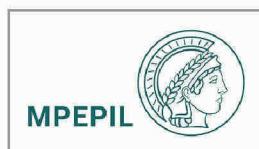


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Stuart Bruce

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A. Introduction

1 International energy law seeks to locate, synthesize and apply public international law within the context of energy. Traditionally, the regulation of energy sources and energy activities was within the exclusive domestic competence of States. The development of international energy law has been hastened by the increasing globalization and harmonization of energy and resources laws, policies, practices, and markets. Along with energy security concerns, growing evidence of negative environmental and human consequences of some State and private energy activities has intensified international discourse about energy regulation. It has become clear that public international law can provide answers to many of the pressing questions in this field in a way that domestic law cannot. Both at global and regional levels, rules, norms and standards have emerged in relation to cross-border and intra-State energy matters. Due to the growing influence of public international law on energy industries, activities, and actors, international energy law has crystallized into both a practice and a discipline.

1. Definition

2 International energy law is inherently multidisciplinary and multidimensional, incorporating economic, environmental, political, social, and technological factors. As a result, there is no universal definition of international energy law.

3 One frequently cited functional definition of ‘energy law’ is ‘the allocation of rights and duties concerning the exploitation of all energy resources between individuals, between individuals and the government, between governments and between States’ (Bradbrook [1996] 194). The aspects of this definition and related considerations touched by international law constitute ‘international energy law’. The subject matter of energy law includes all energy sources (ie conventional fossil fuels, nuclear energy, and renewable energy), energy conservation, and all phases in the energy cycle (ie exploration, extraction, production, transportation, generation, distribution and decommissioning of infrastructure).

4 Owing to the character of its subject matter, the field of international energy law is in a constant state of flux. The scope and contours of the field change with developments in technology and industry practice. International energy law is also intimately affected by global legal policy issues related to energy, such as collective action on climate change (→ *Climate, International Protection*).

2. Structure and Purpose

5 International energy law is structurally situated within the general corpus of public international law, although its content is often clustered around particular industries or themes—for example, there are specific international rules pertaining to the exploitation of offshore natural resources. As noted by Schill (50), ‘international energy law is not contained in a single international instrument nor forms the subject-matter of a specific international legal regime’. Rather, as Redgwell ([2007] 15) observes, it ‘draw[s] upon the rules of international law applicable to a wide range of activities carried out by States in energy and other sectors’. These may be rules of general application or from a → *self-contained regime*.

6 The purpose of international energy law is similarly driven by context and the analytical approach adopted. One purpose is to provide a stable legal environment for international energy trade and investments. Another is to promote and coordinate low-cost global benefits, such as protection of the global commons and management of finite natural

resources. In general terms, its purpose is to regulate the relationships and obligations between State and non-State actors regarding energy matters.

B. Foundations of International Energy Law

7 International energy law is built upon the traditional sources of international law, but its unique character and broad scope also interact with legal sources beyond the orthodox taxonomy. The interpretation of traditional rules in the light of evolving contemporary principles and concepts is reframing the role and obligations of State and non-State actors in the context of energy.

1. Sources of International Energy Law

8 Treaties are the primary legislative tools of international energy law. Customary international law and general principles have limited direct application, while case law and other writings have given the subject its academic foundation. Non-binding international law, European Union law and internationalized domestic law also act as sources to regulate activities.

(a) Treaty Law

9 The most international of treaties, the United Nations Charter, does not expressly contain a mandate in relation to energy. Instead, energy is considered to fall within its general and broad competence. As a result, treaty law has developed thematically over time to regulate energy by sector, activity, and geographic area. Because treaties are employed where self-interest and collective benefit intersect, certain energy activities are without international regulation, such as global energy supply mix and pollution from seabed activities from energy pipelines and cables.

10 Trade and investment treaties predominate international cooperation among energy markets. Multilateral agreements on trade in energy goods and services, both global (→ *World Trade Organization [WTO]*) and regional in application (→ *North American Free Trade Agreement [1992] ['NAFTA']*), enable cross-border trade, transit, and commerce in energy resources. Since the 1980s, the proliferation of international investment agreements has created a web of international law promoting and protecting private foreign investments in energy.

11 The regional multilateral Energy Charter Treaty (1994) ('ECT') is the first and only international law instrument specific to all forms of energy and its protocol is the only treaty dedicated to energy efficiency. It is designed to provide a legal and institutional framework to integrate and improve the efficient operation of energy markets in Europe and Eurasia. It contains both commercial and environmental obligations, though the latter are aspirational rather than prescriptive in nature. The ECT has facilitated knowledge exchange between Contracting States and has been capable of modernization over time. This has ensured its increasing importance to energy security cooperation and investment protection, and its normative influence globally. The current process of 'updating' the Energy Charter may result in a 'World' or 'International' Energy Charter by 2015.

(b) Customary International Law

12 Among the few customary international law rules of direct relevance to energy activities are permanent sovereignty over natural resources (→ *Natural Resources, Permanent Sovereignty over*), State responsibility, and the international minimum standards of treatment of aliens with energy investments. Specific rules include the duty to notify and cooperate with other States in relation to risks from hazardous activities (→ *Nuclear Tests*

Cases), and the procedural obligation to cooperate with neighbouring States in respect of shared natural resources.

13 Numerous customary rules from international environmental law are of indirect relevance, shaping the attitudes and behaviours of States in relation to energy sector activities, particularly the → *conservation of natural resources*. For example, the long-established obligation not to cause significant harm to the territory of other States or to areas beyond national jurisdiction is becoming more relevant (→ *Trail Smelter Arbitration*). Other norms, such as the → *polluter pays* and the → *precautionary approach/principle*, have not crystallized into custom but have normative import. Whether *lex petrolea* has moved into customary international law as applicable to the oil industry remains contested.

(c) General Principles

14 The general principles of law recognized by civilized nations as understood by Art. 38 (1) (c) ICJ Statute apply in the context of energy disputes and international energy law generally as does general international law.

