not possible, they should refer it to senior executives of the parties for mediation. The PPA does not give guidance on whether the mediation should be formal under institutional rules or a simple, informal negotiation between the parties. For IAP Survey results, see box 4.3.

Box 4.3 Industry perspective—Use of mediation

No respondents to the IAP Survey appear to have used mediation or conciliation to solve their differences with the host country before the commencement of arbitration or litigation. However, one respondent was able to settle a conflict through mediation after the commencement of an arbitration. Two other respondents conducted a formal analysis of the suitability of mediation or conciliation for settling a dispute. Respondents indicated the following problems as preventing disputes from being considered for mediation or conciliation:

- Lack of familiarity with mediation or conciliation or the process
- Absence of the legislative framework for mediation or conciliation of disputes involving the government
- Concerns regarding the enforceability of mediated settlements
- Concerns regarding the political and legal consequences of a settlement

Source: IAP Survey.

95 The United Nations Convention on International Settlement Agreements resulting from Mediation (Singapore Convention on Mediation) has improved the international framework on mediation, by establishing a harmonized legal framework enforcement of settlement agreements resulting from mediation.

96 Reference to conciliation is not included in the 2016 Indian Model EPC Agreement for Grid Connected and Off-grid Roof-Top Solar Power Plants in CAPEX model.

Chapter 5: Mechanisms to Reduce Regulatory Risks, Prevent Conflicts and Disputes in the Renewable Energy Sector

Chapter 4 mapped out measures, following different approaches that countries have put in place to prevent disputes and investor-State conflicts. Apart from the contractual mechanisms discussed in the final section of Chapter 4, most measures mapped were sector neutral and available at the economywide level. No concrete initiatives have been taken to specifically deal with the reduction of regulatory risks and the prevention of disputes in the renewable energy sector.

This chapter discusses options, based on the experience of the Energy Charter Secretariat and the World Bank Group, that countries can explore to reduce regulatory risks, prevent and manage investor-state conflicts in the renewable energy sector. The options can be classified into (1) systemic measures to improve regulatory frameworks or (2) institutional measures to handle investor grievances.[97]

(1) Systemic measures to improve regulatory frameworks

Chapters 2 and 3 highlighted the prevalence of regulatory risks and disputes in renewable power generation, arising from adverse regulatory changes and the unpredictability thereof. Therefore, at a systemic level, one of the main tools to reduce regulatory risks and prevent conflicts with foreign investors in renewable energy is introducing transparency and industry consultations in undertaking nondiscriminatory regulatory reform. In 2017, the Energy Charter Conference[98], recalling the G20 Guiding Principles for Global Investment Policymaking (2016)[99] and the joint African, Caribbean, and Pacific Group of States (ACP)—UNCTAD Guiding Principles for ACP Countries' Investment Policymaking (2017),[100] endorsed some of the best practices in regulatory reform to minimize potential conflicts with foreign investors.[101] The best practices include the following:

- Identify clearly and unambiguously a single lead agency in charge of the regulatory reform at hand.
- Develop a consolidated program document, implementation roadmap, and decision-making schedule, with public meetings to report progress.
- Provide explanatory/background materials and timely information on the proposed regulatory reform to help the involved parties understand better its purpose and applicability.
- Ensure that the consultation is timely and transparent and provides stakeholders with sufficient time to submit their position. The stakeholders should clearly understand the consultation's scope. It is beneficial to report back on the result of such consultation, explaining how the stakeholder input has been assessed and considered.
- Survey early in the process all existing international obligations of the state and map

97 These initiatives can be complemented with other solutions. For example, risks and grievances are often generated from badly negotiated contracts. In this regard, improving capacity of state agencies to negotiate contracts, fully understanding the implications of various terms and events can further help prevent conflicts. Limited support in this area is provided to states through initiatives such as the Connex Support Unit, African Legal Support Facility. See https://www.afdb.org/en/topics-and-sectors/initiatives-partnerships/african-legal-support-facility. See also Karl P. Sauvant, "Importance of Negotiating Good Contracts" at https://e15initiative.org/blogs/importance-negotiating-good-contracts/.

98 The Energy Charter Conference is the governing and decision-making body of the International Energy Charter, https://www.energycharter.org/who-we-are/energy-charter-conference/.

99 See OECD, *Annex III: G20 Guiding Principles for Global Investment Policymaking* (2016) at https://www.oecd.org/daf/inv/investment-policy/G20-Guiding-Principles-for-Global-Investment-Policymaking.pdf.

100 See UNCTAD, *Guiding Principles for ACP Countries' Investment Policymaking,* U.N. Doc. ACP/85/037/17/Rev.1. at http://www.acp.int/sites/acpsec.waw.be/files/Guiding%20Principles%20for%20ACP%20countries.pdf.

101 Energy Charter Conference Decision (CCDEC2017 4) of October 11, 2017, *Best Practices in Regulatory Reform: Minimising Potential Conflicts with Foreign Investors* at https://www.energycharter.org/fileadmin/DocumentsMedia/CCDECS/2017/CCDEC201704.pdf.

the categories of foreign investors currently present in the territory of the host country, analyzing the potential impact and risks stemming from the envisaged regulatory reform.

- Conduct a comprehensive study into problems, conflicts, and disputes the host country experienced in the past in that particular sector, as well as a comparative analysis of problems faced by other states that had introduced similar reforms. This study should be part of the impact assessment of the proposed regulatory reform.

The Energy Investment Risk Assessment (EIRA)[102] report assesses legal and regulatory risks to energy investment that can be mitigated through government action. It aims to identify policy gaps, provide learning opportunities, and stimulate reforms that make countries' investment climate more robust and reduce the risk of conflicts with foreign investors. EIRA guides governments in making their legal and regulatory frameworks resilient and increase their preparedness for the energy transition. At the same time, it offers the investor community information on the latest developments in the energy sector of countries, including their policy targets, revisions to legal and regulatory frameworks, and incentives offered to facilitate investments in clean energy technologies.

Currently, EIRA evaluates three risk areas: (a) unpredictable policy or regulatory change, (b) discrimination between domestic and foreign investors, and (c) breach of state obligations. In 2022, after three years of intensive discussions, EIRA's scope was updated to construct five indicators to measure these risks: (a) framework for a sustainable energy system, (b) the foresight of policy and regulatory change, (c) management of decision-making processes, (d) the regulatory environment and investment conditions, and (e) the rule of law (compliance with national and international obligations). The indicators reward countries for (a) taking concrete measures to manage and limit arbitrary or discriminatory policy changes and (b) reducing the possibility of breaching state obligations. Such measures include setting long-term policy objectives and goals, ensuring transparency in decision-making, granting equal treatment to foreign and domestic investors, and effectively managing disputes with foreign investors.[103]

(2) Institutional measures to handle investor issues before their escalation to legal disputes

Measures to improve the process of regulatory reform previously discussed can be complemented with specific measures to address investors' issues when they arise, before they escalate into full-fledged legal disputes. In this regard, countries may consider setting up grievance mechanisms (also referred to as investment retention or dispute prevention mechanisms) specifically for renewable energy projects. The World Bank's experience of implementing such measures—in particular, investor grievance mechanisms or targeted aftercare programs—shows that, indeed, such mechanisms can be further refined to cater specifically to the renewable energy sector. These mechanisms address both political risks and operational risks, which may lead to the withdrawal, closing, or cancellation of investment (including preapproved expansion plans) along with legal disputes (World Bank 2019; Kher, Obadia, and Chun 2021). While investor grievance mechanisms are more focused on political risks that can cause legal disputes, targeted aftercare programs are focused on a broader set of operational risks.[104]

Investor grievance mechanisms collect data and identify patterns in the host country on political and operational risks under the control of the government. Creating the mechanism entails empowering a reform-oriented government agency (that is, a lead agency) and establishing an intra-governmental mechanism to systematically address issues arising from government conduct or under government control, thereby reducing risks at their source. The lead government agency brings to the attention of high levels of government problems affecting investments, helping to address them before they escalate further.

