

White Paper 7

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# energy

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(by alphabetical order)

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1.

state of the art

## 1.1 International Legal Framework and Global Energy Governance

### 1.1.1 International Legal Framework

Energy is essential for the functioning of any modern society. It is not only key to meeting basic human needs, such as cooking, cooling and heating, health care and education, but also serves as the primary enabler and driver of economic and social development. Energy is vital for agriculture, manufacturing, services and other economic activities, while power generation and supply remain among the largest and most profitable economic sectors.

Given the central role of energy resources in any modern human activity and their economic and political significance for states, the energy sector has long been regulated through domestic laws. Traditionally, energy law has been understood as a set of rules regulating the exploration, exploitation, conversion and use of conventional energy resources. Over the last decades, however, the exploitation of non-conventional energy resources, including renewable energies, has led to the emergence of energy “sub-sectors” and “sub-disciplines” in energy law. At the

same time, new concerns have made it imperative to distinguish between international, regional and national dimensions of energy law. Increasing global trade and investment, as well as an understanding of the transboundary impact of the energy sector on the environment, has led to the recognition of certain facets of energy as matters of regional or international importance. The internationalisation of energy laws has received a further impetus with the clean energy transition and global climate change concerns influencing policy planning and development. The shift has been driven to a large extent by the fact that the energy sector, including electricity and heat generation, energy use in transportation, manufacturing and construction, is the single largest contributor to global greenhouse gas (GHG) emissions<sup>1</sup> and the major driver of climate change.

The internationalisation of energy law has gained traction with the emergence of new challenges in the course of the evolution of the energy markets from local to international ones. To a certain degree, it has been a reflection of globalisation processes in the international economy throughout the post-World War

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**Note 1** Historical country-level and sectoral GHG emission data (1990-2019): Climate Watch, ‘Climate Watch Historical GHG Emissions’ <<https://www.climatewatchdata.org/ghg-emissions>> accessed 1 August 2022.

II period until it reached its modern evolutionary peak at the time of the global economic and financial crisis of 2008-2009. The internationalisation of energy law has been underpinned by the development of international legal instruments regulating specific facets of energy (such as environmental impact, trade or specific energy sub-sector), unification of national energy laws and standardisation of practices, and the increasing role of international “soft law”. However, no single set of uniform norms and global rules applied to the energy sector has been developed.

The most prominent examples of international agreements influencing the development of energy law are perhaps those developed by the United Nations (UN) on environment and climate, starting from the 1972 Declaration of the UN Conference on the Human Environment to the later 1992 UN Framework Convention on Climate Change (UNFCCC), the 1997 Kyoto Protocol and the 2015 Paris Agreement. In addition to the UN agreements, other international legal frameworks have guided the globalisation of energy issues in post-World War II period.

While the multilateral trading system established by the General Agreement on Tariffs and Trade (GATT) and the World Trade Organization (WTO) agreements does not address energy trade expressly, the said rules, including the dispute settlement proce-

dures, apply to trade in all kinds of goods and services and thus are relevant for energy as well.

The 1994 Energy Charter Treaty (ECT) was specifically designed to encourage trade in energy, promote and protect foreign direct investment in energy projects, ensure reliable transit of energy, and regulate certain aspects of environmental protection and energy efficiency among its contracting parties.

A vast corpus of treaties and other international legal instruments developed under the auspices of the International Atomic Energy Agency (IAEA) embrace the internationally agreed principles and provisions necessary for the use of nuclear energy in a safe, secure and peaceful manner.

An example of international legal instruments influencing the development of the energy sector on the demand side is environmental protection policies developed by the International Civil Aviation Organization (ICAO), including Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA).

International soft law in the form of non-legally binding declarations, roadmaps, guidelines or best practices developed by intergovernmental organisations, non-governmental organisations (NGOs) and the private sector, and non-legally binding provisions in international agreements, is a further manifesta-

tion of the internationalisation of energy law. For instance, the non-binding 2002 UN Plan of Implementation of the World Summit on Sustainable Development (Johannesburg Plan) envisaged several actions aimed at increasing energy access, promoting energy-efficient technologies and scaling up the deployment of renewables. More recently, the UN launched the Energy Compact Action Network initiative. Its objective is to assist the UN member states and non-state actors in fulfilling their voluntary commitments to achieve Sustainable Development Goal (SDG) 7 (“Ensure access to affordable, reliable, sustainable and modern energy for all”) by 2030 and reach the mid-century net-zero GHG emissions ambition. The Extractives Industries Transparency Initiative (EITI) is an example of a “soft tool” developed by an NGO. EITI brings together countries that commit to a common set of rules governing disclosures in the extractives sector on a voluntary basis. Other examples include the UN Guiding Principles on Business and Human Rights as well as the Voluntary Principles on Security and Human Rights developed by the Voluntary Principles Initiative, a multi-stakeholder platform for governments, companies in natural resource-based industries and NGOs. Finally, the ECT is an example of an international legally-binding agreement that includes non-legally binding “best efforts” provisions on non-discriminatory treatment of foreign investors during the pre-establish-

ment phase of making an energy investment.

It is worth noting that countries have also embraced regional treaties to address energy access and energy security issues. The European Union (EU) is a good example of the substantial role played by supranational organisations in shaping energy law. The EU’s *acquis communautaire* not only creates and regulates the internal energy market, ensures the security of supply and introduces a range of measures aimed at reducing GHG emissions within the Union but also influences energy regulations and policies of the neighbouring countries. The EU’s energy law directly applies to non-EU member countries who are contracting parties to the Agreement on European Economic Area. Through the 2005 Treaty establishing the Energy Community, the EU further exports its directives and regulations to the neighbouring countries of Eastern Europe and the Balkans.

Some of the abovementioned international legal regimes have influenced the enactment and adoption of new national energy laws and regulations to tackle energy transition by, among other means, phasing down fossil-fuel development, advocating the deployment of renewable power generation, and enhancing energy efficiency.

The unification of national energy laws can also be witnessed

in market liberalisation reforms for electricity and tailored regulatory mechanisms, including incentive schemes, to scale up renewable energy technologies in power generation, transport, heating and cooling, and other activities. An illustration of the standardisation of national practices influenced by the internationalisation of energy law is common principles reflected in the host government agreements regulating activities of foreign companies in the petroleum sector.

Apart from refining the constitutions, laws and regulations to govern the energy sector, the long-term trend at the national level has been adopting national energy policies with various quantifiable short- and long-term goals and targets to address domestic challenges as well as the global energy agenda.

### 1.1.2 Global Energy Governance

When advocating for establishing a global energy organisation tasked with tackling salient issues of international concern, Mohamed ElBaradei, former Director General of the IAEA, observed:

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*We have a World Health Organisation, two global food agencies, the Bretton Woods financial institutions and organisations to deal with everything from trade to civil aviation and maritime affairs. Energy, the motor of development and economic growth, is a glaring exception. Although it cries out for a holistic, global approach, it is actually dealt with in a fragmented, piecemeal way.<sup>2</sup>*

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Today, the architecture of global energy governance as institutionalised international cooperation in energy security, supply, demand, and access, among other matters, involves a broad range of actors, including intergovernmental organisations, political forums (e.g. G7 and G20), global and regional multilateral development banks and financial institutions (e.g. World

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**Note 2** Mohamed Elbaradei, 'A global agency is needed for the energy crisis' (*Financial Times*, 23 July 2008) <<https://www.ft.com/content/b3630dd0-58b5-11dd-a093-000077b07658>> accessed 1 August 2022.



Bank and Asian Development Bank), and even private sector and NGOs.

The prominent role in international energy cooperation lies with multilateral intergovernmental organisations. However, to this date, no single worldwide intergovernmental organisation or body within the UN system has the overall mandate concerning international energy cooperation. In 2002, the UN-Energy platform was established to enhance coordination and collaboration among the UN bodies in energy, given the absence of a single entity within the UN system working solely on energy-related issues.