(d) Judicial Decisions and Writings of Publicists

15 Jurisprudence of international courts has addressed few matters directly concerning energy. The Permanent Court of International Justice pronounced on the legal character of State concession contracts and petroleum and mineral resources (→ *Mavrommatis Concessions Cases*; → *Phosphates in Morocco Case*). The International Court of Justice has had occasion to hear petroleum and mineral resource cases, but without judgment on the merits for want of jurisdiction (→ *Anglo-Iranian Oil Company Case*; *Aegean Sea Continental Shelf Case*). Clarification of customary rules in determining maritime delimitation disputes that implicate natural resources has been a particular feature of its jurisprudence (→ *North Sea Continental Shelf Cases*; → *Territorial and Maritime Dispute Case [Nicaragua v Colombia]*). Most disputes involving energy matters are diverted to other adjudicative fora such as arbitration because non-State actors lack standing in international courts and States are sensitive to judicial pronouncements implicating sovereignty.

16 Eminent publicists have been central to the development of international energy law as a subject, evidenced by the growing body of literature from epistemic communities and the increasing number of universities formally offering it as a taught and research subject.

(e) Non-binding International Law

17 The international community increasingly relies upon soft law to address global issues that are not easily attended to by the traditional international legal order. Because of their flexibility and evolutionary capacity, norms and principles play an important integrating role at the intersection of international environmental and energy law, regardless of their legal quality (see eg → *Stockholm Declaration [1972]* and *Rio Declaration [1992]*). One reason for the widespread adoption of soft law is its lack of enforcement machinery. Repeated application of norms over time can engender a *de facto* regulatory status or probationary testing before incorporation into treaty law. Cumulatively, the non-binding instruments promulgated in the field since 1972 have encouraged the global movement away from unsustainable patterns of energy production and consumption.

(f) European Union Law and Policy

18 European Union energy law and policy has influenced the creation and development of international energy law rules and norms, both directly through incorporation into international instruments, such as the ECT, and indirectly through promoting legal innovations that produce economic, environmental and energy security benefits, such as the

Directives on energy efficiency, renewable energy, hydrocarbons, and internal energy markets.

(g) Internationalized National Energy Law

19 National energy laws, regulations, policies, principles, and agreements have increasingly become transported, adopted, and harmonized across a large number of States. The internationalization is being driven by practical international commercial needs rather than by treaty obligations. Historically, internationalization was limited to oil and gas laws through the standardization of concession contracts and upstream petroleum contracts. More recently it has implicated energy competition and utilities regulation and, increasingly, sustainable energy laws. Industry standards, model contracts and practice have also played an important international harmonizing role in relation to oil and gas industries. It remains open whether global principles are emerging in relation to particular energy activities.

2. Rules, Principles, and Concepts

20 Doctrinally, international energy law has been established through traditional notions of permanent sovereignty over natural resources, State jurisdiction, and State responsibility. More recently, it has been shaped by considerations of sustainable development and energy security.

(a) Permanent Sovereignty over Natural Resources

21 Energy has historically been a matter for domestic law and regulation. Particularly during the periods of decolonization, newly independent States asserted their economic independence and right to dispose of their natural wealth and resources. These rights also apply during armed conflict (→ *Environment, Protection in Armed Conflict*; see also *Armed Activities on the Territory of the Congo [Democratic Republic of the Congo v Uganda]*). The attempted → *New International Economic Order (NIEO)* augmented the economic sovereignty proposition. The subsequent → *Charter of Economic Rights and Duties of States (1974)* further elaborated upon States' economic and development prerogatives and mandated cooperation between States in the exploitation of shared natural resources. The Charter did not go so far as to define those resources and their content remains contested. Yet these and similar developments internationalized previous 'essentially' domestic concerns (Art. 2 (7) UN Charter) and brought international law into the domain of domestic energy activities with respect to resource ownership, redistribution, and domestic exploitation for economic gain.

(b) Jurisdiction over Domestic Energy Activities

22 The jurisdiction of States is fundamental to States' power to legislate, enforce, and adjudicate energy matters, including the regulation of offshore energy and natural resource activities, the jurisdictional rules for which were codified by the four 1958 law of the sea treaties and replaced by the 1982 United Nations Convention on the Law of the Sea ('UNCLOS').

(c) Sustainable Development

23 One consideration to balance with permanent sovereignty over natural resources is → *sustainable development*, recognized as a concept in the → *Gabčíkovo-Nagymaros Case (Hungary/Slovakia)*, but lacking agreed content. However characterized, sustainable development continues to influence the evolution of international energy law and policy. For present purposes, it contains the following obligations: (i) to consider the environmental consequences of energy activities, informed by → *sic utere tuo ut alienum non laedas* and customary aspects of → *liability for environmental damage*; (ii) to conduct an

→ *environmental impact assessment* when certain pre-conditions are met; and (iii) to consult with neighbouring States in relation to certain ultra-hazardous activities including siting and transport (→ *Hazardous Substances, Transboundary Impacts*).

(d) Energy Security

24 Energy security is not a legal concept. Rather, it is a broad policy consideration that is advanced by sectoral application of international law. Energy security first became a global issue during the 1973 oil shock. This brought about the creation of the IEA (→ *Organization for Economic Co-operation and Development, International Energy Agency*) to control oil stockpiling and emergency response measures among Member States. Relevantly, the primary objectives of energy security include ensuring supply of energy and physical protection of personnel, installations, and assets from terrorism, hijacking, and armed conflict (see Redgwell [2004]). Bradbrook ([2008] 111) contends that security of energy supply—a central objective of contemporary national energy policies—requires reducing reliance on imported oil and gas, price stability, and supply reliability. Increasing the use of sustainable energy supports all of these elements.

25 In 1993 the IEA broadened its focus by adopting ‘shared goals’ on energy security, environmental protection and sustainable economic development and in 2005 its remit expanded to include ‘alternative energy scenarios and strategies’ as a means to advance its primary objective of energy supply security (Gleneagles 2005 Plan of Action para. 11 (a)).

(e) State Responsibility

26 International energy law relies on international law rules of → *State responsibility*. Distinctly lacking on the international plane is international responsibility of non-State actors that violate human rights and degrade the environment through energy activities, as discussed below.

3. Actors

27 States are the primary actors in international energy law. Along with inter-governmental organizations (‘IGOs’), non-governmental organizations (‘NGOs’), and private actors, collectively they contribute to the development and diffusion of international energy law and policy. The contemporary influence of non-State actors on the development of international energy law warrants their designation as genuine ‘participants’ (Higgins ch 3) rather than as → *subjects of international law*.