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102 See https://eira.energycharter.org/.

103 The updated scope of EIRA aims to reflect the pledges and commitments made by countries under the Paris Agreement and the global efforts to combat climate change. In addition to its original scope, EIRA now evaluates legal and regulatory risks to achieving the clean energy transition, corruption risks, and competition in the electricity markets. It gives recommendations on long-term policy planning for clean energy transition, implementing enabling measures in this respect, and addressing cross-cutting issues of gender mainstreaming in energy and climate change, human rights, and environmental protection. It also examines whether countries are setting well-defined action plans, policy targets, and market-based incentives—in consultation with energy investors and other stakeholders—to mitigate the risk of unpredictable policy or regulatory changes at a later stage.

104 See World Bank, Divestment Drivers and FDI Retention (forthcoming).

Implementation of grievance mechanisms entails three broad steps, as shown in figure 5.1:

1. Establishing an appropriate institutional setup: This step includes establishing a lead agency that identifies, tracks and manages projects at risk and investor issues. The lead agency should have a strong mandate to perform problem-solving functions effectively based on a proper legal foundation. Table 5.2 provides options for establishing a lead agency. A key feature of the institutional setup is having an escalation mechanism, where investor issues that cannot be resolved at the technical level can be escalated for political decision-making. This escalation mechanism is usually an inter-ministerial body with representatives from all key ministries.
2. Determining a systematic approach and operating procedures: Clear operating procedures should be stipulated that outline the strategy and process of outreach to investors, recording investor issues; analyzing investor issues; collecting the requisite data on investment projects and issues; engaging in problem-solving, escalation, or advocacy; and following up for implementation of solutions.
3. Monitoring and evaluation: Clear performance indicators to measure the success of the mechanism should be set up. These indicators include the amount of investment retained by effective handling of investor issues and the number of investor issues resolved. A tracking tool should be implemented by the lead agency to collect data and monitor the performance of the mechanism regularly.

Table 5.1. Essential features of grievance mechanisms

Institutional setup	Operating procedures	Monitoring & evaluation
Lead Agency or IPA • Identifies, tracks, manages projects at risk and investor grievances **Legal Instrument, Clear Mandate** • Clarifies role of lead agency • Ensures coordination **Escalation Mechanism / Advocacy** • Addresses highly political grievances and enforces implementation • Addresses systemic issues – push for reforms	**Steps to define Standard Operating Procedures** 1. Defining and executing outreach plans (having a strategy) 2. Recording issues / filtering by risk 3. Assessing impacts (legal and economic) 4. Problem-solving 5. Escalating and Advocacy (if needed) 6. Following up	**Impact Indicator** 1. Investment retained **Main Outcomes** 1. Number of projects retained 2. Number of issues / grievances solved **Tracking Tool** • For the Lead Agency to easily calculate those indicators it is important to have a tracking tool to capture the necessary data

Source: World Bank Group.
Note: IPA = Investment Promotion Agency.

Table 5.2 Options for establishing a lead agency

	New agency	Within an investment promotion agency
Type	Independent New lead agency (for example, a business ombudsperson)	Lead agency within IPA (for example, a grievance management unit)
Escalation Mechanism	Independent platform → Prime ministerial or inter-ministerial meeting	Discussion in IPA units → High-level management of the IPA → Prime ministerial or inter-ministerial meeting
Pros	• Strong authority (including on issues outside the scope of the IPA) • Focus on high-risk cases	• Easy access to investors • Easy issue collection process
Cons	• New institution with new resources • Slow progress • Low capacity	• Mandate can be limited • Confusion between the grievance management and broader aftercare • Difficulties in focusing on high-risk cases
Conditions for success	• No IPA or a weak IPA • Strong political support from the top to create a new agency	• Strong empowerment of the IPA for coordination • Need for an efficient filtering and escalation mechanism

Source: World Bank Group.
Note: IPA = Investment Promotion Agency.

The process of resolving investor grievances typically involves six steps:

1. Determining the overall implementation strategy, including which types of issues and investors (sector, volume, home country) need to be prioritized for retaining investments and preventing investor-state disputes.
2. Recording of the issue in the lead agency's tracking tool. The information recorded should include:
   - Investment details, such as location, amount, nationality
   - Description of the investor issue—agencies involved, nature of the issue, the impact of the issue on the investment operations and plans
   - Previous actions taken and outcomes of those actions

   The tracking tool is critical to the performance of the lead agency. The task of recording the issue also entails filtering issues to ensure that only issues between investors and public entities that affect retention of investment or could escalate into legal disputes are registered with the grievance mechanism.
3. Assessing the legal and economic aspects of the issue. This assessment will help determine the impact of the issue on investor operations—in particular, the ability of an investor to continue its operations—and whether the issue could lead to liability for the state.
4. Engaging in effective problem-solving. The lead agency engages with its peer agencies that caused the investor issue, with the result being a resolution. In its engagement, the lead agency leverages the data recorded on the investor issue and its impact on operations to persuade the other agencies to reach a solution.
5. Escalating for political decision-making when a solution to the issue has not been reached at a technical level.
6. Communicating and following up. Once the issue is resolved, it is important to follow up with the involved agencies to ensure that the solution is properly implemented. All through the process, the lead agency should communicate clearly with the investor.

Grievance mechanisms that cater specifically to the renewable energy sector must consider some key differentiating features:

- One important option for the lead agency in charge of the implementation of a grievance mechanism can be the main agency responsible for the administration of renewable energy projects. Given the very specialized nature of renewable energy projects, having an agency that understands the operational details is critical. Investment promotion agencies and other investment-related agencies that are often lead agencies may not have the requisite technical competence to coordinate and analyze renewable energy-related investor concerns. Another option that can be explored is to continue having the main investment agency as the lead agency but also include a representative of the renewable energy agency as a lead agency member. In determining the lead agency, the government should be sure to consider the issues of conflict of interest, particularly for agencies that are also energy purchasers and regulators themselves.
- This report has shown that a large part of investment disputes in the renewable power generation are caused by adverse regulatory changes, such a change in FIT or others. Therefore, the institutional setup for any mechanism should ensure the participation of relevant bodies in charge of making legislative or regulatory changes in the sector.
- There should be a more emphatic focus on addressing systemic issues in the renewable energy sector in a way that more widely facilitates reform of the investment climate—apart from the regular handling of investor-specific issues.
- Relatedly, given the importance of contracts in the renewable energy sector, any mechanism for the sector should clarify and address the aspect of contract re-negotiations - reflecting good practices around transparency, predictability and fairness for both investors and States.
- As discussed in Chapter 4, renewable energy contracts extensively use sectoral technical experts such as engineers or other technicians in addressing differences between contracting parties. Because the nature of investor issues in the renewable energy sector can be very technical, it is important to ensure that the lead agency has access to a pool of sectoral experts for an external advisory opinion as needed. This external opinion would likely be needed when the lead agency is preparing the economic and legal assessment of the investor issue and engaging in problem-solving with the involved

agency. The external advisory opinion will help the lead agency assess the issue from both an economic and legal perspective keeping in view the technical and operational complexities of project implementation.

- Where there already exists a horizontal, sector-neutral grievance mechanism, clarity should be ensured, in particular on coordination and information sharing between that and the mechanism specific to the renewable energy sector.
- Another aspect to consider is the possibility of including a reference to any retention or grievance management mechanism within the standard contract entered into between investors and public agencies. As discussed in the earlier sections, there is significant use of contractual arrangements at various stages of operations. Reference to a grievance management mechanism as an option for preventing disputes and early resolution of investor issues can be included in the contract itself. This type of mechanism will help with ensuring sustainability and effective usage of the tool. Inclusion of specifics regarding the mechanism—such as the name of the lead agency, the process, the role of investors and the lead agency—will further enhance accountability at all levels.