Nevertheless, a number of intergovernmental organisations working on particular facets of energy or representing certain geopolitical and economic interests have emerged. For instance, in 1974, the International Energy Agency (IEA) was established in response to the oil crises of 1973-1974 within the framework of the Organisation for Economic Co-operation and Development (OECD). Its objective was to enhance cooperation on the security of energy supply among its members and develop a collective response mechanism for potential disruptions in the oil supply. Since then, the IEA's mandate has expanded to a broader spectrum of issues of reliability, affordability and sustainability of energy. Although the IEA has been collaborating

with “association countries” in recent years, including China and India, its membership is limited to OECD members and subject to strict accession criteria.<sup>3</sup>

Another intergovernmental organisation that plays a critical role in multilateral energy governance is the Energy Charter Conference (ECC), the main decision-making body under the ECT created in 1994. The ECC and its permanent supporting body, the Energy Charter Secretariat, informally referred to as International Energy Charter, promote international trade, investment and transit in energy, and amicable dispute settlement in these areas. However, the organisation's mandate does not expressly cover other important facets of international energy cooperation, such as energy access or energy transition. Its current membership includes 52 contracting parties to the ECT, including the EU and the European Atomic Energy Community (Euratom), as well as two signatories.<sup>4</sup> Notably, thus far, the International Energy Charter's membership comprises European

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**Note 3** Current membership includes 31 states: IEA, 'Membership' <<https://www.iea.org/about/membership>> accessed 1 August 2022.

**Note 4** International Energy Charter, 'Members and Observers to the Energy Charter Conference' <<https://www.energycharter.org/who-we-are/members-observers/>> accessed 1 August 2022.

and Asian states only.

The Organization of the Petroleum Exporting Countries (OPEC), established in 1960, coordinates its members' petroleum production and supply policies and stabilises oil markets to ensure the security of supply and demand. While OPEC's membership is limited to states with "substantial" net exports of crude petroleum,<sup>5</sup> in 2010, OPEC members and ten non-OPEC oil-producing countries signed a declaration of cooperation (commonly referred to as "OPEC+").

The IAEA was established in 1957 as an independent intergovernmental organisation within the UN family of related organisations to promote the peaceful use of nuclear science and technology, create safety standards in the use of nuclear energy, and ensure that nuclear technologies and materials are not used for military purposes in accordance with non-proliferation agreements. Despite its expansive membership of 175 states,<sup>6</sup> the IAEA's mandate is limited to the issues of application of

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**Note 5** Current membership includes 13 states: OPEC, 'Member Countries' <[https://www.opec.org/opec\\_web/en/about\\_us/25.htm](https://www.opec.org/opec_web/en/about_us/25.htm)> accessed 1 August 2022.

**Note 6** IAEA, 'List of Members States' (2 March 2022) <<https://www.iaea.org/about/governance/list-of-member-states>> accessed 1 August 2022.

nuclear energy only.

One of the more recent developments in global energy governance architecture is the creation of the International Renewable Energy Agency (IRENA) in 2009, an intergovernmental organisation tasked with the promotion of renewable sources of energy. Its mandate includes offering member countries policy advice and technical assistance to accelerate the deployment of renewable power generation and facilitate technology transfer among its members to encourage the use of clean and sustainable energy. With an impressive membership of 168 countries and a number of countries in the pipeline for accession,<sup>7</sup> the IRENA's work appears to be confined to policies within a single sub-sector.

The Latin America Energy Organization (OLADE), established in 1973, is an example of a regional intergovernmental organisation working on regional energy integration, energy security and sustainable development through policy advice and facilitation of cooperation among its member states. Currently, 27 countries in Latin America and the Caribbean are members of

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**Note 7** IRENA, 'IRENA Membership' <<https://irena.org/irenamembership>> accessed 1 August 2022.

OLADE.<sup>8</sup>

## 1.2 Energy Transition and Climate Change

Humankind has lived through several energy transitions. The energy transition can be understood as a permanent progression from less economically and energy-efficient resources and technologies to more efficient ones. While there is no universally accepted definition of contemporary “energy transition”, the term, as it appears in public discourse, refers to a shift from a fossil-fuel-based energy system with high GHG emissions to a new system based on net zero GHG emissions. “[N]et zero means cutting greenhouse gas emissions to as close to zero as possible, with any remaining emissions re-absorbed from the atmosphere, by oceans and forests for instance”.<sup>9</sup> Under the 2015

Paris Agreement, 193 nations committed to limit the temperature increase to below 2°C above pre-industrial levels and further strive to achieve the limit of 1.5°C above pre-industrial levels. That requires achieving “a balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases in the second half of this century”.<sup>10</sup> According to the Intergovernmental Panel on Climate Change (IPCC), limiting temperature rise to 1.5°C above pre-industrial levels requires achieving net-zero carbon dioxide (CO<sub>2</sub>) emissions globally in the early 2050s and 2°C in the early 2070s.<sup>11</sup> Implementing these ambitious objectives inevitably implies scaling up the development and deployment of renewable energy sources and energy-efficient technologies in power generation, transport, agriculture and other sectors and changing consumption patterns to limit the climate impacts of the energy sector as a major emitter.

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**Note 8** OLADE, ‘Member Countries’ <<https://www.olade.org/en/member-countries/>> accessed 1 August 2022.

**Note 9** UN, ‘For a livable climate: Net-zero commitments must be backed by credible action’ <<https://www.un.org/en/climatechange/net-zero-coalition>> accessed 1 August 2022.

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**Note 10** (adopted 12 December 2015, entered into force 4 November 2016) UN Doc FCCC/CP/2015/L.9/Rev/1, art 4.

**Note 11** IPCC, Climate Change 2022: Mitigation of Climate Change (2022).

The principle of Common but Differentiated Responsibilities stipulated in the 1992 UN Rio Declaration on Environment and Development continues to be at the heart of the global climate change mitigation and adaptation efforts. It is particularly implemented through nationally determined contributions (NDCs) under the Paris Agreement, which allow the contracting parties to determine their national targets to reduce GHG emissions for achieving the Paris Agreement goals. The success of the Paris Agreement lies in that it tackles climate goals from a political perspective rather than through legally-binding provisions, with binding obligations only for reporting and reviewing NDCs. This allows countries to decide on the pace and means of energy transition according to available energy sources and technologies determined by geography, development and socio-political factors.

In implementing the Paris Agreement, states and non-state actors commit to various net-zero scenarios in the form of non-legally binding pledges, declarations, or legal acts and policies. For example, the European Climate Law of the EU sets an ambitious target of reaching net-zero GHG emissions within the Union by 2050 and an intermediary goal of a 55% reduction in net GHG emissions by 2030 as compared to 1990 levels, both

being part of the EU's most recent NDC.<sup>12</sup> Ahead of the 26th UN Climate Change Conference of the Parties (COP26), China updated its NDC declaring a target of reaching peak CO<sub>2</sub> emissions by 2030 and net-zero CO<sub>2</sub> emissions by 2060.<sup>13</sup> While not yet part of its NDC, India has committed to achieving net-zero GHG emissions by 2070 during COP26.<sup>14</sup> Some of the experts interviewed in the course of preparing this paper remained hopeful that the target of 2050 net-zero GHG emission globally could be reached by 2050, noting that it would still require an unprecedented consolidation of efforts of the international community.

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**Note 12** Regulation (EU) 2021/1119 of the European Parliament and of the Council of 30 June 2021 establishing the framework for achieving climate neutrality and amending Regulations (EC) No 401/2009 and (EU) 2018/1999 ("European Climate Law") [2021] OJ L 243; Submission by Germany and the European Commission on behalf of the European Union and its member States, 'Update of the NDC of the European Union and its Member States' (17 December 2020) <[https://unfccc.int/sites/default/files/NDC/2022-06/EU\\_NDC\\_Submission\\_December%202020.pdf](https://unfccc.int/sites/default/files/NDC/2022-06/EU_NDC_Submission_December%202020.pdf)> accessed 1 August 2022.