(a) States and Political Fora

28 States are the ultimate bearers of authority regulating energy resources and activities within their territorial and offshore jurisdiction. The increasing internationalization of energy trade, investment and security cooperation is facilitated through political fora. These include summits and informal meetings that consider non-binding energy policy (eg → *Group of Eight [G8]*, Group of Twenty, International Energy Forum) and formal conferences where decisions are made that affect treaty regimes (eg Conference of the Parties to the United Nations Framework Convention on Climate Change [‘UNFCCC’]). Since 2005, political summits have increasingly focused on global energy governance, shaping norms related to low-carbon technology, and modern usage of conventional resources.

(b) Inter-Governmental Organizations

29 There is no 'World Energy Organization' akin to the WTO to coordinate and agree global rules related to energy. Rather, as the 'requirements of international life' have evolved a range of IGOs have been established to develop and implement international norms and policy. These IGOs act as State agents, often through technical programmes, funding choices, and participation in negotiation processes. Institutional mandates related to energy vary depending on perceived benefits. Mandates can be broad (eg → *Organization for Economic Cooperation and Development [OECD]*), narrow (eg → *Organization of the Petroleum Exporting Countries [OPEC]*, IEA, ECT) or specialized (eg → *International Atomic Energy Agency [IAEA]*, → *International Maritime Organization [IMO]*, International Renewable Energy Agency [IRENA]), consumer or producer focused, and with open or closed participation requirements.

30 Within the UN system, energy has been central to the work of the Economic and Social Council ('ECOSOC'). UN programmes and agencies have approached energy from perspectives of the environment (→ *United Nations Environment Programme [UNEP]*), development (→ *United Nations Development Programme [UNDP]*), industrial innovation (→ *United Nations Industrial Development Organization [UNIDO]*), and a 'mechanism' that attempts to improve inter-agency collaboration in the field of energy, being UN-Energy. The UN Security Council does not have a mandate to consider energy matters during peacetime, and even when doing so during times of armed conflict its 15 members do not necessarily represent the energy interests of every State. At the regional level relevant IGOs include the EU, NAFTA, the Asia-Pacific Economic Cooperation, and the Organization of Latin American Countries.

31 International financial institutions, development banks and the → *Global Environment Facility (GEF)* play a crucial role influencing the direction of energy infrastructure activities, through funding and conditions and transitioning projects towards a low-carbon economy.

(c) Non-governmental Organizations

32 The primary functional roles of NGOs with respect to State and non-State activities related to energy include advocacy, policy creation, negotiation participation, and shaping of non-binding international law (→ *Environment, Role of Non-Governmental Organizations*).

(d) Private Actors

33 Along with State-owned enterprises multinational corporations ('MNCs') control the overwhelming majority of the world's natural resource reserves (→ *Corporations in International Law*). MNCs therefore wield enormous economic power and correlative political influence over energy activities. Other actors include industry associations that engage in lobbying and advocacy to influence international law.

(e) Accountability Mechanisms

34 The integral role of non-State actors highlights the need for robust corporate and institutional transparency and accountability mechanisms, particularly in practice. Because MNCs may benefit from but cannot be party to treaties they are unable to breach international law standards unless those standards are incorporated into and enforced through domestic law. In response, → *codes of conduct* and voluntary standards (→ *Environment, Private Standard-Setting*) have been promulgated by IGOs (eg → *Global Compact*, UN Guiding Principles on Business and Human Rights), NGOs and industry (eg → *Equator Principles*), in an attempt to provide some form of accountability for corporate

activities. NGOs have also adopted supervisory roles and relied on best practices in domestic litigation.

35 Institutional accountability, typically among development banks, is undertaken through internal review. One example is the World Bank's Inspection Panel, which is tasked with investigating complaints of non-compliance with the bank's internal policies and procedures that are implemented as loan conditions.

36 Accurate and reliable data and adequate monitoring, reporting, and verification are particularly acute challenges in the context of energy. Voluntary mechanisms established to improve transparency, though still in their infancy, include the Joint Oil Data Initiative, Extractive Industries Transparency Initiative, and Carbon Disclosure Project.

37 At present most accountability and transparency mechanisms have limited utility. They contain restrictive rules on standing to complain, seldom prevent major damage, may impose *post facto* consequences, and offer no remedies to the aggrieved. Moreover, IGOs have limited international responsibility.

C. International Regulation of Sectoral Energy Activities

38 Within international energy law, detailed rules and regulations have been set down in respect of specific energy sectors, activities, and stages of the energy cycle. Many of these comprise sub-disciplines and free-standing bodies of law. Offshore oil, gas and minerals, nuclear power and, increasingly, sustainable energy are the primary subjects of sectoral regulation.

1. Offshore Oil, Gas, and Minerals

39 Regulation of offshore energy resources implicates both international law and national law. International energy law draws on the → *Law of the Sea* to establish parameters for offshore industrial activities related to energy exploitation, marine transport, and protection of the marine environment from oil pollution (→ *Marine Environment, International Protection*). Although it is international law that determines rules for jurisdiction over living and non-living marine resources (→ *Maritime Jurisdiction*), it is national law that regulates exploration, exploitation and production of those energy resources through licenses and → *concessions*.

40 The UNCLOS regulates the construction, operation and abandonment of offshore energy installations and the laying of offshore pipelines and cables. It also articulates rules for delimiting maritime boundaries. Despite its expansive scope and detailed prescriptions, there remains considerable uncertainty about the international law rules on shared oil and gas reserves, highlighted by the International Law Commission suspending its study on this topic (Murase). Debate continues about the existence, scope, and content of any equitable use obligations for such resources (→ *Equitable Utilization of Shared Resources*) (Ong (1999), Cameron (2006)). In practice, States with straddling deposits often negotiate cooperative production sharing agreements based on various allocation principles. International law also strives to establish rules on mineral resources exploitation in → *Antarctica*, the → *international seabed area*, and areas claimed to be the → *common heritage of mankind*, though these fields have been fraught with challenges.