See box 5.1 for one country's experience with first steps toward creating an investor grievance management mechanism.[105]

In 2018, the Energy Charter Secretariat developed the Model Instrument for Management of Investment Disputes.[106] Although primarily focused on the effective management of investment disputes, the Model Instrument also contains several tools that can be useful for conflict prevention, such as centralization of information, information sharing, coordination, and an early-warning mechanism. The Model Instrument also emphasizes the importance and usefulness of negotiations and mediation or conciliation, providing a clear and express legal basis for their application as well as the authority to settle. One of the main features of the Model Instrument is the establishment of a lead agency. Governments may voluntarily use the Model Instrument as a reference or guide to develop or update their internal legal framework for managing investment disputes, while considering their specific administrative needs as well as cultural and legal particularities.

105 For more country case studies see World Bank. 2019. *Retention and Expansion of Foreign Direct Investment: Political Risk and Policy Responses.* Washington, DC: World Bank; Kher, Priyanka, Eloise Obadia, and Dongwook Chun. 2021. "Managing Investor Issues through Retention Mechanisms." EFI Note, Washington, DC: World Bank Group Group.

106 See International Energy Charter, *Model Instrument for Management of Investment Disputes* in English, French, Russian and Chinese at https://www.energychartertreaty.org/model-instrument/. See also Leyda (2019).

Box 5.1 Vietnam's experience

Vietnam has successfully attracted FDI as an important source of economic growth for more than 30 years. However, administrative procedures, changes in laws and policies, nonadherence to the Investment Registration Certificates and investor-state contracts, discriminatory treatment, lack of transparency in policy, difficulties in information access, and enforcement of foreign arbitration awards are commonly reported investor concerns. In 2018, Vietnam decided to move to a next-generation FDI strategy in the context of implementing the Comprehensive and Progressive Agreement for Transpacific Partnership (CPTPP) and the EU—Vietnam FTA. To better implement these agreements, the government of Vietnam established a pilot task force team led by the director general of the Foreign Investment Agency (FIA) to pilot an investor grievance management mechanism to draw lessons before formally setting up the mechanism.

The task force was focused on political risks and comprised eight members from the FIA, Ministry of Planning and Investment, Ministry of Justice, and Prime Minister's Office. Resolution 50 of the Politburo of the Communist Party adopted in August 2019 provided the overall direction for establishment of an investor grievance management mechanism. In June 2020, Vietnam passed its new Investment Law, which also included a reference to the mechanism. At the time of writing, the government was still working on an implementing decree for the law, which would provide more details on the functioning of the mechanism.

The operating procedures followed by the task force include data collection assessment from a legal and economic perspective and preparation of a recommendation. If the grievance is not resolved at the technical level through a discussion between the task force team and relevant agencies, then the task force team drafts a consolidated report on the cases (including a legal and economic assessment, task force team recommendations, and the position of the relevant ministry), and reaches out to the Prime Minister's Office for a political decision. All activities of the task force are recorded in a log sheet, allowing for easy follow-up and preventing duplication of activities.

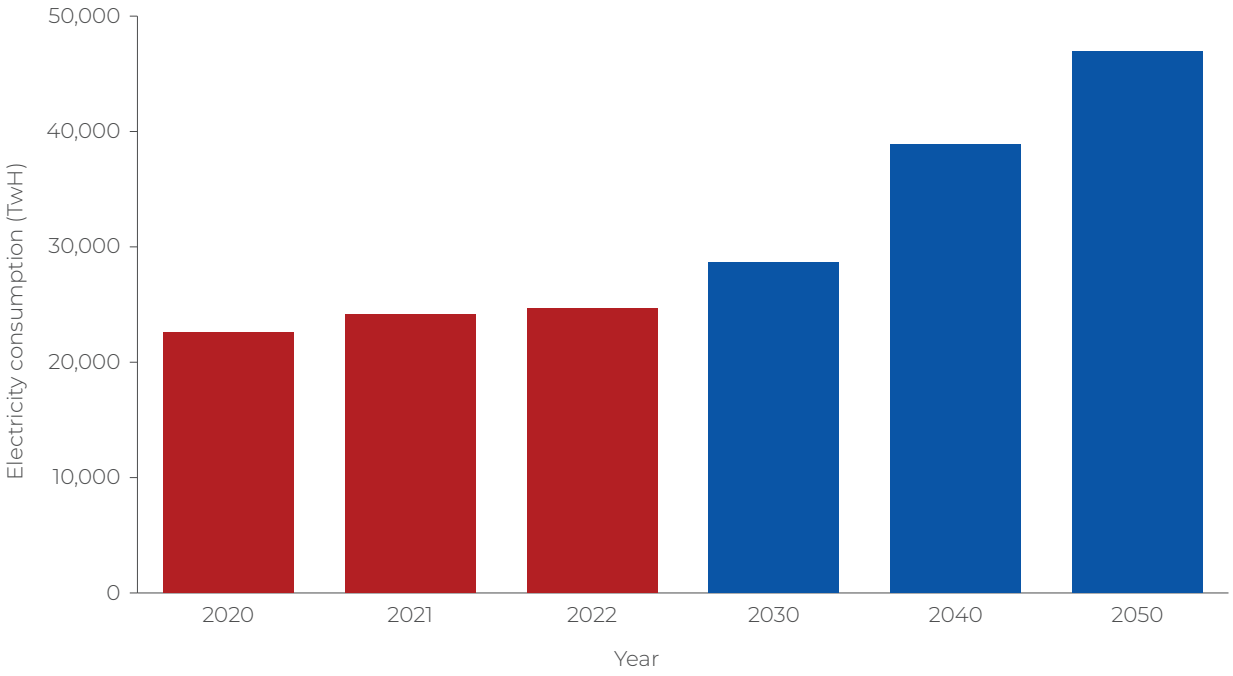
Between December 2018 and May 2020, 41 grievances have been recorded in the tracking tool of which 16 were cases that could have escalated to investor-state disputes but were detected in time for early resolution.

Source: Foreign Investment Agency, Vietnam.

Appendixes

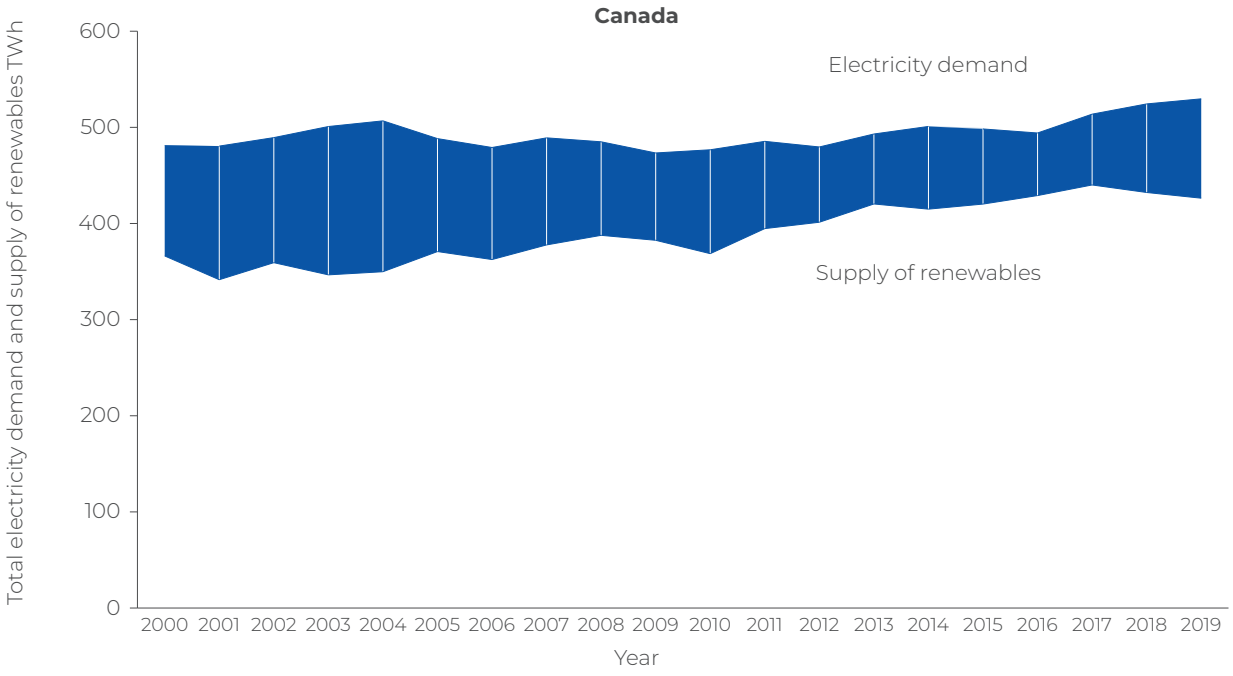
Appendix A: Additional figures, Chapter 1