**Note 13** 'China's Mid-Century Long-Term Low Greenhouse Gas Emission Development Strategy' (unofficial translation) <<https://unfccc.int/sites/default/files/resource/China%E2%80%99s%20Mid-Century%20Long-Term%20Low%20Greenhouse%20Gas%20Emission%20Development%20Strategy.pdf>> accessed 1 August 2022.

**Note 14** 'India PM Narendra Modi pledges net zero by 2070' (BBC, 2 November 2021) <<https://www.bbc.com/news/world-asia-india-59125143>> accessed 1 August 2022.

Another essential element of the international architecture for climate change adaptation and mitigation is SDG 13 (“Take urgent action to combat climate change and its impacts”).

Nevertheless, neither of the instruments mentioned addresses energy transition as such. The interviewed experts also observed a disconnect between climate dialogue and energy dialogue, particularly noting that climate discussions frequently do not pay due attention to the problems of economic development and energy access (e.g. COPs).

### 1.3 Access to Energy

It is well-established that access to modern energy services is paramount for sustainable development and poverty alleviation. It is critical to fulfilling basic human needs, including adequate housing, health care, and education. In this regard, a difference must be made between access to primary energy or energy resources and access to end-use energy in the form of “energy services”. This is the end-product – the services enabling heating and cooling, lighting, cooking, refrigeration, sewage, telecommunications and other human needs – that has a greater impact on the day-to-day lives of societies. The 1987 report by the UN’s World Commission on Environment and Development entitled

“Our Common Future”, also known as the “Brundtland Report”, stated:

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*Concern about a dependable future for energy is only natural since energy provides ‘essential services’ for human life - heat for warmth, cooking, and manufacturing, or power for transport and mechanical work. At present, the energy to provide these services comes from fuels - oil, gas, coal, nuclear, wood, and other primary sources (solar, wind, or water power) - that are all useless until they are converted into the energy services needed, by machines or other kinds of end-use equipment, such as stoves, turbines, or motors. In many countries worldwide, a lot of primary energy is wasted because of the inefficient design or running of the equipment used to convert it into the services required [...].<sup>15</sup>*

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**Note 15** UN Doc A/42/427 (4 August 1987), Annex, 170.

Having discussed several energy demand scenarios for the years 2020-2030, the Brundtland Report concluded:

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*In general, the lower scenarios [...] require an energy efficiency revolution. The higher scenarios [...] aggravate the environmental pollution problems that we have experienced since the Second World War.<sup>16</sup>*

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The issues of access to energy services and “energy poverty” received prominent attention in the 2000 joint report of UN bodies and the World Energy Council entitled “World Energy Assessment: Energy and the Challenge of Sustainability”. The report stressed:

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*[E]nergy is one dimension or determinant of poverty and development, but it is vital. Energy supports the provision of basic needs such as cooked food, a comfortable living temperature, lighting, the use of appliances, piped water or sewerage, essential health care (refrigerated vaccines, emergency and intensive care), educational aids, communication (radio, television, electronic mail, the World Wide Web), and transport. Energy*

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**Note 16** *ibid* (n 15) 174.

*also fuels productive activities, including agriculture, commerce, manufacture, industry, and mining [...]*

*The energy dimension of poverty – energy poverty – may be defined as the absence of sufficient choice in accessing adequate, affordable, reliable, high-quality, safe, and environmentally benign energy services to support economic and human development [...] lack of adequate energy inputs can be a severe constraint on development.<sup>17</sup>*

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Most importantly, in 2015, all UN member countries agreed on the 2030 Sustainable Development Agenda. SDG 7 of the Agenda (“Ensure access to affordable, reliable, sustainable and modern energy for all) includes the targets of universal access to affordable, reliable and modern energy services, a substantial increase in the share of renewable energy in the global energy mix, and doubling the global rate of improvement in energy efficiency by 2030. Notably, SDG 7 emphasises sustainability, renewable power generation and energy efficiency and can be linked to SDG 13.

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**Note 17** UNDP, UNDESA, WEC, World Energy Assessment: Energy and the Challenge of Sustainability (2000), 44.

However, as of 2020, 733 million people worldwide still lived without access to electricity, while 2.4 billion had no access to clean cooking, relying on traditional fuels such as wood, dung or coal.<sup>18</sup> The vast majority of these people are in rural Africa or Asia, where grid access is difficult, and operators lack the investment and incentives to extend energy services to such locations. The impact of energy poverty in such areas is particularly severe for women and children. Traditionally engaged in household labour, women are not only subject to health hazards from exposure to low-efficiency cooking fuels but, in the larger context, are “left behind” in terms of education and job prospects. A similar situation exists for children that are deprived of an adequate learning environment and educational opportunities. According to the IEA’s analysis, at the current rate of development by 2030, there still will be 670 million people without access to electricity and 2.1 billion with no access to clean cooking solutions.<sup>19</sup>

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**Note 18** IEA, IRENA, UNSD, World Bank, WHO, Tracking SDG 7: The Energy Progress Report (2022), 2.

**Note 19** IEA, ‘SDG7: Data and Projections’ (April 2022) <<https://www.iea.org/reports/sdg7-data-and-projections>> accessed 1 August 2022.

The high costs associated with energy services in developed nations may disproportionately affect vulnerable groups, including low-income families and female-headed households. The vulnerable groups tend to live in older, less energy-efficient dwellings, which further contribute to the disparity in energy costs. With the increase in global energy prices and concerns over energy security in Europe driven by the war in Ukraine, the issue of affordability of energy services is becoming more pronounced.

Nevertheless, as of today, there is no international law obligation expressly requiring states to provide universal access to energy services, including electricity and clean cooking solutions, to populations, nor an international legal instrument expressly recognising access to energy services as a human right. Virtually all interviewed experts agreed that access to energy services should be recognised in a certain form as a freestanding human right in the international legal framework.

Thus far, the only piece of international legislation that explicitly stipulates states’ obligation to ensure access to energy, albeit in a specific context, is the 1979 UN Convention on the Elimination of All Forms of Discrimination against Women (CEDAW). Under Article 14 of CEDAW, the contracting parties are obliged to ensure that women in rural areas have a right “to enjoy adequate living conditions, particularly in relation to [...] electricity”.

The CEDAW's provision on electricity access is critical because it attempts to establish gender equality in energy access and arguably lays the foundation for such a right to be recognised in future under international law on a universal level.

At the same time, the obligation to provide energy services or the right to access to energy services may be recognised in certain forms on supranational, national or sub-national levels.

While EU law does not recognise the right to energy services, Union's law includes a detailed set of rules on consumer protection in electricity and natural gas markets. For example, according to the EU's "Electricity Directive", the member states must ensure that the customers enjoy "the right to be supplied with electricity of a specified quality within their territory at competitive, easily and clearly comparable, transparent and non-discriminatory prices".<sup>20</sup> The Directive further stipulates that the member states must ensure the necessary supply of electricity to vulnerable customers, including customers in remote areas and households in energy poverty, to be deter-

mined at the national level.

Under Article 20 of the 2009 Constitution of Bolivia,

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*I. Every person has the right to universal and equitable access to basic services of potable water, sewer systems, electricity, gas services in their domicile, postal, and telecommunications services.*

*II. It is the responsibility of the state, at all levels of government, to provide basic services through public, mixed, cooperative or community entities. In the case of electricity, gas and telecommunications services, these may be provided by contracts with private companies. The provision of services should respond to the criteria of universality, responsibility, accessibility, continuity, quality, efficiency, equitable fees and necessary coverage; with social participation and control.*

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**Note 20** Directive (EU) 2019/944 of the European Parliament and of the Council of 5 June 2019 on common rules for the internal market for electricity and amending Directive 2012/27/EU [2019] OJ L 158, art 28.