41 International obligations and standards also seek to manage environmental impacts from ships, accidents, dumping of waste, and decommissioning infrastructure (1972 London Dumping Convention; MARPOL Convention 73/78; 1989 IMO Guidelines; 1990 IMO Convention; 1992 OSPAR Convention) (→ *Marine Pollution from Ships, Prevention of and Responses to*). In the event of damage or injury → *international oil pollution compensation*

funds are able to provide some relief and private operators may be retained on salvage operations (1989 Salvage Convention).

2. Nuclear Power

42 International energy law establishes obligations in relation to nuclear power safety, State notification and assistance during emergencies and civil liability for damage (→ *Nuclear Energy, Peaceful Uses*). Related, but more appropriately situated in other disciplines such as international humanitarian law, is the issue of non-proliferation of → *nuclear weapons and warfare*. International collective interest in minimizing the risks of nuclear power usage has resulted in a substantial body of treaty law and technical standards for the nuclear sector in relation to construction and operation, health and safety, protection from exposure (1994 Convention on Nuclear Safety), transportation, and → *nuclear waste disposal*. The IAEA and the NEA (→ *Organization for Economic Co-operation and Development, Nuclear Energy Agency*) draft and monitor obligations and standards and exert normative pressure for national compliance. The → *European Atomic Energy Community (Euratom)* also governs nuclear energy use and safety.

43 Conventional law requires States Parties to notify neighbouring States and the IAEA about any release of nuclear energy of ‘radiological safety significance’ and provide assistance to them in the event of a major nuclear emergency (Convention on Early Notification of a Nuclear Accident; Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency). Prior to the implementation of these safety regimes, regional and international civil liability regimes were developed in an effort to encourage growth in the nuclear sector. They limit liability for large-scale nuclear accidents and establish compensation funds for harm while the regional agreements limit and spread liability across multiple actors (eg Vienna Convention on Civil Liability for Nuclear Damage).

3. Sustainable Energy

44 International law formally has a minimal role in regulating domestic sustainable energy generation and use. There are presently no global multilateral treaties related to renewables or energy efficiency. At the regional level, certain obligations exist in the Energy Charter Protocol on Energy Efficiency and Related Environmental Aspects and the Protocol on Energy Efficiency to the Alpine Convention.

45 Of particular relevance to sustainable energy are the UNFCCC and Kyoto Protocol to the UNFCCC, which are designed to reduce greenhouse gas emissions globally. They articulate common and differentiated obligations for States, based on classification, including to establish national inventories of greenhouse gas emissions and to create national climate change mitigation policies (Art. 4 (1) (a)-(b)) of the UNFCCC). Neither instrument imposes binding obligations on States Parties to use renewable energy or energy efficiency technologies or to develop laws and policies about sustainable energy. In practice, the flexible market mechanisms under the Kyoto Protocol such as the → *clean development mechanism* have encouraged significant investment in renewable energy projects.

46 In contrast, both non-binding international law and non-State actors have had a major influence in facilitating the nascent global transition to sustainable energy. Advocacy, policy development and international coordination from the former Commission on Sustainable Development and norm-shaping political declarations including → *Agenda 21*, the Johannesburg Plan of Implementation, the G8 Gleneagles 2005 Plan of Action, and the Beijing Declaration on Renewable Energy for Sustainable Development (and subsequent declarations from International Renewable Energy Conferences in Washington, Delhi, and

Abu Dhabi) have cemented sustainable energy as a modern global imperative. Sustainable Energy for All is the 2011 UN flagship initiative that articulates a global vision and strategy for delivering clean energy to the 2.7 billion people currently without, increasing global energy efficiency uptake, and doubling renewable energy production by 2030.

47 Another result of the international movement was the establishment of IRENA in 2011. IRENA has no express competence or implied power to negotiate or establish binding obligations with respect to renewable energy. Its role is to facilitate knowledge exchange and technological transfer as a global centre of excellence with programmatic activities that engage States, IGOs, NGOs, and private actors.

D. Integration with Other Areas of International Law

48 Many rules and obligations enable commercial activities related to energy resources. Others protect interests, people, and the environment from the consequences of those activities. Obligations are drawn from international economic law, the settlement of international disputes, environmental law, and human rights law.

1. International Economic Law

49 International economic law has a central role in creating legal stability for international trade and investment, including in relation to energy activities, which is of particular importance for risk-averse private actors that have rights to international protection.

(a) World Trade Law

50 International trade rules from the WTO regime treat the energy sector and energy goods and services like all others. Energy receives few explicit references in the WTO covered agreements. As a result, world trade principles and the disciplines and obligations contained in the General Agreement on Tariffs and Trade (1947 and 1994) ('GATT') and the General Agreement on Trade in Services (1994) ('GATS') applies to all energy goods and services, including oil and gas trading. Trade Related Investment Measures also apply to the energy sector and associated activities. When applying WTO law to national energy laws, policies and practices, States may rely on various exceptions to justify non-compliance with trade obligations. GATT exceptions most relevant to energy activities include bona fide measures taken for national security purposes (Art. XXI), for the protection of human, animal, or plant life or health (Art. XX (b)), or for the conservation of exhaustible natural resources (Art. XX (g)).

51 Energy is also included in regional trade rules of the ECT (which are modelled on WTO rules), NAFTA and various South American agreements.

(b) International Investment Law

52 International rules promoting and protecting investments have particular relevance to energy investments (→ *Investments, International Protection*). Large-scale energy infrastructure projects often operate for decades, outlasting any host-State government. To encourage such foreign investment, States attempt to establish a stable legal environment that minimizes political and associated regulatory risks. The principal means by which protections, standards of treatment and guarantees are provided is through the global web of international investment agreements ('IIAs'), few of which expressly reference energy other than NAFTA and the ECT investment provisions.

2. Settlement of International Disputes

53 Disputes involving energy matters must be settled peacefully (Arts 2 (3) and 33 UN Charter). Because there is no specialized standing body with competence over energy disputes, international courts (discussed in B (1) (d) above), the WTO Dispute Settlement Body ('DSB'), general, specialist or mixed arbitral bodies and commissions are used as required.

54 In the context of trade, the WTO DSB has been seized of inter-State disputes about national energy measures. In *Reformulated Gasoline* the Appellate Body held that measures employed under the US Clean Air Act fell within the Art. XX (g) GATT exception (see also → *US-Shrimp Case*). Recent disputes involving China, the US, and Canada will test the compatibility of domestic renewable energy support policies with global trade rules.