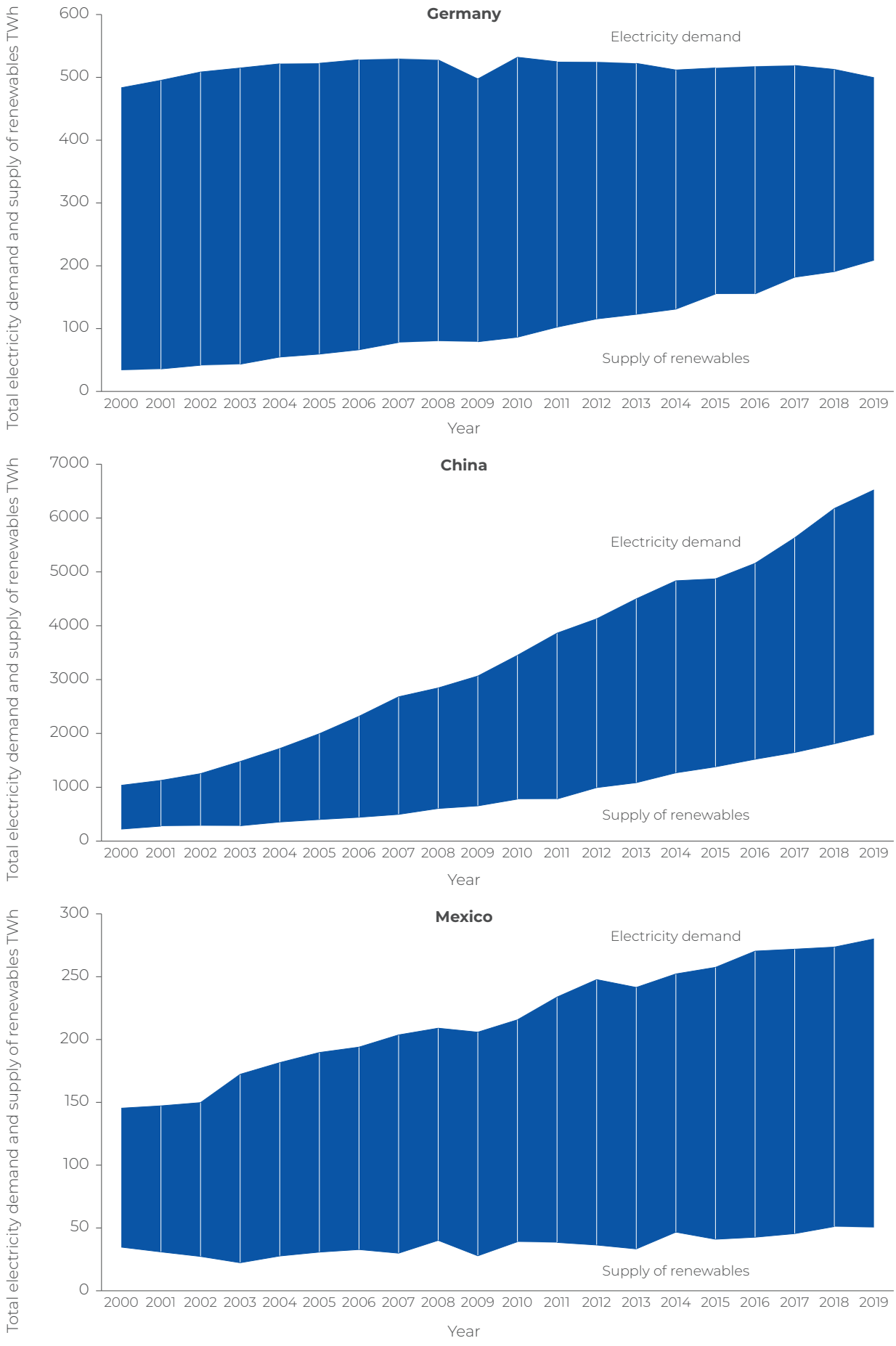
Figure A.1 Demand estimates for 2030, 2040, and 2050



Source: IEA, Net Zero by 2050.
Note: TWh = terawatt-hours.

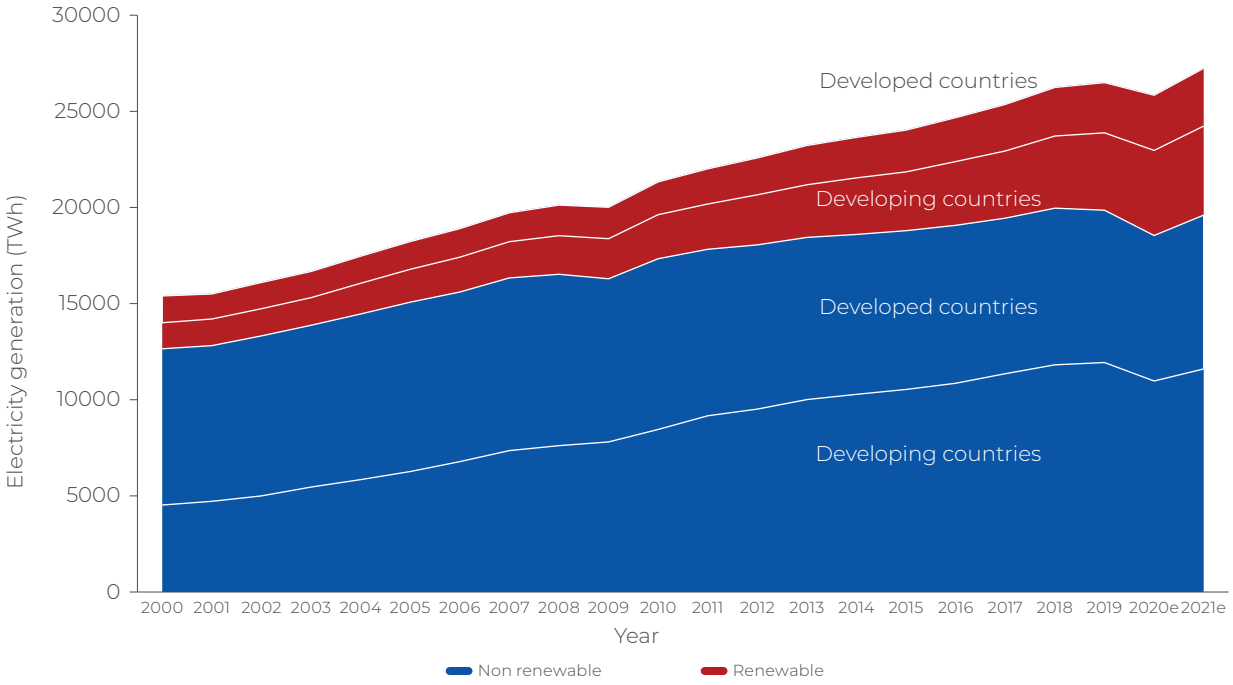
Figure A.2 Electricity demand and production of renewables: Selected countries