The Constitutional Court of South Africa considered that the right to adequate housing depends on a particular location and needs of a person and may include access to electricity.<sup>21</sup>

Under Law 24/2015 of the Autonomous Community of Catalonia, Spain, families and persons at the risk of housing exclusion are guaranteed access to basic drinking water, gas and electricity supplies. Public administrations within the region must enter into a contract with private companies to provide such basic supplies free of charge or at minimum costs.<sup>22</sup>

## 1.4 Energy-related Legal Disputes

Geopolitical instability and tensions, increasing price volatility in the energy markets, technological transformation, intrinsic environmental impacts of the energy sector, and paramount importance of energy for national economic, security and other interests explain a higher rate of occurrence of legal disputes

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**Note 21** See *Government of the Republic of South Africa and Others v Grootboom and Others* (CCT11/00) [2000] ZACC 19; 2001 (1) SA 46; 2000 (11) BCLR 1169 (4 October 2000), para 37.

**Note 22** Law 24/2015 (Autonomous Community of Catalonia), art 3.

in international energy than in any other sector. The long-term, cross-border, capital and technology-intensive nature of some of the energy projects, and substantial public interest in such projects, predetermine their high complexity and high value in terms of economic and other interests at stake. Dispute resolution in the field of energy is multifaceted and includes proceedings before national and international courts and arbitral tribunals in private companies' disputes, company-state and state-to-state disputes. More recently, environmental or climate liability claims and claims challenging environment and climate-related actions, policies and operations are being brought by individuals or groups of interest against states and energy companies.

Energy disputes between private companies or other private parties are commercial disputes arising out of various contractual arrangements, such as supply contracts, construction contracts, and joint operating agreements, and are typically solved through international commercial arbitration. Natural gas price review disputes under the long-term supply contracts with price review clauses are an example of common international commercial energy disputes. In 2018, an arbitral award was rendered in one of the highest-valued international commercial energy disputes known to date in the gas pricing arbi-

tration in *National Joint Stock Company Naftogaz of Ukraine v Public Joint Stock Company Gazprom*.<sup>23</sup>

A typical example of a company-state energy dispute is a dispute between a foreign company-investor under a commercial contract, host government agreement, foreign direct investment law of a host country or an international treaty decided in international commercial or investment arbitration or by a host country's court. These are a broad range of disputes, starting from earlier disputes between natural resources-rich countries and international oil and gas companies over investment in upstream oil and gas operations, giving rise to so-called *lex petrolea*, to more recent disputes arising out of regulatory changes in incentives programmes for renewable power generation. Most often, such claims are brought under international investment agreements (IIAs), such as bilateral investment treaties (BITs) and free trade agreements (FTAs) with investment protection chapters. Currently, there are more than 2500 such agreements in force,<sup>24</sup> which may adopt varying substantive

**Note 23** [2014] SCC Case No V2014/078/080, Final Award.

**Note 24** UNCTAD, 'International Investment Agreements Navigator' <<https://investmentpolicy.unctad.org/international-investment-agreements>> accessed 1 August 2022.

investment protection standards and dispute resolution procedures. The ECT appears to be particularly significant for the energy sector, with 150 arbitral proceedings in energy investment disputes being instituted under this agreement.<sup>25</sup>

Disputes over maritime boundary delimitation, which may be needed for determining which of the disputing parties exercises sovereign rights over certain oil and gas fields and, therefore, may explore and exploit them, is an example of energy-related state-to-state disputes. Such legal disputes were considered under the UN Convention on the Law of the Sea (UNCLOS) in *Guyana v. Suriname* arbitration,<sup>26</sup> *Ghana/Côte d'Ivoire* case before the International Tribunal for the Law of the Sea (ITLOS),<sup>27</sup> and *Somalia v. Kenya* case before the International Court of Justice (ICJ).<sup>28</sup>

**Note 25** International Energy Charter, 'Statistics (updated on 1 June 2022)' <<https://www.energychartertreaty.org/cases/statistics/>> accessed 1 August 2022.

**Note 26** *Guyana v Suriname*, Permanent Court of Arbitration <<https://pca-cpa.org/en/cases/9/>> accessed 1 August 2022.

**Note 27** *Delimitation of the Maritime Boundary in the Atlantic Ocean (Ghana/Côte d'Ivoire)*, ITLOS.

**Note 28** *Maritime Delimitation in the Indian Ocean (Somalia v Kenya)*, ICJ.

Energy-related disputes between states may also arise over transboundary river basins in connection with the use of their waters for hydroelectric projects. For instance, in the case concerning the Gabčíkovo-Nagymaros Project, the ICJ had to consider the diverting of the Danube river by Slovakia for a hydroelectric project as an alternative solution in reaction to Hungary's attempt to terminate the project under the 1977 Budapest Treaty on the Construction and Operation of the Gabčíkovo-Nagymaros Barrage System because of environmental concerns.<sup>29</sup> In Indus Waters Kishenganga Arbitration, Pakistan alleged that India violated the 1960 Indus Waters Treaty between the two countries by diverting waters from Kishanganga or Neelum river for its hydroelectric power plant and limiting water supply to Pakistan's hydroelectric project downstream.<sup>30</sup>

One of the most illustrative examples of cases brought by individuals against energy companies was a lawsuit initiated by a number of Ecuadorian villagers and Indigenous people from

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**Note 29** Gabčíkovo-Nagymaros Project (Hungary/Slovakia), ICJ.

**Note 30** Indus Waters Kishenganga Arbitration (Pakistan v India), Permanent Court of Arbitration.

the Lago Agrio region against Chevron Corporation for serious health consequences caused by oil spills and contamination of the Amazon rainforest by Texaco Petroleum, Chevron's subsidiary since 2001, between the 1960s and 1990s. The judge in Lago Agrio found Chevron liable, ordering the company to pay USD 19 billion, the highest award of compensation in environmental cases to date.<sup>31</sup> The amount of compensation was later halved by Ecuador's High Court.<sup>32</sup> However, in 2014, the US District Court for the Southern District of New York found that the Ecuadorian judgment was procured by fraud and corrupt activities.<sup>33</sup>

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**Note 31** Maria Aguinda Salazar and others v Chevron Corporation [2011] No 002-2003, Sucumbíos Provincial Court of Justice.

**Note 32** Maria Aguinda Salazar and others v Chevron Corporation [2013] No 174-2012, National Court of Justice, Civil and Commercial Division.

**Note 33** Chevron Corporation v Steven Donziger [2014] No 11 Civ 0691, Opinion, USDC SDNY.

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# 2.

challenges

## 2.1 International Legal Framework and Global Energy Governance

### 2.1.1 International Legal Framework

Developments in the legal rules governing energy are driven by a multitude of non-legal factors, including political, socio-economic and environmental. Energy appears to be so vital and essential for any human as well as the functioning of the states that any agreement on international rules governing certain facets of energy is difficult to attain. The energy sector is highly sensitive to domestic politics and geopolitics, macroeconomic changes and other global events, which may make it unrealistic to forecast certain developments or trends in the longer term.

The Steering Committee began its work on this paper in the midst of the global pandemic of coronavirus disease (COVID-19), which severely affected the energy sector on both supply and demand sides. While there was some uneven yet steady economic recovery post-pandemic, this was set back by the Russian Federation's invasion of Ukraine in late February 2022, which

has caused a crisis in the European and global energy markets as well as affected other economic sectors. It is yet to be seen if the uncertainties created by the ongoing crisis will slow down or boost energy transition.

The war in Ukraine not only raises new questions for the energy policies of the neighbouring countries but also signifies the need to rethink the "code of conduct" of states vis-à-vis energy during armed conflicts and military occupation. Energy infrastructure forms the backbone of the energy supply chain. As a result, secure, resilient and sustainable energy infrastructure is fundamental to meeting basic human needs and driving countries' economic transformation. It is worth noting that damage or destruction of large-scale physical energy infrastructures, such as power plants, especially nuclear, or storage facilities, can have severe consequences for the civilian population and the environment should they become a military target. Damage to energy transport facilities may disrupt the energy supply and limit energy access for the domestic population and those of the neighbouring states not involved in a conflict. The 1977 Additional Protocol I to the Geneva Convention relating to the Protection of Victims of International Armed Conflicts expressly prohibits, albeit with exceptions, attacks on "nuclear

*electrical generating stations*”,<sup>34</sup> other “*works or installations containing dangerous forces*”,<sup>35</sup> and protects “*natural environment*” from “*widespread, long-term and severe damage*”<sup>36</sup> as well as “*objects indispensable to the survival of the civilian population*”.<sup>37</sup> Nevertheless, express prohibition of methods and means of warfare damaging critical energy infrastructure is still lacking.