55 Historically, investment disputes involving energy matters were in response to expropriation and nationalization, particularly in relation to oil and gas rights (→ *Oil Concession Disputes, Arbitration on*). So significant were some of these arbitrations that they shaped and developed customary international law standards of protection and grounds for lawful expropriation (*Aramco Case* [1963]; *BP v Libya* [1974]; *Texaco v Libya* [1977]; *Liamco* [1981]). As tensions between investment protection and sovereignty over natural resources decline, energy disputes are increasingly founded on → *fair and equitable treatment* and full protection and security provisions within bilateral investment treaties.

3. Environmental Law

56 Issue-specific international law rules seek to ameliorate the extreme impacts of energy activities on the human and natural environment, minimize future damage, and improve public engagement (→ *Environment, International Protection*). Substantive obligations strive to alter activities that contribute to acid rain formation, air pollution, and climate change (→ *Atmosphere, International Protection*). Under the UNFCCC and Kyoto Protocol States Parties agree to reduce emissions but retain choice about national measures to achieve set targets, including the option to trade carbon credits (→ *Emissions Trading*). Substantive physical protection of selected environmental sites is advanced through the → *world natural heritage* regime.

57 Procedural obligations include completion of an → *Environmental Impact Assessment* ('EIA') for certain activities that are likely to cause significant transboundary impact. Originally established in a regional context (Convention on Environmental Impact Assessment in a Transboundary Context; Convention on the Protection of the Marine Environment of the North East Atlantic), this is now considered by general international law to be a domestic requirement globally (→ *Pulp Mills on the River Uruguay [Argentina v Uruguay]* para. 204). Development banks implement EIAs according to their internal policies as a matter of course.

58 Other procedural obligations that can influence environmental planning decisions involve → *access to justice in environmental matters*, → *access to information on environmental matters*, and → *public participation in environmental matters*).

4. Human Rights Law

59 An inchoate body of international law is evolving in response to the → *environment and human rights* challenges regularly associated with major transboundary and national energy infrastructure projects. Local inhabitants *in situ* of proposed project works are especially vulnerable and afforded limited attention under international law (→ *Environment and Indigenous People*). Substantive human rights law related to energy activities remains contested both legally and politically. There is presently no settled direct right to a clean,

healthy, or satisfactory environment, despite its occasional inclusion in certain instruments (Art. 24 African Charter on Human and Peoples' Rights; and Art. 11 San Salvador Protocol). Assertion of indirect rights, such as the violation of private and family rights from caustic energy activities (*Fadeyeva v Russia* [2005]) has been a more successful strategy.

60 While the consequences of energy activities are not well integrated into substantive human rights law, the practical issues of lacking access to energy and attendant poverty, health, and sanitation implications are firmly on the international policy agenda. Even though the UN Millennium Development Goals do not expressly include references to energy (→ *United Nations, Millennium Declaration*), innumerable reports show that the attainment of each goal is directly advanced by energy access and sustainable energy. Acknowledgement of this reality is found in proposed Goal 7 'to ensure access to affordable, reliable, sustainable, and modern energy for all' of the UN Sustainable Development Goals that are currently being negotiated (UNGA Res 68/309).

E. Concluding Remarks

61 International energy law and policy is a burgeoning and dynamic area of public international law that will only increase in significance. This is particularly so given the increasing awareness of globalized harm from certain major energy activities, requiring a collective response. Future developments are likely to involve increased regulation and accountability for non-State actors engaged in energy activities; attending to the 'unfinished business' of UNCLOS continental shelf regulation; closer integration between trade, investment, energy, and environmental law regimes; facilitation of access to energy; and expansion of sustainable energy law and policy.

Select Bibliography

- FA Mann 'The Doctrine of Jurisdiction in International Law' (1964) 111 *Recueil des Cours* 1-162.
- D Bowett 'Jurisdiction: Changing Patterns of Authority Over Activities and Resources' (1982) 53 *BYIL* 1.
- R Higgins *Problems & Process: International Law and How We Use It* (Clarendon Press London 1994).
- A Bradbrook 'Energy Law as an Academic Discipline' (1996) 14.2 *JERL* 193-217.
- T Wälde (ed) *The Energy Charter Treaty: An East-West Gateway for Investment & Trade* (Kluwer London 1996).
- AJ Bradbrook 'Energy Efficiency and the Energy Charter Treaty' (1997) 14 *EPLJ* 327-40.
- J Gardam 'Energy and the Law of Armed Conflict' (1997) 15 *JERL* 87-96.
- N Schrijver *Sovereignty Over Natural Resources: Balancing Rights and Duties* (CUP Cambridge 1997).
- Z Gao (ed) *Environmental Regulation of Oil and Gas* (Kluwer London 1998).
- M Roggenkamp 'Petroleum Pipelines in the North Sea: Questions of Jurisdiction and Practical Status' (1998) 16.1 *JERL* 92-109.
- TW Waelde 'A Requiem for the "New International Economic Order": The Rise and Fall of Paradigms in International Economic Law and a Post-Mortem with Timeless Significance' in Gerhard Hafner et al (eds) *Liber Amicorum: Professor Ignaz Seidl-Hohenveldern in Honour of his 80th Birthday* (Kluwer The Hague 1998) ch 41.
- D Ong 'Joint Development of Common Offshore Oil and Gas Deposits: "Mere" State Practice or Customary International Law?' (1999) 93 *AJIL* 771-804.

AJ Bradbrook 'Drafting a New International Convention on Energy Efficiency and Renewable Energy' in P Catania B Golchert and CQ Zhou (eds) *Energy 2000: The Beginning of a New Millennium* (Technomic Publishing Lancaster 2000) 1105-15.

F Botchway 'International Trade Regime and Energy Law' (2001) 28 *Syracuse JIntLL* 1-17.

AJ Bradbrook 'The Development of a Protocol on Energy Efficiency and Renewable Energy to the United Nations Framework Convention on Climate Change' (2001) 5 *NZJEL* 55-90.

AJ Bradbrook and RD Wahnschafft 'A Statement of Principles for a Global Consensus on Sustainable Energy Production and Consumption' (2001) 19 *JERL* 143-63.