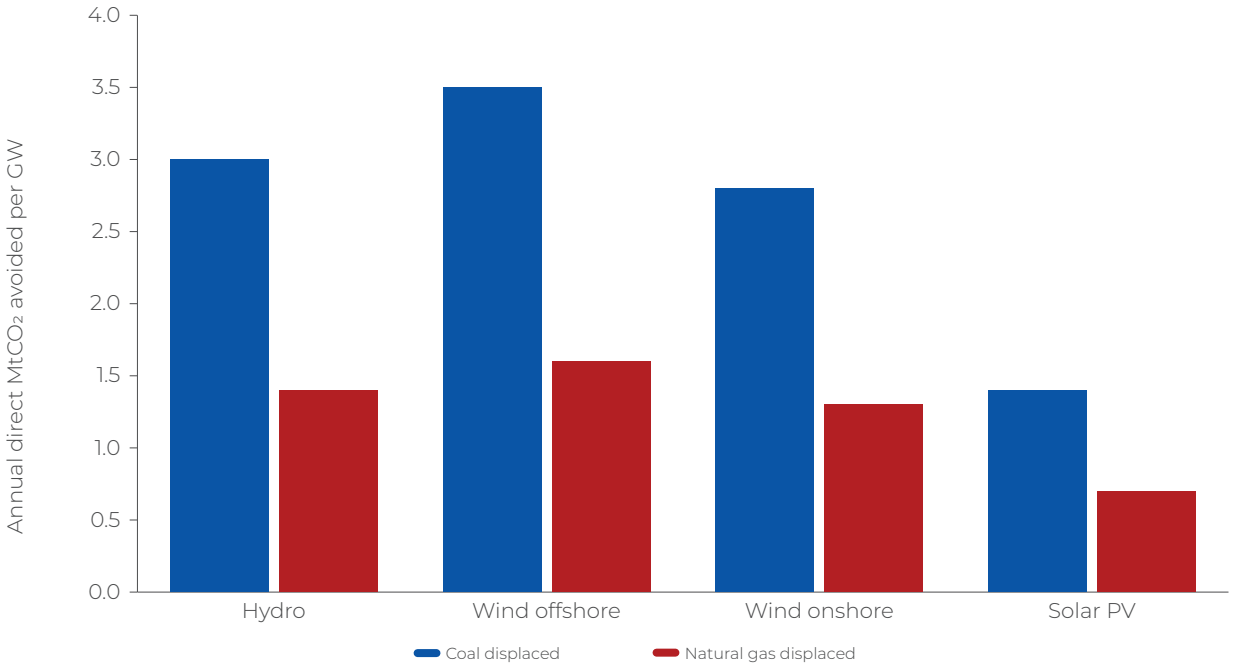
Source: World Bank–Energy Charter Secretariat calculations using consumption data from the IEA and production of energy from the International Renewable Energy Agency (IRENA). Renewables include onshore and offshore wind, renewable hydropower, solar PV, solar thermal energy, and other renewables.
Note: TWh = terawatt-hours.

Figure A.3 Electricity generation by group of countries



Source: World Bank–Energy Charter Secretariat calculations using energy generation data from IRENA.
Note: TWh = terawatt-hours.

Figure A.4 Annual direct carbon dioxide emissions avoided per 1 GW of installed capacity by renewable technology and displaced fuel



Source: World Bank– Energy Charter Secretariat calculations using consumption data from the IEA.
Note: $MtCO_2$= metric tons of carbon dioxide; GW = gigawatt; PV = photovoltaic.

Appendix B: Foreign direct investment in renewable energy

Table B.1 Source regions for FDI in renewables (2003-21)

Region	Number of projects
Europe and Central Asia	3,751
East Asia and Pacific	815
North America	773
Middle East and North Africa	173
Latin America and the Caribbean	52
South Asia	43
Sub-Saharan Africa	27

Sources: fDi Markets, a *Financial Times* data set (https://www.fdimarkets.com/); World Bank–Energy Charter Secretariat analyses.

Table B.2 Top 10 source countries for FDI in renewables (2003-21)

Country	Number of projects
Germany	690
Spain	596
United States	516
France	496
Italy	419
United Kingdom	301
Canada	253
China	239
Japan	158
Norway	146

Sources: fDi Markets, a *Financial Times* data set (https://www.fdimarkets.com/); World Bank–Energy Charter Secretariat analyses.

Table B.3 Destination regions for FDI in renewables (2003-21)

Region	Number of projects
Europe and Central Asia	2,473
East Asia and Pacific	889
Latin America and Caribbean	847
North America	669
Sub-Saharan Africa	316
Middle East and North Africa	243
South Asia	197

Sources: fDi Markets, a *Financial Times* data set (https://www.fdimarkets.com/); World Bank–Energy Charter Secretariat analyses.

Table B.4: Top 10 destination countries for FDI in renewables (2003-21)

Country	Number of projects
United States	577
United Kingdom	415
Spain	292
Brazil	218
Chile	217
France	192
Australia	180
Mexico	163
India	159
Germany	152

Sources: fDi Markets, a *Financial Times* data set (https://www.fdimarkets.com/); World Bank–Energy Charter Secretariat analyses.

Appendix C: Damages claimed and damages awarded

Table C.1 Damages claimed vs. damages awarded

This table covers only the subset of cases on which information on damages claimed and awarded was publicly known as of 1 February 2022.

Name of Case	Damages claimed	Damages awarded	Ratio
Windstream Energy LLC v. Canada, PCA Case No. 2013-22 (final award dated September 27, 2016)	Can$568.5 million	Can$25.2 million	4.4%
Novenergia II – Energy & Environment (SCA) SICAR v. Spain, SCC Case No. 2015/063 (final award dated February 15, 2018)	€61.3 million	€53.3 million	86.9%
Masdar Solar & Wind Cooperatief U.A. v. Spain, ICSID Case No. ARB/14/ (final award dated May 16, 2018)	€260 million	€64.5 million*	24.8%
Antin Infrastructure Services Luxembourg S.à r.l. and Antin Energia Termosolar B.V. v. Spain, ICSID Case No. ARB/13/31 (final award dated June 15, 2018)	€238 million	€101 million	42.4%
Foresight Luxembourg Solar 1 S.à.r.l. and others v. Spain, SCC Case No. 2015/150 (final award dated November 14, 2018)	€50 million	€39 million	78%
Greentech Energy Systems A/S, NovEnergia II Energy & Environment (SCA) SICAR, and NovEnergia II Italian Portfolio SA v. Italy, SCC Case No. V 2015/095 (final award dated December 23, 2018)	€25.06 million	€11.9 million	47.5%
CEF Energia B.V. v. Italy, SCC Case No. 158/2015 (final award dated January 16, 2019)	€10.3 million	€9.6 million	93.2%
Hydro S.r.l. and others v. Albania, ICSID Case No. ARB/15/28 (final award dated April 24, 2019)	€650 million	€110 million	16.9%
9REN Holding S.à r.l. v. Spain, ICSID Case No. ARB/15/15 (final award dated May 31, 2019)	€52.2 million	€41.76 million	80%
NextEra Energy Global Holdings B.V., NextEra Energy Spain Holdings B.V. v. Spain, ICSID Case No. ARB/14/11 (final award dated May 31, 2019)	€521.4 million	€290.6 million	55.7%
Cube Infrastructure Fund SICAV and others v. Spain, ICSID Case No. ARB/15/20 (final award dated July 15, 2019)	€74.1 million	€33.7 million	45.5%
SolEs Badajoz GmbH v. Spain, ICSID Case No. ARB/15/38 (final award dated July 31, 2019)	€82 million	€40.5 million	49.4%
InfraRed Environmental Infrastructure GP Limited and others v. Spain, ICSID Case No. ARB/14/12 (final award dated August 2, 2019)	€75.7 million	€28.2 million	37.5%
OperaFund Eco-Invest SICAV PLC and Schwab Holding v. Spain, ICSID Case No. ARB/15/36 (final award dated September 6, 2019)	€42 million	€29.3 million	69.8%
RREEF Infrastructure (GP) Limited and RREEF Pan-European Infrastructure Two Lux S.à r.l. v. Spain, ICSID Case No. ARB/13/30 (final award dated December 11, 2019)	€441 million	€59.6 million*	13.5%
Watkins Holdings S.à r.l. and others v. Spain, ICSID Case No. ARB/15/44 (final award dated January 21, 2020)	€123.9 million	€77 million	62.1%
The PV Investors v. Spain, PCA Case No. 2012-14 (final award February 28, 2020)	€1.16 billion	€91.1 million*	12.7%
Hydro Energy 1 S.à r.l. and Hydroxana Sweden AB v. Spain, ICSID Case No. ARB/15/42 (final award dated August 5, 2020)	€132.1 million	€30.9 million	23.4%
ESPF Beteiligungs GmbH, ESPF Nr. 2 Austria Beteiligungs GmbH and InfraClass Energie 5 GmbH & Co. KG v. Italy, ICSID Case No. ARB/16/5 (final award dated September 14, 2020)	€28.6 million	€16 million	56%
RWE Innogy GmbH and RWE Innogy Aersa S.A.U. v. Spain, ICSID Case No. ARB/14/34 (final award dated December 18, 2020)	€267.7 million	€28 million	10.5%
BayWa r.e. Renewable Energy GmbH and BayWa r.e. Asset Holding GmbH v. Spain, ICSID Case No. ARB/15/16 (final award dated January 25, 2021)	€61.9 million	€22 million	35.5%
Sun-Flower Olmeda GmbH & Co KG and others v. Spain, ICSID Case No. ARB/16/17 (final award dated June 22, 2021)	€69 million	€47.3 million	68.5%
STEAG GmbH v. Spain, ICSID Case No. ARB/15/4 (final award dated August 17, 2021)	€79 million	€27.7 million	35%
JGC Holdings Corporation v. Spain, ICSID Case No. ARB/15/27 (final award dated November 9, 2021)	€161 million	€23.5 million	14.6%