Despite the internationalisation of energy law as a long-term trend, an international legal framework for energy in the form of a single set of common rules applying to the sector and accepted by all or most of the UN member states is absent. While tackling environmental, climate and certain developmental issues, the UNFCCC process, with its nearly universal membership, does not explicitly address energy-related issues and strictly focuses on climate change adaptation and mitigation and its financing.

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**Note 34** (adopted 12 August 1949, entered into force 2 November 1950) 1125 UNTS 3 (Protocol I), art 56.

**Note 35** *ibid.*

**Note 36** *ibid* (n 34) art 55.

**Note 37** *ibid* art 54.

The WTO framework, while addressing international trade without distinguishing between traded goods and services, does not expressly address energy because of a number of factors: (i) presence of natural resource rent within any energy value chain; (ii) capital-intensive and cross-border nature of certain energy infrastructure; (iii) long life cycle of energy investment projects that exceeds electoral cycles in most states.

Nevertheless, the recent advent of non-grid connected scaled renewable energy linked to the production of “green hydrogen” and associated “green commodities”, such as “green ammonia” and low-emission hot briquetted iron (HBI), could offer a meaningful opportunity to close the gap that until now has prevailed between trade in energy and trade in more conventional goods allowing these hybrid commodities to be captured by the disciplines set out in GATT and the broader WTO agreements.

The 1994 ECT appears to be the first-of-its-kind industry-specific multilateral treaty dedicated to energy. The ECT provides for a detailed set of binding international legal rules and non-binding “best endeavours” provisions in three main areas: investment, trade and transit. The treaty also establishes dispute settlement procedures in these areas as well as requires that the contracting parties act to minimise the harmful environmental impact of energy-related activities and encourage effi-

ciency in energy use. With the ongoing “modernisation” process of the ECT, a greater emphasis will be put on sustainability, corporate social responsibility and the states’ right to regulate in the public interest, including climate change adaptation and mitigation.<sup>38</sup> It remains to be seen if the “modernised” treaty will be able to expand on its membership. The current scope and “constituency” of the ECT, however, lack the breadth of application offered by the WTO and thus, a broader platform will be needed to appropriately address some of the more acute challenges associated with trade in energy, including the “weaponisation” of energy (see sub-section 2.1.2 below).

Important gaps also remain to be closed within the context of soft law. For example, conventional hydrocarbon assets are largely owned by states and state entities. Moreover, the largest global commodities houses are predominantly privately held.<sup>39</sup> The combined effect of the foregoing is to render the

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**Note 38** International Energy Charter, ‘Public Communication Explaining the Main Changes Contained in the Agreement in Principle’ (24 June 2022) <<https://www.energycharter.org/media/news/article/public-communication-explaining-the-main-changes-contained-in-the-agreement-in-principle>> accessed 1 August 2022.

**Note 39** See, e.g., Joshua Schneyer, ‘Commodity Traders: The trillion dollar club’ (*Reuters*, 28 October 2011) <<https://www.reuters.com/article/us-commodities-houses-idUSTRE79R4S320111028>>

entire hydrocarbon value chain, including investment, production, trading and refining of hydrocarbons, largely opaque, thereby handicapping multilateral efforts to regulate the production of CO<sub>2</sub> and to limit opportunities to weaponise trade in energy.

The current dominant trend in the international economy can be characterised by a gradual shift from globalisation to regionalisation and fragmentation with further increasing protectionist trends. At the current stage of international development, further evolution of international law instruments will not immediately demand implementation. Most probably, it will be developed with the understanding that its implementation should be postponed for the future when the trend reverses.

### 2.1.2 Global Energy Governance

While there is a multitude of international intergovernmental organisations and forums in the field of energy cooperation and security or particular energy sub-sectors, no single “World Energy Organisation” uniting all the nations across the globe

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accessed 1 August 2022.

exists. Many of the interviewed experts agreed that there is a need for such an organisation. Such an organisation could be developed based on one of the already existing international bodies or established anew through a framework convention with a permanent support body (secretariat) within the UN system or otherwise. The role of such an organisation could be to create global rules of international energy based on a “common minimum standard” approach and consolidate international efforts to address challenges of energy transition and energy access discussed in Section 2.2 and Section 2.3 below. However, some interviewed experts saw potential overlap with the existing institutional frameworks.

Given the asymmetries among nations in terms of availability of resources, access to finance and technology, government interests and levels of socio-economic development, bringing national energy policies and legal and regulatory frameworks closer together under the “common minimum standard” umbrella appears to be challenging.

Probably one of the most prominent obstacles in creating a global energy governance mechanism based on a single institution and a set of harmonised rules is an actual or perceived need for ceding part of states’ sovereignty in energy governance on a national level. The latter is particularly linked to the principle

of “sovereignty over natural resources”, the closely related economic policy of “resource nationalism”, and the trend of “weaponisation” of energy.

The principle of sovereignty over natural resources, as it is understood in international law, stipulates that the nations are free to decide on the exploration, development and disposition of natural resources within their territories, nationalisation and expropriation of these resources in the public interest, admission of foreign investment in related economic sectors, sharing of associated profits, and other matters concerning the use of natural resources. This principle is recognised in several UN resolutions adopted during the 1960s and the 1970s after a wave of expropriations in the extractives sector in several developing countries. For the first time, the UN General Assembly’s 1962 Resolution 1803 on Permanent Sovereignty Over Natural Resources proclaimed that the peoples and nations enjoy permanent sovereignty over their natural wealth and resources, including their right to freely decide on the use of such wealth and resources for their benefit. The UN General Assembly’s 1973 Resolution 3171 on Permanent Sovereignty Over Natural Resources further affirmed this principle, adding that states may not be subjected to any form of military, economic or political coercion in connection with the exercise of their rights



over natural resources. The UN General Assembly's 1974 Declaration on the Establishment of a New Economic Order and the Charter of Economic Rights and Duties of States reconfirmed the principle of sovereignty over natural resources. In more recent practice, a specific reference to the sovereignty over natural resources was included in Article 18 of the ECT and Article 18 of the 2003 Energy Protocol of the Economic Community of West African States (ECOWAS).

Regarding the practical application of the principle, it should be noted that energy demand, by its very nature, is globalised through international trade, whereas energy supply is nation-based. There is no free access to national energy resources within the concept of the sovereignty of national states over their natural resources, be it natural resources in the subsoil, such as fossil-fuel and mineral deposits, or at the surface, whether on-shore or offshore, of the sovereign territory of a state.

The matter is further complicated by "resource nationalism" as a policy aimed at prioritising national economic and security interests by maximising a state's revenue from its natural resources, limiting private, in particular foreign, capital participation in natural resource-based industries and other forms of "protectionist" behaviour. The latter is rooted in what is typically described as the three major parts of the energy price:

(i) investor's costs, (ii) investor's profits and (iii) state's natural resource rent collection – "government take". For instance, in the oil and gas sector, when a host state's share was too high or perceived to be too high, it inadvertently resulted in the investor's profits becoming too small, and as such, the host state's policy was called "resource nationalism". On the other hand, when the host state's rent collection was too small or perceived to be too small, creating windfall profits for investors, the situation was labelled as "resource colonialism" or "resource neo-colonialism".

"Weaponisation" of energy can be described as a deviation from the commonly accepted international law rules of conduct by unjustifiably limiting access to energy, technology, capital or other resources. This would typically be done through the imposition of sanctions, embargoes, trade-related restrictions and other forms of restrictions by an individual state or a group of states who have or appear to have assumed enough economic power to consider such measures efficient. While in the past, "weaponisation" of energy mostly meant limitations imposed by energy-producing countries, nowadays, such measures may also be taken by energy-consuming countries. For this reason, some states may be hesitant to accept the idea of global energy governance under a unified institutional and legal framework.