H Esmaeili *The Legal Regime of Offshore Oil Rigs in International Law* (Aldershot Burlington 2001).

D Zillman et al (eds) *Human Rights in Natural Resource Development* (OUP Oxford 2002).

AJ Bradbrook and R Ottinger (eds) *Energy Law and Sustainable Development* (IUCN Environmental Policy and Law Paper No 47, 2003).

M Fitzmaurice and M Szuniewicz (eds) *Exploitation of Natural Resources in the 21st Century* (Kluwer The Hague 2003).

C Redgwell 'International Energy Security' in B Barton C Redgwell A Ronne and D Zillman (eds) *Energy Security: Managing Risk in a Dynamic Legal and Regulatory Environment* (OUP Oxford 2004), ch 2.

AJ Bradbrook R Lyster R Ottinger and W Xi (eds) *The Law of Energy for Sustainable Development* (CUP New York 2005).

DD Bradlow 'Private Complainants and International Organizations: A Comparative Study of the Independent Inspection Mechanisms in International Financial Institutions' (2005) 36 *Georgetown JIL* 403-94.

M Gehring and M-C Cordonier Segger (eds) *Sustainable Development in World Trade Law* (Kluwer The Hague 2005).

F Nocera *The Legal Regime of Nuclear Energy—A Comprehensive Guide to International and European Union Law* (Intersentia Antwerpen 2005).

B Barton et al (eds) *Regulating Energy and Natural Resources* (OUP Oxford 2006).

P Cameron 'The Rules of Engagement: Developing Cross-Border Petroleum Deposits in the North Sea and the Caribbean' (2006) 55 *ICLQ* 559-85.

R Lyster and A Bradbrook *Energy Law and the Environment* (CUP Cambridge 2006).

C Ribeiro (ed) *Investments Arbitration and the Energy Charter Treaty* (Juris Huntington 2006).

K Scott 'Tilting at Offshore Windmills: Regulating Wind Farm Development Within The Renewable Energy Zone' (2006) 18.1 *JEL* 89-118.

AA Fatouros 'An International Legal Framework for Energy' (2007) 332 *Recueil des Cours* 355-446.

PT Muchlinski *Multinational Enterprises and the Law* (2nd edn OUP Oxford 2007).

C Redgwell 'International Regulation of Energy Activities' in M Roggenkamp C Redgwell A Ronne and I del Guayo (eds), *Energy Law in Europe: National, EU and International Regulation* (2nd edn OUP Oxford 2007; 3rd edn forthcoming 2014).

AJ Bradbrook 'The Development of Renewable Energy Technologies and Energy Efficiency Measures through Public International Law' in Donald N Zillman et al (eds) *Beyond the Carbon Economy: Energy Law in Transition* (OUP Oxford 2008).

G Coop and C Ribeiro (eds) *Investment Protection and the Energy Charter Treaty* (JurisNet Huntington 2008).

P Birnie A Boyle and C Redgwell *International Law & the Environment* (3rd edn OUP Oxford 2009).

M-C Cordonier Segger M Gehring and A Newcombe (eds) *Sustainable Development in World Investment Law* (Kluwer The Hague 2010).

P Cameron *International Energy Investment Law: The Pursuit of Stability* (OUP Oxford 2010).

A McHarg B Barton A Bradbrook and L Godden *Property and the Law in Energy and Natural Resources* (OUP Oxford 2010).

S Murase 'Shared Natural Resources: Feasibility of Future work on Oil and Gas' (International Law Commission, Geneva, 62nd Session, 3 May-4 June and 5 July-6 August 2010).

AJ Bradbrook 'Creating Law for Next Generation Energy Technologies' (2011) JEEL 17-38.

TCC Childs 'Update on Lex Petrolea: The Continuing Development of Customary Law Relating to Oil and Gas Exploration and Production' (2011) 4.3 JWELB 214-59.

Y Selivanova (ed) *Regulation of Energy in International Trade Law: WTO, NAFTA and Energy Charter* (Kluwer The Hague 2011).

B Simma 'Foreign Investment Arbitration: A Place for Human Rights' (2011) 60.3 ICLQ 573-96.

O Edenhofer et al (eds) *Renewable Energy Sources and Climate Change Mitigation: Special Report of the Intergovernmental Panel on Climate Change* (CUP Cambridge 2012).

A Johnston and G Block *EU Energy Law* (OUP Oxford 2012).

M Krajewski 'The Impact of International Investment Agreements on Energy Regulation' (2012) 3 EYIEL 343-69.

R Lord et al (eds) *Climate Change Liability: Transnational Law and Practice* (CUP Cambridge 2012).

C Redgwell 'Geoengineering the Climate: Technological Solutions to Mitigation Failure or Continuing Carbon Addiction?' (2012) 17 CCLR 178-89.

M Roggenkamp L Barrera-Hernández DN Zillman and I del Guayo (eds) *Energy Networks and the Law: Innovative Solutions in Changing Markets* (OUP Oxford 2012).

P Sands et al *Principles of International Environmental Law* (3rd edn CUP Cambridge 2012).

BK Sovacool and A Florini 'Examining the Complications of Global Energy Governance' (2012) 30.2 JERL 235-63.

K Talus S Looper and S Otilar 'Lex Petrolea and the Internationalization of Petroleum Agreements: Focus on Host Government Contracts' (2012) 5 JWEEL 181-93.

JE Viñuales *Foreign Investment and the Environment in International Law* (CUP Cambridge 2012).

S Bruce 'Climate Change Mitigation through Energy Efficiency Laws: From International Obligations to Domestic Regulation' (2013) 31.3 JERL 313-50.

S Bruce 'International Law and Renewable Energy: Facilitating Sustainable Energy for All?' (2013) 14.1 MJIL 19-53.

P Park *International Law for Energy and the Environment* (2nd edn CRC Press Florida 2013).

M Citelli M Barassi and K Belykh 'Renewable Energy in the International Arena: Legal Aspects and Cooperation' (2014) 2.1 Groningen JIL 1-32.

S Schill 'The Interface between National and International Energy Law' in K Talus (ed) *Research Handbook on International Energy Law* (Edward Elgar Cheltenham 2014).

A Wawrky 'International Energy Law as an Academic Discipline' in P Babie and P Leadbeter (eds) *Law as Change: Engaging with the Life and Scholarship of Adrian Bradbrook* (AUP Adelaide 2014).