Source: World Bank–Energy Charter Secretariat analysis, 2022.

Note: The amounts indicated exclude tax gross-up and interest.

* According to the Ministry for Ecological Transition and Demographic Challenge of Spain, the investors have submitted a waiver under Royal Decree-Law 17/2019, renouncing their right to collect damages in exchange for a new incentive scheme.

Appendix D: Additional examples of contractual arrangements to resolve investor grievances

Option 1: Ongoing monitoring and evaluation of the project's performance

Pakistan

Pakistan's Standard Energy Purchase Agreements for solar, wind, and small hydro-powered generation complexes[107] envisage the engineer's role in identifying and settling compliance-related issues early on. The PPAs state that if the actual annual energy[108] falls below 90 percent of the agreed threshold,[109] the purchaser (a government authority) may appoint an engineering consulting firm to assess if the seller maintains the complex as agreed in the contract. The seller bears the cost of hiring this inspection engineer—selected by both the parties from a panel of three firms. If the inspection engineer finds that the seller is noncompliant, they should certify the list of corrective actions and measures to the purchaser (and send a copy to the seller). The inspection engineer must also provide the seller and the buyer a reasonable estimate of the time required to implement and complete the corrective measures. The seller must undertake the necessary work at its own cost within the time specified in the inspection engineer's certificate. Pakistan's Energy Purchase Agreements also contain measures to resolve disagreements between the parties and the inspection engineer. If the seller disagrees with the actions and corrective measures identified by the inspection engineer or the time indicated for their completion, the parties and the inspection firm should meet and attempt in good faith to agree on the remedial actions and the time for their completion.

Jordan

Jordan's Standard PPA relating to a Photovoltaic Power Plant Facility[110] sets out a progress evaluation mechanism and envisages a role for the engineer in this respect. It requires the parties to jointly review the progress made toward meeting the facility's commercial operation date every month. The parties should promptly notify each other of any anticipated delays in reaching the facility's mutually agreed commercial operation date or other relevant milestones under the agreement's implementation schedule. In addition, it requires the seller to submit monthly performance reports covering various technical metrics.

Bangladesh

Bangladesh's 2018 PPA relating to a 5 MW (net) Waste to Power Generation Facility and the 2019 PPA relating to the 50–60 MW (AC) Grid Tied Solar Power Project require the parties to appoint an engineer that will monitor the construction and commissioning of the power plants under the respective agreement. Under these PPAs, the engineer is also a member of the Testing and Commissioning Committee.

Moreover, Bangladesh's 2018 PPA creates a Joint Coordinating Committee (JIC) comprising six members. The JIC acts as a point of coordination and negotiation for the parties. It establishes procedures on the interaction of the power generation facility (including the metering system), the interconnection and transmission facilities, the electrical interconnection facility, and the remainder of the grid system. The duties and authority of the JIC include coordination of programs for construction, testing, commissioning, deciding steps to be taken upon occurrence of a force majeure event or political event or the shutdown or reduction in the capacity of the facility due to force majeure events or political events or for any other reason. Each party must appoint three members of the JIC and two substitutes for each member. The JIC should meet

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107 The Standard Energy Purchase Agreement for Solar Powered Power Generation Complex is for the Seller to design, engineer, construct, insure, commission, operate, and maintain a solar-powered complex (generation capacity not specified in the model agreement) on build, own, and operate basis. See https://www.aedb.org/component/judownload/19-solar-standard-docs/33-energy-purchase-agreement?Itemid=101. Standard Energy Purchase Agreement for a Wind Powered Power Generation Complex–Cost Plus is for the Seller to design, engineer, construct, insure, commission, operate, and maintain a wind-powered complex generation capacity not specified in the model agreement. See https://www.aedb.org/component/judownload/22-wind-standard-docs/10-standard-wind-energy-purchase-agreement-cost-plus?Itemid=101. Standard Energy Purchase Agreement for a Hydro-Electric Power Generation Complex is for the Seller to design, engineer, construct, insure, commission, operate, maintain, and transfer a hydro-electric generation facility (generation capacity not specified in the model agreement) on build-own-operate-transfer (BOOT) basis. See https://www.aedb.org/component/judownload/28-epa-ia-documents/77-energy-purchase-agreement-epa?Itemid=101.

108 The sum of Net Delivered Energy and Non-Project Missed Volume in a given Agreement Year.

109 For a given Agreement Year, the net electrical output in kWh of the Complex for the purposes of this Agreement is assumed capable of delivery at the Interconnection Point, as tabulated in the respective PPAs.

110 The PPA is between the National Electric Power Company (Buyer) and the project company (Seller) for the development, design, financing, construction, ownership, operation, and maintenance of the power generation facility and to sell all the electricity therefrom to the buyer.

at least once a month, and its chairmanship must rotate each year between the parties.

The 2019 PPA of Bangladesh also refers to a JIC more concisely. The membership of this JIC is limited to four members, and there is no requirement to appoint substitutes. There is no clause regarding procedural matters or on the chairmanship. The JIC serves as a point of coordination and negotiation between the parties (the Bangladesh Power Development Board (BPDB) as a buyer and the project company as a seller) and between the parties and the Power Grid Company of Bangladesh (PGCB). It is responsible for establishing procedures on the facility's interaction (including the metering system), the electrical interconnection facility, commissioning procedures, scheduling, and acceptance of performance tests and other mutually agreed matters affecting the operations or maintenance of the facility and its interconnection with the grid system.

Both PPAs of Bangladesh also establish a "Testing and Commissioning Committee." The engineer's role in issuing the testing certificate is given to this Committee under the PPAs. However, pending the Committee's formation, the engineer acts as the sole member of the Testing and Commissioning Committee and issues the necessary certifications. The composition of the Testing and Commissioning Committee under the PPAs differs slightly. The 2018 PPA mandates that the Committee should comprise three members nominated by the BPBD, three members by the seller and one member by the engineer. On the other hand, the 2019 PPA reduces the representation of the BPDB and the seller to two members each. It also requires the appointment of one member by the PGCB and one member by the engineer.