In light of the above, the future of the global energy governance framework may depend on reconciling the increasing need for equal access to capital, technology, and natural resources (such as security of supply of critical minerals and rare-earth elements needed for renewable energy development, battery manufacturing and electrical mobility) for energy transition and greater energy access for resource-deficient countries and possible attempts to maximise the revenues from natural resources, limit access to scarce natural resources and politicise international energy.

## 2.2. Energy Transition and Climate Change

Although there appears to be a consensus among countries on achieving carbon neutrality and net-zero GHG emissions by mid-century, there is no universally accepted agreement on what is required to achieve with the clean energy transition nor universally accepted understanding and approaches to it. Also, there is no established principle in international law, such as Common but Differentiated Responsibilities in climate action, to build upon when addressing energy transition. Therefore, a new international legal framework for the energy transition may be needed to mitigate the imminent and inevitable danger posed by environmental degradation and climate change. Such a framework should offer countries flexibility in designing their respective energy and climate policies under the principle of Common but Differentiated Responsibilities and ensure that "no one is left behind".<sup>40</sup>

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**Note 40** See, e.g., Montreal Protocol on Substances that Deplete the Ozone Layer ensuring the provision of financial and technical assistance to developing states to meet their obligations under

In this regard, it should be noted that the road to net-zero GHG emissions faces an “energy trilemma” obstacle: the clash between climate change mitigation and adaptation efforts, the need for greater energy access to populations and fossil-fuel-backed energy security. Some nations have not yet reached adequate energy access for their populations, whereas many cannot guarantee energy security without conventional energy sources. Many nations continue to rely on fossil fuels as the main export commodity. The least developed and developing nations lack sufficient economic means to shift to low-carbon and carbon-neutral technologies. Therefore, countries and regions will advance at different paces toward more environmentally sustainable energy systems than those that characterised the 20th century based on the number of economic, geographical and political factors. Thus, economies with greater availability of capital and scarce fossil-based natural resources will advance faster in their energy transition than economies with fewer capital resources or those with abundant conventional energy resources but lacking low-emission technologies for their development and use.

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the Protocol (adopted 16 September 1987, entered into force 1 January 1989) 1522 UNTS 3, 26 ILM 1541, 1550 (1987).

Given the above, it will be imperative to ensure that future dialogue on energy transition takes into consideration: (i) the availability of energy resources and low-emission energy technologies in a given state; (ii) the affordability of these resources and technologies; (iii) the reliability, efficiency and sustainability of the proposed solutions to energy transition; and (iv) the costs of obtaining modern energy. Furthermore, it is also essential to consider the social and economic discrepancies between different countries and the different energy challenges.

Most of the interviewed experts shared an opinion that energy transition and climate action should not jeopardise economic development and the UN 2030 Sustainable Development Agenda, namely SDG 1 (“End poverty in all its forms everywhere”), SDG 7 and SDG 8 (“Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all”). The latter presents a challenge of bridging the gap and reconciling socio-economic development with “green” energy transition.

Thus, in the near future, the new low-carbon and low-emission energy systems will need to be based on all available spectrum of energy resources, renewable and non-renewable, and low-emission technologies at every stage of energy value chains, including the manufacturing of energy equipment. This means

that energy technologies matter more than the original chemical formula of primary energy sources, irrespective of whether it contains carbon molecules. Firstly, technological developments will determine whether fossil fuels will be used with or without direct emissions. Secondly, it depends on technology to mitigate emissions produced in technical processes, thus providing a net-zero effect. Finally, achieving net-zero emissions will require a broader focus on GHGs beyond carbon. It is equally imperative for countries to tackle other GHGs, including nitrogen oxides, sulfur oxides, water steam, and methane leakages. Therefore, in the short-term, the availability of the broad spectrum of emission-free and low-emission technologies may be more critical than straightforward “decarbonisation”, the latter being understood as phasing-out fossil fuels. This means access to innovative technologies and capital for their development should be a key element of the international energy law architecture.

Coal-fired power generation, which appears to be the single largest source of global temperature increase,<sup>41</sup> is an illustrative example of the complexity of the transition to low-carbon and

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**Note 41** See IEA, Global Energy and CO<sub>2</sub> Status Report 2018 (2019), 7 (“CO<sub>2</sub> emitted from coal combustion was responsible for over 0.3°C of the 1°C increase in global average annual surface temperatures above pre-industrial levels. This makes coal the single largest source of global temperature increase”).

carbon-neutral technologies. Various energy transition scenarios show that coal-fired power generation, let alone without technologies mitigating CO<sub>2</sub> emissions (“unabated”), must be phased out by mid-century to meet the goals under the Paris Agreement.<sup>42</sup> The phase-out is particularly complex for countries where power generation is predominantly coal-fired and may require the adoption of measures to ensure a just transition for the sector, workers and communities in coal regions. Such countries will need to develop strategies for reducing the risks of stranded assets, economic development plans and job creation when deciding on repurposing coal regions. For example, Poland is one of the world’s largest coal producers, with the vast majority of its electricity generated by coal-fired power plants.<sup>43</sup> To ensure a just energy transition, the government of Poland recently negotiated a social contract with the coal mining trade unions granting state aid to affected mining enterprises,

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**Note 42** See, e.g., IEA, Net Zero by 2050 A Roadmap for the Global Energy Sector (2021), 116 (“Unabated coal fired generation is cut by 70% by 2030, including the phase out of unabated coal in advanced economies, and phased out in all other regions by 2040”); IPCC, Global Warming of 1.5°C (2018), 96–97 (“By 2050 [...] while the share from coal decreases to 1–7% (interquartile range), with a large fraction of this coal use combined with carbon capture and storage”).

**Note 43** IEA, Poland 2022: Energy Policy Review (2022)

social protection to workers and setting out a regional economic transformation plan for coal phase-out in the Silesia region by 2049.<sup>44</sup> On the other hand, several recently-constructed coal-fired power plants and plants under development across Asia will need to be equipped with carbon capture, utilisation and storage (CCUS) solutions to tackle emissions in support of mid-century climate goals.<sup>45</sup>

In hydro-resources-rich South and Central America, where 45%<sup>46</sup> of electricity is already generated by hydroelectric power plants, the climate goals can be achieved by further developing renewable power generation (e.g. wind, geothermal and solar), whose intermittent nature may be addressed by integrating a higher share of hydropower in the energy mix.<sup>47</sup> When it closed

its last thermal power plant in December 2021, Paraguay became the only country in the world with 100% renewable power generation, almost all of which is generated by hydroelectric power plants.<sup>48</sup>

Despite the social backlash and safety and environmental concerns prompted by the 2011 accident at the Fukushima-Daiichi plant in Japan, IEA's projections show that nuclear power generation would be indispensable in achieving net-zero GHG emissions by mid-century.<sup>49</sup> Developing and deploying new small modular reactors and producing heat and hydrogen at the nuclear power generation facilities may present new opportunities for a faster and more efficient transition to low-carbon economies.

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**Note 44** Ministry of State Assets (Poland), 'Social Agreement concerning the transformation of the hard coal mining sector and selected transformation processes in the Silesian Voivodeship' (28 May 2021) <[https://www.gov.pl.translate.google.com/web/aktywa-panstwowe/umowa-spoleczna?\\_x\\_tr\\_sl=pl&\\_x\\_tr\\_tl=en&\\_x\\_tr\\_hl=en&\\_x\\_tr\\_pto=wapp](https://www.gov.pl.translate.google.com/web/aktywa-panstwowe/umowa-spoleczna?_x_tr_sl=pl&_x_tr_tl=en&_x_tr_hl=en&_x_tr_pto=wapp)> accessed 1 August 2022.