DN Zillman A McHarg A Bradbrook and L Barrera-Hernandez (eds) *The Law of Energy Underground: Understanding New Developments in Subsurface Production, Transmission, and Storage* (OUP Oxford 2014).

Select Documents

Abu Dhabi International Renewable Energy Conference 'Declaration' (17 January 2013), Abu Dhabi.

Additional Protocol to the American Convention on Human Rights in the Area of Economic, Cultural and Social Rights (adopted 17 November 1988, entered into force 16 November 1999) 69 OASTS (San Salvador Protocol).

Aegean Sea Continental Shelf (Greece v Turkey) [1978] ICJ Rep 3.

African Charter on Human and Peoples' Rights (adopted 27 June 1981, entered into force 21 October 1986) 1520 UNTS 217.

Agreement on an International Energy Program (adopted 18 November 1974, entered into force 19 January 1976) 1040 UNTS 271.

Anglo-Iranian Oil Co (United Kingdom v Iran) [1952] ICJ Rep 93.

Aramco Case (Award of 23 August 1958) (Saudi Arabia v Arabian American Oil Company) (1963) 27 ILR 117.

Armed Activities on the Territory of the Congo (Democratic Republic of the Congo v Rwanda) (Application) (23 June 1999) ICJ Doc 1999 No 117.

Armed Activities on the Territory of the Congo (Democratic Republic of the Congo v Uganda) [2005] ICJ Rep 168.

Charter of the United Nations (adopted 26 June 1945, entered into force 24 October 1945) 1 UNTS 16.

Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft (adopted 15 February 1972, entered into force 7 April 1974) 932 UNTS 3.

Convention for the Protection of the Marine Environment of the North-East Atlantic (adopted 22 September 1992, entered into force 25 March 1998) 2354 UNTS 67 (OSPAR Convention).

Convention for the Protection of the Mediterranean Sea against Pollution (adopted 16 February 1976, entered into force 12 February 1978) 1102 UNTS 44.

Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters (adopted 25 June 1998, entered into force 30 October 2001) 2161 UNTS 447 (Aarhus Convention).

Convention on Early Notification of a Nuclear Accident (adopted 26 September 1986, entered into force 27 October 1986) 1439 UNTS 275.

Convention on Nuclear Safety (adopted 20 September 1994, entered into force 24 October 1996) 1963 UNTS 293.

Convention on the Organization for Economic Co-operation and Development (adopted 14 December 1960, entered into force 30 September 1961) 888 UNTS 181.

Convention on the Physical Protection of Nuclear Material (adopted 3 March 1980, entered into force 8 February 1987) 1456 UNTS 125.

Convention on the Prevention of Marine Pollution by Dumping of Wastes and other Matter (adopted 29 December 1972, entered into force 30 August 1975) 1046 UNTS 138.

Council Directive 2003/87/EC of 25 October 2003 establishing a Scheme for Greenhouse Gas Emission Allowance Trading Within the Community [2003] OJ L275/32.

Council Directive 2009/28/EC on the Promotion of the Use of Energy from Renewable Sources and Amending and Subsequently Repealing Directives 2001/77/EC and 2003/30/EC [2009] OJ L140/16.

Council Directive 2009/31/EC on the Geological Storage of Carbon Dioxide and Amending Council Directive 85/337/EEC, European Parliament and Council Directives 2000/60/EC, 2001/80/EC, 2004/35/EC, 2006/12/EC, 2008/1/EC and Regulation (EC) No 1013/2006 [2009] OJ L140/114.

Council Directive 2012/27/EU on Energy Efficiency, Amending Directives 2009/125/EC and 2010/30/EU and Repealing Directives 2004/8/EC and 2006/32/EC [2012] OJ L315.

Council Directive 2012/31/EC on the Energy Performance of Buildings [2012] OJ L153/13.

Council Directive 2013/12/EU adapting Directive 2012/27/EU on energy efficiency, by reason of the accession of the Republic of Croatia [2013] OJ L141.

Delhi International Renewable Energy Conference 'Declaration' (29 October 2010), Delhi.

Energy Charter Protocol on Energy Efficiency and Related Environmental Aspects (adopted 17 December 1994, entered into force 16 April 1998) OJ L380/91.

Energy Charter Secretariat, "'Updated" Energy Charter: Frequently Asked Questions' (Brussels, 12 September 2014) <http://www.encharter.org/fileadmin/user_upload/document/UEC_FAQ.pdf> (7 October 2014).

Energy Charter Treaty (adopted 17 December 1994, entered into force 16 April 1998) OJ L380/24.

Fadeyeva v Russia (ECtHR) Reports 2005-IV 255.

Gabčíkovo-Nagymaros Project (Hungary v Slovakia) [1997] ICJ Rep 7.

General Agreement on Tariffs and Trade (adopted 30 October 1947, entered into force 1 January 1948) 55 UNTS 194.

Global Environment Facility 'Instrument for the Establishment of the Restructured Global Environment Facility and Annexes' (amended 19 June 2003).

Group of Eight Gleneagles Plan of Action 'Climate Change, Clean Energy and Sustainable Development' (6-8 July 2005), Scotland.

Guidelines and Standards for the Removal of Offshore Installations and Structures on the Continental Shelf and in the Exclusive Economic Zone (IMO Regulation A.672 (16)) (adopted 19 October 1989).

International Conference for Renewable Energies 'Beijing Declaration on Renewable Energy for Sustainable Development' (9 November 2005), National Development and Reform Commission, People's Republic of China.

International Convention for the Prevention of Pollution from Ships (adopted 2 November 1973, entered into force 2 October 1983) 1340 UNTS 184 (MARPOL Convention).

International Convention for the Safety of Life at Sea (adopted 1 November 1974, entered into force 25 May 1980) 1184 UNTS 2.

International Convention on Oil Pollution Preparedness, Response and Co-operation (adopted 30 November 1990, entered into force 13 May 1995) 1891 UNTS 78.

International Convention on Salvage (concluded 28 April 1989, entered into force 14 July 1996) 1953 UNTS 165.

International Convention relating to Intervention on the High Seas in Cases of Oil Pollution Casualties (adopted 29 November 1969, entered into force 6 May 1975) 970 UNTS 212.

Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management (adopted 29 September 1997, entered into force 18 June 2001) (1997) 36 ILM 1436.

Kyoto Protocol to the United Nations Framework Convention on Climate Change (adopted 10 December 1997, entered into force 16 February 2005) 2303 UNTS 148.

Liamco Arbitration (Award of 12 April 1977) (Libyan American Oil Company v Government of the Libyan Arab Republic) (1981) 20 ILM 1.

Marrakesh Agreement Establishing the World Trade Organization (adopted 15 April 1994, entered into force 1 January 1995) 1867 UNTS 3; annex 1A ('General Agreement on Tariffs and Trade 1994'); annex 1B ('General Agreement on Trade in Services'); annex 1C ('Agreement on Trade-Related Aspects of Intellectual Property Rights'); annex 2 ('Understanding on Rules and Procedures Governing the Settlement of Disputes').

Mavrommatis Palestine Concessions (Greece v Great Britain) (Merits) PCIJ Series A No 5.

North American Free Trade Agreement (adopted 17 December 1992, entered into force 1 January 1994) (1993) 32 ILM 289.

North Sea Continental Shelf Cases (Federal Republic of Germany/Denmark; Federal Republic of Germany/Netherlands) [1969] ICJ Rep 3.

Nuclear Tests (Australia v France) [1974] ICJ Rep 253.

Phosphates in Morocco (Italy v France) (Preliminary Objections) PCIJ Series A/B No 74.

Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973 (with Annexes, Final Act and International Convention of 1973) (adopted 17 February 1978, entered into force 2 October 1983) 1340 UNTS 61.

Protocol on the Implementation of the Alpine Convention of 1991 in the Field of Energy (adopted 16 October 1998, entered into force 18 December 2002) OJ L337/36.

Pulp Mills on the River Uruguay (Argentina v Uruguay) (Judgment) (20 April 2010) ICJ Doc 2010 General List No 135.

Reparation for Injuries Suffered in the Service of the United Nations (Advisory Opinion) [1949] ICJ Rep 174.

Report of the United Nations Conference on the Human Environment 'Declaration of the United Nations Conference on the Human Environment' (1 January 1973) UN Doc A/Conf.48/14/Rev.1, ch I.

Report of the World Summit on Sustainable Development 'Johannesburg Declaration on Sustainable Development' (4 September 2002) UN Doc A/Conf.199/20, ch I pt 2.

Secretary-General of the United Nations, 'Sustainable Energy for All: A Framework for Action—Secretary-General's High-Level Group on Sustainable Energy for All' (January 2012).

Statute of the International Atomic Energy Agency (adopted 23 October 1956, entered into force 29 July 1957) 276 UNTS 3.

Statute of the International Court of Justice (adopted 26 June 1945, entered into force 24 October 1945) 145 BSP 832.

Statute of the International Renewable Energy Agency (adopted 26 January 2009, entered into force 8 July 2010) 2700 UNTS 45.

Territorial and Maritime Dispute (Nicaragua v Colombia) (Judgment) [2012] ICJ Rep 624.

Texaco Overseas Petroleum Company and California Asiatic Oil Company v Government of the Libyan Arab Republic (Award on the Merits) (1978) 53 ILR 389.

Trail Smelter (Awards) (United States of America v Canada) (1938/41) 3 RIAA 1905.

Treaty establishing a Single Council and a Single Commission of the European Communities (adopted 8 April 1965, entered into force 1 July 1967) [1965] OJ L152/1 (Merger Treaty).

Treaty on the Non-Proliferation of Nuclear Weapons (adopted 1 July 1968, entered into force 5 March 1970) 729 UNTS 161.

UN Conference on Environment and Development 'Agenda 21' (12 August 1992) UN Doc A/CONF.151/26/Rev.1 (Vol. I), 9.

UN Conference on Environment and Development 'Rio Declaration on Environment and Development' (14 June 1992) UN Doc A/CONF.151/26/Rev.1 (Vol. I), 3.

UN HR Council 'Report of the Special Representative of the Secretary-General on the Issue of Human Rights and Transnational Corporations and Other Business Enterprises, John Ruggie: Guiding Principles on Business and Human Rights: Implementing the United Nations "Protect, Respect and Remedy" Framework' (21 March 2011) UN Doc A/HRC/17/31.

UNGA 'Report of the Open Working Group on Sustainable Development Goals' (1 August 2014) UN Doc A/68/970.

UNGA Res 1803 (XVII) 'Permanent Sovereignty over Natural Resources' (14 December 1962) GAOR 17th Session Supp 17, 15.

UNGA Res 3201 (S-VI) 'Declaration on the Establishment of a New International Economic Order' (1 May 1974) GAOR 6th Spec Session Supp 1, 3.

UNGA Res 3281 (XXIX) 'Charter of Economic Rights and Duties of States' (12 December 1974) GAOR 29th Session Supp 31 vol 1, 50.

UNGA Res 55/2 'United Nations Millennium Declaration' (8 September 2000) GAOR 55th Session Supp 49 vol 1, 4.

UNGA Res 61/295 'United Nations Declaration on the Rights of Indigenous Peoples' (13 September 2007) GAOR 61st Session Supp 49 vol 3, 15.

UNGA Res 68/309 'Report of the Open Working Group on Sustainable Development Goals Established pursuant to General Assembly Resolution 66/288' (10 September 2014) 68th Session 108th Plen Mtg.

United Nations Convention on the Law of the Sea (adopted 10 December 1982, entered into force 16 November 1994) 1833 UNTS 3.

United Nations Framework Convention on Climate Change (adopted 14 June 1992, entered into force 21 March 1994) 1771 UNTS 107.

Vienna Convention on Civil Liability for Nuclear Damage (adopted 21 May 1963, entered into force 12 November 1977) 1063 UNTS 265.

Washington International Renewable Energy Conference '2008 Conference Report' (3-6 March 2008), Washington.

WTO *United States—Import Prohibition of Certain Shrimp and Shrimp Products—Report of the Appellate Body* (12 October 1998) WT/DS58/AB/R.

WTO *United States—Standards for Reformulated and Conventional Gasoline—Report of the Appellate Body* (29 April 1996) WT/DS2/AB/R.