Uganda
The Uganda Standardized PPA for the Global Energy Transfer Feed-in Tariff Program requires the parties to set up a Coordinating Committee to develop and coordinate the power plant's operating procedures. The functions of the Coordinating Committee include:

- Development and coordination of the operating procedures on day-to-day operations, including the methods of communication, metering, telecommunications, scheduling, maintenance, data acquisition, and dispatch procedures
- Development of the procedures for holding meetings, keeping minutes of the meetings, and appointing subcommittees
- Coordination of outages, whether such outages shall be planned or unplanned
- Development, review, and revision of the safety codes on the Generation Facility and the Uganda Electricity Transmission Company Limited System

Option 2: Mutual consultations

Argentina
The Draft Renewable PPA included in Argentina's Request for Proposal under the RenovAr Program Round 1 of 2016[111] requires that the parties agree to solve any dispute in a bona fide way and through negotiations. If they fail to agree within 15 days, the parties may resort to arbitration.

PwC Australia
PwC Australia's 2017 Model PPA[112] states that before initiating legal proceedings, the parties should make best efforts to reach a reasonable and equitable resolution of the dispute.[113] The PPA adds a step to this process requiring each party's representatives, as designated in the agreement, to resolve the matter. The dispute must be referred to the representatives through written notice and resolved within 10 days of its receipt.

India
The 2016 Indian Model EPC Agreement for Grid Connected and Off-grid Roof-Top Solar Power

111 This draft Renewable PPA between Compañía Administradora del Mercado Mayorista Eléctrico and Seller is part of the Open Call for Tenders to purchase electric power derived from generation renewable sources in the RenovAr Program (Round 1) of 2016. Apart from the sale of power, the draft PPA also requires the Seller to build, operate, and maintain the renewable energy–powered generation plant and any other assets related to it, including the transmission line required to interconnect the power place with the delivery point. See https://ppp.worldbank.org/publicprivatepartnership/sites/ppp.worldbank.org/files/documents/RenovAr%20Round%201%20%20Request%20for%20Proposals%20with%20Annexes%20%28fv%2007252016%29%20%28English%20Version%29.pdf.

112 Suite of precedent project documents developed by PwC Australia in 2017. See https://www.pwc.com.au/legal/assets/solar/power-purchase-agreement-mar16.pdf.

113 The Model PPA defines a dispute as any part of the subject matter of any dispute between the Parties in relation to the obligations, rights, or performance of those Parties under the Agreement.

Plants in capital expenditure (CAPEX) model[114] states that the parties should resolve any dispute or difference by mutual consent within 45 days. A similar approach is taken by the Indian Model PPA Implementation of Off-Grid Solar Power Plants in renewable energy service company (RESCO) model released on May 18, 2020.[115] The Model PPA requires the Purchaser and Power Producer to settle any differences or disputes arising from the contract by mutual consent.

Tanzania
Tanzania's Model PPAs require that the parties should attempt in good faith to settle any dispute under the agreement through mutual discussions, in the first instance, within 30 days of the dispute's precipitation.

Pakistan
Pakistan's Standard Energy Purchase Agreements for solar, wind, and small hydro-powered generation complexes use the same language, modalities, and time frames as the Tanzanian PPAs. The agreements state that in case of a dispute, the parties should attempt in good faith to settle it by mutual discussions within 30 days from the date the disputing party delivers a written notice to the other party. The purchaser and seller representatives must meet in Lahore to make a good faith attempt at resolving the dispute. The meeting between representatives is a mandatory requirement that must be fulfilled during the 30 days, unlike in the Tanzanian PPAs, where representatives' involvement comes after the 30 days "mutual discussion" period and is not compulsory.

Option 3: Raise the problem/disagreement with the senior management of each party

Tanzania
Tanzania's PPAs provide for an internal grievance escalation mechanism. If the parties cannot resolve a dispute through mutual discussions, they may refer it to the Chief Executive Officer (CEO) or another designated representative of the seller and to the CEO of the purchaser. The authorized representatives may then consider the matter and attempt to resolve it within 30 days of the referral (or an extended period as the parties agree).

Bangladesh
The Bangladesh Sample Implementation Agreement, the 2018 PPA on waste-to-energy generation and the 2019 PPA for the 50–60 MW solar power plant take an approach similar to that of the Tanzanian PPAs. These agreements state that if the parties cannot resolve a dispute through mutual discussions, they should refer it to the CEO or Chief Operating Officer of the project company (seller) and the designated representative for the BPDB's system operations.

Jordan
Jordan's Standard PPA relating to a PV Power Plant Facility requires that, except for a technical dispute or difference, all matters should be settled amicably by the parties within two months. Failing this, the parties may refer the problem to senior executives of the parties for mediation. The PPA does not give more guidance on the mediation process to be followed, such as whether it should be through institutional rules or a simple, informal negotiation between the parties.

India
The Indian Model PPA for Implementation of Off-Grid Solar Power Plants in the RESCO model requires a committee's involvement only when the dispute concerns invoices. The agreement states that if the parties cannot resolve a disputed payment by the next invoice date, it should be referred to a committee comprising one member from each party. If the matter remains unresolved, the parties may refer it to arbitration as per the agreement's provisions. The Model PPA does not state the modalities, time frame, and procedures that this committee should adopt. Also, it is unclear whether the committee's members should be technical experts or senior-level management who can negotiate their party's respective positions. Payment disputes are usually considered technical disputes subject to expert determination. However, from the text of this Model PPA, it is difficult to conclude whether the drafters wished to make this committee along the lines of an "internal referral to senior management" or "expert determination."

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114 Model EPC Agreement between Contractor and Government Organization, Public Sector Undertakings and Government Offices for Design, Manufacture, Supply, Erection, Testing and Commissioning including Warranty, Operation and Maintenance of Grid Connected and Off-grid Roof-Top Solar PV and Small Solar Power Plants in CAPEX model. See http://ipgcl-ppcl.gov.in/documents/renewable/2017_01_04_Model-MoU-PPA-and-CAPEX-Agreement-document.pdf.

115 Model PPA between Contractor and Public Institution for Design, Manufacture, Supply, Erection, Testing and Commissioning Including Warranty, Operation and Maintenance of Off-grid Solar PV Power Plants in RESCO Model. See https://mnre.gov.in/img/documents/uploads/file_f-1589864991781.pdf.

Option 4: Expert determination

Tanzania

The Tanzanian Model PPAs require that the parties submit any dispute they cannot resolve through mutual discussions to an expert. The disputing party must provide the other party notice about its intention to raise the matter for expert determination. The notice must contain a description of the dispute, the expert's proposed terms of reference, grounds for the relief sought through the determination, and any other relevant written material that the party will submit to the expert. The other party must respond within 15 days with a counter-notice and all the relevant documents, including the expert's proposed terms of reference. If the parties cannot agree upon who will be the expert, the Model PPAs allow them to designate a third party that can decide on their behalf. The parties may appoint a different third party depending upon the nature of the dispute. Unlike other agreements, the Model PPAs set out the procedure for conducting expert determination hearings. The parties should be allowed to appear before the expert and present their case.

Uganda

The Uganda Implementation Agreement provides for the appointment of an expert and lays down the requirements for this purpose. It states that the expert should have demonstrated expertise in matters of a similar nature and should not be an agent, employee, or contractor of either party. If the parties cannot agree upon the expert's identity within 15 days from the initiation of a technical dispute, the International Centre of Expertise should make the appointment in line with the Rules for Expertise of the International Chamber of Commerce. The implementation agreement describes the procedure for the expert determination and the parties' role and rights and sets a 30-day deadline for the expert to decide the matter. It also clarifies that the expert is not an arbitrator, and its decision is final and binding on the parties. However, if a party wishes to challenge the expert's decision, it may initiate arbitration proceedings on the limited grounds of fraud or manifest error.