**Note 45** IEA, The Role of CCUS in Low-Carbon Power Systems (2020).

**Note 46** IEA, Climate Impacts on Latin American Hydropower (2021).

**Note 47** International Hydropower Association, 2022 Hydropower Status Report (2022).

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**Note 48** National Electricity Administration (ANDE), 'With the disconnection of the last thermal power plant, Paraguay becomes the only country in the world with 100% clean and renewable electricity generation' (29 December 2021) <<https://www.ande.gov.py/interna.php?id=9386#Ys01kS0RpQI>> accessed 1 August 2022.

**Note 49** IEA, Net Zero by 2050 A Roadmap for the Global Energy Sector (2021); IEA, Nuclear Power and Secure Energy Transitions: From Today's Challenges to Tomorrow's Clean Energy Systems (2022).

## 2.3 Access to Energy

Despite the wide acceptance of energy services as an enabler or even derivative of many universal human rights, economic development and poverty alleviation, further development of an international legal framework on energy access and its implementation may be faced with several obstacles.

Initiating a dialogue on recognition of access to energy as a universal human right under international human rights law or an international law obligation expressly requiring states to provide universal access to energy services appears to be particularly problematic because of the sensitivity of the energy sector to politics, the level of socio-economic development and energy resource potential of a given nation. Another paramount condition of decent and safe human life, a clean, healthy and sustainable environment, has only recently been recognised as a human right by the UN Human Rights Council (UNHRC)<sup>50</sup> and

the General Assembly.<sup>51</sup> To this date, there is still no legally-binding treaty on the international level recognising such a right.

In 2019, a number of members of the French Senate tabled a proposal for a bill to recognise “an effective right to access to energy” as a “fundamental right”, combating energy poverty and further safeguarding vulnerable groups from the disconnection from the energy networks.<sup>52</sup> The Senate’s Committee on Economic Affairs did not support the bill noting that recognising energy access as a fundamental right would not lead to direct “significant” legal effects but may lead to certain undesirable indirect effects, such as a greater chance of obtaining provisional measures under the Civil Procedural Code and automatic application of certain measures to guarantee such right.<sup>53</sup>

The elements of what constitutes the right of access to energy services and the substance of a state’s obligation to provide universal access to energy services also deserve attention. While

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**Note 50** See UN Doc A/HRC/48/L.23/Rev.1 (8 October 2021).

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**Note 51** See UN Doc A/RES/76/300 (28 July 2022).

**Note 52** Senate (France), Proposal No 260 (2018–2019) (22 January 2019).

**Note 53** Senate (France), Report No 537 (2018–2019), Denise Saint-Pé, Committee on Economic Affairs (29 May 2019).

the discussion on the right of access to energy services is still at an early stage, scholars and civil initiatives have identified some common elements of such a right. Some of these elements are ensuring affordability, sustainability, non-discriminatory network access, uninterrupted supply of services, and providing basic supply to vulnerable groups.

The affordability of universal energy access for both customers and states is another problematic area. Vulnerable groups in developed and developing states are disproportionately affected by energy costs. At the same time, consumers in developing states may face increased energy costs associated with energy market liberalisation reforms and privatisation.

With a greater emphasis on renewable power generation and low-carbon technologies, several developing and least developed countries are scaling-up decentralised renewable energy solutions to increase electricity access in remote areas. To effectively do so, they will need greater access to technology and finance through foreign direct investment and financial and technical assistance from developed states. On the other hand, these countries are also progressively expanding on-grid network access and designing incentive schemes to attract renewable energy companies that can integrate higher shares of renewable energy sources into the grid. The latter strategy implies that

countries must (i) develop an investment-friendly environment based on an open, transparent, fair and predictable legal framework and (ii) ensure that any final costs of administering incentive schemes passed on to consumers are not cumbersome.

Another prominent challenge to providing energy services to everyone who lacks them is a perceived conflict between universal energy access to the population for economic growth, poverty alleviation and environmental protection, including climate change mitigation and adaptation. SDG 7 itself contains an element of sustainability and emphasises the need for “clean” energy. Indeed, some of the actions aimed at transitioning to cleaner, more sustainable and safer energy systems discussed above may present, at least in the short- or mid-term, an obstacle to greater energy access.

Phasing-out coal in regions with large reserves may harm the security of supply, drive up energy prices and harm the well-being of societies in affected regions. Therefore, fossil-fuel phase-out will require a robust policy and regulatory response to ensure access to energy services and a just approach to energy transition. For example, it is expected that in Colombian La Guajira, a region with one of the highest coal production, there will be 16 wind farms and two transmission lines, representing investments of more than USD 10 billion and creating

approximately 11,000 jobs.<sup>54</sup> In 2021, it published the Hydrogen Roadmap until 2050 for the development, generation, and use of hydrogen as an energy source for coal-producing regions.<sup>55</sup>

Similarly, countries contemplating a possible phase-out of nuclear power generation due to safety concerns will need to take into account implications to the security of supply and stability of the energy markets. For instance, a recent report by the IEA recommends the Belgian government focus its efforts on deploying renewable power generation facilities and energy efficiency measures rather than consider the non-extension of operations of nuclear generation facilities in Belgium.<sup>56</sup> The report also noted that decommissioning nuclear generation facilities in the longer term may allow Belgium to develop industry expertise to be used around the globe.<sup>57</sup>

At the same time, while initiating projects aimed at increasing access to energy services, such as new power generation facilities, countries will need to consider their environmental and ecological impact. For example, the Namakhvani hydroelectric plant, the largest energy project in independent Georgia currently under development on the Rioni River, has caused environmental concerns for local communities. In 2021, three environmental NGOs submitted a complaint before the Standing Committee of the Council of Europe's Convention on the Conservation of European Wildlife and Natural Habitats ("Bern Convention") concerning possible threats to the region's biodiversity and other environmental harm.<sup>58</sup>

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**Note 54** International Energy Charter, Energy Investment Risk Assessment 2021 (2021), 168.

**Note 55** Ministry of Mines and Energy (Colombia), I-Deals, Inter-American Development Bank, Green Hydrogen Roadmap (2022).

**Note 56** IEA, Belgium 2022: Energy Policy Review (2022), 111–112.

**Note 57** *ibid* 113.

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**Note 58** Association Green Alternative, Nature Conservation Georgia, CEE Bankwatch Network, Complaint 2021/08, 'Possible threat to Rioni River from the Namakhvani Hydropower Project (Georgia)' (2021) <<https://www.coe.int/fr/web/bern-convention/-/possible-threat-to-rioni-river-from-the-namakhvani-hydropower-project>> accessed 1 August 2022.



## 2.4 Energy-related Legal Disputes

With the intensification of the energy transition, increasing concerns over the environment, growing need for energy access and security, the emergence of new technologies, and geopolitical shifts, we may see diversification of energy-related legal disputes in terms of disputing parties, legal claims, and causes of action. Economic, political, and environmental uncertainties in relevant legal frameworks may breed a proliferation of legal energy disputes. Energy transition and environmental concerns will most likely be the primary driver for both processes. As of 2022, 2,002 publicly-known legal disputes before international and national judicial and quasi-judicial bodies over the matters of climate law, policy and science were identified.<sup>59</sup> Intrinsicly, many of them concern the energy sector.

Probably one of the trends to be observed in the coming years will be the rise of “litigation activism” by individuals and groups of interest in environmental or climate liability cases and cases

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**Note 59** See Setzer J and Higham C (2022) Global Trends in Climate Change Litigation: 2022 Snapshot. London: Grantham Research Institute on Climate Change and the Environment and Centre for Climate Change Economics and Policy, London School of Economics and Political Science.

challenging environment and climate-related actions, policies and operations of states and energy companies.

An intriguing example in this regard is *Saúl Luciano Lliuya v. RWE AG*, a case brought by a Peruvian farmer from the Andean city of Huaraz with the help of an environmental NGO against German energy company RWE for contributing to climate change globally, which, in turn, allegedly caused the melting of mountain glaciers near the city, posed a threat of flooding, and would require costly preventative measures.<sup>60</sup> On the claimant’s appeal, the Higher Regional Court of Hamm found the claims admissible and proceeded to the evidentiary phase.<sup>61</sup> Most recently, it was reported that the judges of the Higher Regional Court of Hamm, together with the court-appointed experts, concluded a site visit to assess the danger of possible flooding to the plaintiff’s house.<sup>62</sup> To date, however, no legal inter-state dispute resolution

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**Note 60** Saúl Luciano Lliuya v RWE AG [2016] No 2 O 285/15, Decision, Essen Regional Court.