Pakistan

Pakistan's Standard Energy Purchase Agreements for solar, wind, and small hydro-powered generation complexes allow the parties to refer disputes on specific issues for expert determination but do not make it a condition precedent to arbitration. Under each PPA, either party can notify the other party of its intention to raise a matter for expert determination. The notice must specify who will act as an expert in the dispute. Although the agreements do not use the term "independent expert," they state that the person appointed as the expert should not have any conflicts of interest in the matter. They also mention that the expert may be an individual, partnership, association, or corporate body and should have recognized expertise relevant to the dispute at hand. If the parties cannot agree upon the expert, despite good faith discussions, they may request either (1) the President of the Pakistan Institute of Chartered Accountants (for financial and billing matters) or (2) the Vice-Chancellor of the University of Engineering and Technology of Lahore or (3) the Vice-Chancellor of the Lahore University of Management Sciences or (4) the Vice-Chancellor of the Ghulam Ishaq Khan Institute (for technical matters) to select the expert. The selection is binding upon the parties. If the parties cannot accept the expert's determination or if the matter is not decided within the agreed time frame, either of them may initiate arbitration proceedings.

Appendix E: Analysis of the probability of having disputes in renewables sector according to country-level characteristics

To analyze whether having disputes is correlated with some country-level characteristics of regulation as well as some other regulatory aspects directly related to sustainable energy, we used country-level data from different World Bank projects. First, we used data about regulatory risks from the *2019/2020 Global Investment Competitiveness Report* (World Bank 2020b). This report includes a set of composite measures that summarize different dimensions of each type of risk.[116] These indicators measure the level of regulatory risk in a country, along three dimensions:

1. Transparency in the process and regulation that applies to investors
2. Legal protection for investors against arbitrary government interference
3. Investors' access to effective mechanisms of recourse

A second data set that we used for this country-level analysis is RISE:

1. Legal framework: Scores countries according to whether the legal framework allows private sector ownership in energy generation, whether official renewable targets exist and, if they exist if they are legally binding; if the targets are linked to international commitments; and if there are strategies to attain the targets.
2. Planning for renewables: If there is an assessment of the role of renewables in energy supply and if there is a target for renewables in electricity.
3. Incentives and regulatory support: If a country offers long-term PPAs for renewable electricity for large-scale or small-scale producers and whether it offers clear guidance on permissions as well as fiscal incentives to develop renewable electricity projects.
4. Attributes of financial regulatory incentives: Whether competition is used to ensure the cost-competitiveness of projects; if there is a schedule for bids or auctions and a pre-qualification of bidders; and whether there are clear timelines for project completion.
5. Network connection and use: Whether the country has a grid code specifying connection procedures and if these procedures meet international practices and the type of connection allocation policy.
6. Counterparty risk: Includes subindices analyzing creditworthiness, payment risk mitigation (including government guarantees), and transparency in terms of publicly available information and auditing.
7. Carbon pricing and monitoring: Whether there is monitoring in terms of greenhouse gas emissions or carbon pricing mechanisms in place.

Finally, we analyzed WGI for each available country:

1. Rule of Law: Confidence in terms of contract enforcement, property rights, police, courts, and likelihood of crime and violence.
2. Regulatory quality: Perceptions about the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development.
3. Control of corruption: Whether public power is exercised for private gain or if there is "capture" by elites and private interests.
4. Government effectiveness: Perceptions about the quality of public services and the quality of policy formulation and implementation, as well as about the government's credibility in terms of the commitment to these policies.
5. Political stability: Perceptions about political stability and the probability of politically motivated violence, including terrorism.
6. Voice and accountability: Perceptions about participation, freedom of association, freedom of expression, and free media.

Using these data sets, we estimate a model including all the available countries according to each data set (with and without disputes), and define the dependent variable as a variable indicator that takes a value of one if the country has been a respondent for a dispute and a value of zero if it has not. The analysis uses the probability of having disputes instead of the total number of disputes because, other than in some countries with a large number of disputes, there is not a lot of variation in that outcome variable. Then we estimate a model that calculates the probability of having disputes according to these regulatory

116 The dimensionality is reduced to these summary indexes through either a Principal-Component Analysis, which means that each factor obtains a different weight (first three lines of table E.1), or an unweighted index that gives each aspect the same weight (second three lines of table E.1).

characteristics and controlling for variables such as the GDP per capita of the countries and initial electricity capacity. **It is also important to note that this analysis only provides some insight into the country-level characteristics that could be correlated with the probability of having disputes and does not have a causal interpretation.**

The results presented in table E.1 are marginal effects and can be interpreted as the change in probability associated with an increase of one in each of the indices presented. The interpretation varies according to the scale of each index.

Table E.1: Probability of a country having disputes on renewables (Probit model)

Probability of having disputes on renewables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Regulatory risks								
Risk-transparency	−0.000145 (0.00253)	0.00135 (0.00201)						
Risk-protection	−0.00127 (0.00194)	−0.00107 (0.00138)						
Risk-Recourse	−0.00545* (0.00324)	−0.00447* (0.00232)						
Risk-transparency unweighted			−0.00106 (0.00303)					
Risk-protection unweighted			−0.00274 (0.00238)					
Risk-Recourse unweighted			−0.00675* (0.00401)					
Regulatory Indicators for Sustainable Energy (RISE)								
Legal framework				0.000336 (0.00217)	0.00125 (0.00200)			0.00121 (0.00159)
Planning for renewable				−0.00246 (0.00235)	−0.00299 (0.00225)			−0.00185 (0.00159)
Incentives and regulatory support				0.00134 (0.00215)	0.000712 (0.00228)			0.000244 (0.00145)
Attributes of financial regulatory incentives				−0.00189 (0.00157)	−0.00169 (0.00155)			−0.000656 (0.00114)
Network connection and use				0.00233 (0.00187)	0.000559 (0.00190)			−0.00111 (0.00132)
Counterparty risk				0.00169 (0.00209)	0.00125 (0.00192)			−0.00000965 (0.00139)
Carbon pricing and monitoring				0.000365 (0.00106)	0.000338 (0.00102)			0.0000477 (0.000804)
Worldwide Governance Indicators (WGI)								
Rule of law						−0.265* (0.144)	−0.278** (0.136)	−0.198 (0.135)
Regulatory quality						0.322** (0.129)	0.316*** (0.120)	0.193* (0.111)
Control of corruption						−0.258** (0.118)	−0.207* (0.114)	−0.216* (0.113)
Government effectiveness						0.125 (0.148)	0.0818 (0.151)	0.102 (0.137)
Political stability						−0.0396 (0.0563)	0.00575 (0.0553)	−0.0212 (−0.41)
Voice and accountability						0.194*** (0.0563)	0.173*** (0.0553)	0.205*** (3.32)
ln (GDP per capita-) constant prices	−0.0154 (0.0398)	−0.0480 (0.0363)	−0.0276 (0.0358)	0.0254 (0.0324)	0.0115 (0.0343)	0.0297 (0.0510)	−0.0132 (0.0544)	0.0201 (0.0547)
ln (electricity capacity 2000)		0.0515** (0.0201)	0.0577*** (0.0191)		0.0552*** (0.0183)		0.0469*** (0.0158)	0.0466*** (0.0144)
Observations	**72**	**68**	**117**	**129**	**117**	**131**	**119**	**117**

Sources: World Bank–Energy Charter Secretariat calculations using data from the following: (1) The information about disputes was obtained from the Energy Charter Secretariat, 2022. (2) Regulatory risks: Regulatory risks are calculated using the Principal-Component Analysis (weighted) of different indicators for each type of regulatory risk; unweighted measures are also tested. These measures were obtained from the 2019/2020 Global Investment Competitiveness Report (World Bank 2020b). Data was retrieved from: https://openknowledge.worldbank.org/bitstream/handle/10986/33808/9781464815362.pdf?sequ. (3) RISE were obtained from the World Bank RISE data set: https://rise.esmap.org/analytics. (4) World Bank Worldwide Governance Indicators 2021 were obtained from https://info.worldbank.org/governance/wgi/.
Note: * Significant at 10%; ** 5%; *** 1%. Standard errors in parentheses. –The analysis uses the probability of having disputes instead of the total number of disputes because, other than some countries with a large number of disputes, there is not a lot of variation in that outcome variable. –The results are marginal effects from a Probit model. –The numbers of observations across columns differ depending on the availability of regulatory information.

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