**Note 61** Saúl Luciano Lliuya v RWE AG [2018] No I-5 U 15/17, Order, Higher Regional Court of Hamm.

**Note 62** Germanwatch, ‘Climate lawsuit against RWE in decisive phase: On-site meeting with experts in Peru concluded’ (27 May 2022) <<https://www.germanwatch.org/en/85437>> accessed 1 August 2022.

proceeding has been instituted against a state for the global effects of its overall energy-related GHG emissions on climate and environment, and it is not clear what could be a potential legal forum for such claims.

Among the legal disputes over the environment and climate-related policies and actions of states, a noteworthy finding was made by The Hague District Court in *Urgenda Foundation v. Netherlands*. The Court decided that the Dutch GHG emissions reduction policy at the time was not sufficient to shield citizens from the imminent danger of climate change under the state's "duty of care" and ordered the Netherlands to comply with the reduction target of 25% below 1990 levels.<sup>63</sup>

Building on the success of *Urgenda Foundation*, a climate-related claim under the "duty of care" was brought in *Milieudefensie and others v. Royal Dutch Shell plc*. The Hague District Court held that under the "duty of care", the Shell group had to reduce total aggregate CO<sub>2</sub> emissions from all of their operations and

the use of their energy products by at least 45% before 2030 as compared to 1990 levels.<sup>64</sup>

In June 2022, it was reported that several victims of extreme weather events in Europe planned to pursue legal action at the European Court of Human Rights (ECHR) against a number of European states that are contracting parties to the ECT, alleging that their membership of the ECT violates the right to life and right to respect for private and family life under the European Convention on Human Rights.<sup>65</sup>

More litigants are expected to follow the above examples in the future, particularly in developing countries most at risk of the effects of climate change. A wave of "greenwashing" cases challenging the alignment of climate related-policies, public

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**Note 63** *Urgenda Foundation v Netherlands* [2015] C/09/456689 / HA ZA 13-1396, Judgment, The Hague District Court; affirmed [2018] Ruling, The Hague Court of Appeal; [2019] 19/00135, Judgment, Supreme Court of The Netherlands.

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**Note 64** *Milieudefensie and others v Royal Dutch Shell plc* [2021] C/09/571932 / HA ZA 19-379, Judgment, The Hague District Court, 26 May 2021.

**Note 65** The Guardian, 'Young people go to European court to stop treaty that aids fossil fuel investors' (21 June 2022) <<https://www.theguardian.com/environment/2022/jun/21/young-people-go-to-european-court-to-stop-treaty-that-aids-fossil-fuel-investors>> accessed 1 August 2022; Le Monde, 'Jugé trop protecteur des énergies fossiles, le traité sur la charte de l'énergie est contesté de toutes parts' (21 June 2022) <[https://www.lemonde.fr/planete/article/2022/06/21/juge-trop-protecteur-des-energies-fossiles-le-traite-sur-la-charte-de-l-energie-est-conteste-de-toutes-parts\\_6131321\\_3244.html](https://www.lemonde.fr/planete/article/2022/06/21/juge-trop-protecteur-des-energies-fossiles-le-traite-sur-la-charte-de-l-energie-est-conteste-de-toutes-parts_6131321_3244.html)> accessed 1 August 2022.

commitments and particular projects of the energy companies with the goals of the Paris Agreement, misleading emissions and other climate-related information about the companies' operations and marketed products in advertisements or climate risks disclosures is also likely to target the sector across the globe. It remains to be seen if the "litigation activism" would further develop the "polluter pays" principle of environmental policy, internalising the costs of unavoidable pollution for the polluters. The concept of such principle was first defined in the 1972 OECD Recommendation on Guiding Principles concerning International Economic Aspects of Environmental Policies and further recognised in Principle 16 of the 1992 UN Rio Declaration. However, it does not yet appear to be globally recognised as a principle of environmental or energy law.

Regardless of the success of such claims, the proliferation of climate-related legal claims by individuals and groups of interest will advance climate action and affect legal, regulatory and business energy frameworks requiring the energy sector to take into account the impacts of "litigation activism" in their risks assessment. Such risks may include direct financial losses, stranding of assets and reputational damage. The reaction to these risks may take the form of litigation challenging climate action or the legality of the outcome of the taken measures.

For instance, in 2021, two major German energy companies lodged claims against the Netherlands in connection with the country's plan to phase out coal by the end of 2030 and the effects of this measure on their power generation assets.<sup>66</sup> We are likely to see more of such disputes with the escalation of the energy transition. A wave of cases challenging broader negative economic and developmental impacts of certain environment and climate-related measures on territories and populations is also probable.

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**Note 66** RWE AG and RWE Eemshaven Holding II BV v Netherlands, ICSID Case No. ARB/21/4; Uniper SE, Uniper Benelux Holding BV and Uniper Benelux NV v Netherlands, ICSID Case No. ARB/21/22.

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3.

questions

Based on the analysis of the “state of the art” and challenges in international energy outlined above, the Steering Committee identified the following questions to be answered to address the energy challenges of tomorrow.

### International Legal Framework and Global Energy Governance

- Is there a place for internationalisation of energy law and energy governance in the world of uncertainties created by geopolitics, conflicting economic interests and “unforeseen circumstances”?
- Is achieving consensus on a single “minimum” set of uniform norms and global rules applied to the energy sector realistic and feasible?
- What could be the key areas regulated by the minimum set of uniform norms and global rules?
- Has the time come to establish a single “World Energy Organisation” as a focal point of global energy governance monitoring the implementation of the minimum set of uniform norms and global rules?
- What could be the key areas of work and key elements of the mandate of the “World Energy Organisation”?

### Energy Transition and Climate Change

- Should law become a driving force for the energy transition?
- Has the time come to agree on a single global target for the energy transition as it has already been done with climate change and the Paris Agreement?

### Access to Energy

- Has the time come to recognise access to energy services as a universal human right and reflect the states' obligation to ensure universal access to energy services in an international legally-binding instrument?
- What elements would constitute the universal human right to energy services, and what would be the content of the states' obligation to provide universal access to energy services?

### Energy-related Legal Disputes

- Will legal disputes over the global effects of states' and companies' overall energy-related GHG emissions on climate and the environment become a new reality for energy litigation?
- Will the advancement of climate action induce a wave of "energy poverty" and "energy access" reactionist litigation?



annex 01

disclaimer

This paper was prepared by the Members of the Steering Committee in their personal capacity. Any views and opinions expressed herein do not reflect those of institutions and organisations with which the Members of the Steering Committee may be associated.





annex 02

persons interviewed

*(by alphabetical order)*

- **Eli Jidere BALA** - *Director-General, Energy Commission of Nigeria*
- **Xavier BOUIS** - *Chair of the Commission for Energy and Environment, Air and Space Academy, France*
- **Tatiana CASTILLO** - *Legal Advisor, Latin American Energy Organization (OLADE)*
- **Peri Lynne JOHNSON** - *Legal Adviser and Director, Office of Legal Affairs, International Atomic Energy Agency (IAEA)*
- **Carole NAKHLE** - *Chief Executive Officer, Crystol Energy*
- **Damilola S. OLAWUYI** - *Professor and Associate Dean for Research, College of Law, Hamad Bin Khalifa University, Doha, Qatar*
- **Leonardo SEMPETEGUI** - *General Legal Counsel, Organization of the Petroleum Exporting Countries (OPEC)*
- **Sun XIANSHENG** - *Chair of the International Society for Energy Transition Studies (ISETS), Vice President & Director General of the Energy Industry Cooperation Committee, China Council for International Investment Promotion*
- **Michael WACHENHEIM** - *President of Air and Space Academy, France*

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