Alexandra Wawryk

International energy law: an emerging academic discipline

Law as Change: Engaging with the Life and Scholarship of Adrian Bradbrook, 2014 / Babie, P., Leadbeter, P. (ed./s), Ch.10, pp.223-255

Published version http://dx.doi.org/10.20851/law-change-10

10

INTERNATIONAL ENERGY LAW: AN EMERGING ACADEMIC DISCIPLINE

Alexandra Wawryk[1]

I Introduction

Adrian Bradbrook has been a leading international academic in the field of energy law for many years, in particular in the fields of renewable energy and energy conservation. Not only did he write pioneering legal works in this area, but he instituted the key law course on Mining and Energy Law at the University of Adelaide at a time when most other Australian universities did not teach energy or resources law as a mainstream legal subject.[2]

In 1996, Bradbrook wrote a seminal paper on teaching Energy Law as an academic discipline.[3] While 'Energy Law' as conceived of in his paper largely focused

[1] I would like to thank Ms Katelijn Ven Hende, course co-ordinator and lecturer, Energy and Resources Law, and International Policy and Geopolitics of Energy and Resources, University College of London (Adelaide), and Professor Kim Talus, director of the LLM diploma programme on International and European Energy Law and Policy, University of Eastern Finland, for their helpful comments on this chapter.

[2] In 1996, some years after Bradbrook instituted the Mining and Energy Law course at the University of Adelaide, out of the 26 Australian law schools, the subject of Mining and Energy law was only taught at the University of Adelaide and the University of Wollongong. Adrian Bradbrook, 'Energy Law as an Academic Discipline' (1996) 14 *Journal of Energy & Natural Resources Law*, 193.

[3] Ibid.

on Australian national and state issues, he identified the fact that energy law is increasingly acquiring an international law dimension as one of the most significant developments of the time. This 'international law dimension' of energy law includes both the increasing internationalisation and standardisation of national laws, where, for example, 'traditionally national subjects such as taxation laws now have an international dimension',[4] and the growth and influence of public international law in the context of energy, an area which, he argued, had 'evolved and continues to evolve very rapidly and … represents the real cutting edge of energy law at the present time'.[5]

The increasing recognition of the 'international law dimension' of energy law among legal scholars, legal practitioners and those working in any role with energy markets has led to the growing recognition and development of 'international energy law' as a separate academic discipline. Although certain 'sub-disciplines' of laws within 'international energy law', such as oil and gas law, are well developed fields of practice, research and study in their own right, the study and teaching of international energy law in its own right is still very new.

Journals that address energy law have been in existence for a number of years. For example, the *Journal of Energy & Natural Resources Law* of the International Bar Association — which covers many issues of international energy law — has existed as a premier journal for many years, although it was not self-styled as addressing 'international energy law'. The *International Energy Law and Taxation Review*, established in 1982, was renamed the *International Energy Law Review* in 2009. However, new academic journals devoted specifically to international energy law have been created comparatively recently, reflecting the increasing recognition that international energy law forms its own field of learning. These include OGEL, the Oil, Gas and Energy Law Intelligence online service,[6] which contains a database of laws and articles for scholars and practitioners, in 2003, and the *Journal of World Energy Law and Business* in 2008.

Similarly, while many universities have taught the sub-disciplines within international energy law such as oil and gas law for some time, the teaching of

---

4 Ibid 212.

5 Ibid 203.

6 See <http://www.ogel.org>.

international energy law as a distinct branch of learning is a new development, with, for example, the University of Adelaide and the University College of London (Adelaide Campus) introducing specific courses in their Masters degrees since 2010, and the University of Eastern Finland doing so from 2013.

This chapter builds on Bradbrook's ground-breaking work in energy law to provide an overview of international energy law as a coherent academic legal discipline. As far as 'coherence' is concerned, this is much more difficult than it may sound to those unfamiliar with the field. To the uninitiated, the phrase 'international energy law' may seem to presuppose the existence of uniform international rules or laws applying to one 'global' energy sector. The reality is extremely different. There is no single, easily identifiable global energy market or industry and it is difficult to identify precisely the parameters of the energy markets or industries which can be seen as the subjects of international energy laws; nor is there one easily identifiable 'source' of energy law. The 'fragmented' or 'specialised' state of international energy law is a reflection of the historical development of energy resources and markets. The content and parameters of international energy law as a discipline is something that is understood by scholars and practitioners though experience and accumulated knowledge, rather than something that has been defined or articulated to date.

In this chapter I present international energy law as a holistic discipline first, by identifying certain key themes that underlie the whole of international energy law. These include the 'internationalisation' of principles of national energy law, the importance of 'soft law', and the fundamental importance of understanding non-legal factors (such as geopolitics and concerns over energy security), and their influence on the development of international energy law. I will then identify various subsets or 'sub-disciplines' of international energy law according to different types of energy resource. As with any exercise of this nature, there may well be varying opinions on the boundaries of the discipline, and the relative weight or importance of each topic within it. In this chapter, I distinguish oil and gas law, nuclear energy law, renewable energy law, and electricity and gas markets law as fundamental sub-disciplines. I will then discuss briefly the energy law of the European Union, which is universally acknowledged to be a crucial part of international energy law, as well as a separate legal specialty. I finish by discussing some cross-cutting issues, such as energy and the environment, energy and trade, and dispute resolution.

II Definitions and Sources of Law

A preliminary issue this chapter addresses is the meaning of 'energy sources'. Energy sources may be renewable (an energy source that can be easily replenished) or non-renewable (an energy source that is used up and cannot be recreated).[7] Non-renewable energy sources include the fossil fuels — oil, natural gas, and coal — and uranium (used to make nuclear energy). Well-known renewable energy sources include hydro-electric power,[8] wave, tide, ocean, wind, solar and geothermal energy.[9] Secondary energy sources, such as electricity and hydrogen, are energy carriers, because they move energy in a useable form from one place to another.[10] Energy conservation, which encompasses measures to reduce consumer demand for energy, including through improved energy efficiency, may also be seen as an energy resource because of its potential role in satisfying society's demand for energy.[11]

Energy law identifies and analyses the legal issues associated with the exploitation of all the primary and secondary sources of energy, where 'exploitation' refers to any stage of the process which involves finding a resource and bringing it to commercial use.[12] It regulates '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'.[13]

---

7 US Energy Information Administration, *What is Energy?* <http://www.eia.gov/energyexplained/index.cfm?page=about_home>.

8 Small or micro-hydro-electric power plants may be distinguished from large-scale hydro-electric power plants. In many legislative systems that seek to mandate the use of renewable energy in electricity, large hydro-electric power systems are excluded from the definition of renewable energy. This is because of the potentially huge environmental, social and cultural impacts of large hydro-electric schemes that require large dams.

9 Other renewable energy sources are hot dry rock, energy crops, wood waste, agricultural waste, waste from processing of agricultural products, food waste, food processing waste, bagasse, black liquor, biomass-based components of municipal solid waste, landfill gas, sewage gas and biomass-based components of sewage.

10 Electricity and hydrogen are obtained from the conversion of primary sources of energy, such as coal, nuclear, or solar energy. Hydrogen is a non-renewable energy source, made by separating atoms from water, biomass, or natural gas molecules. US Energy Information Administration, *What are Secondary Energy Sources?* <http://www.eia.gov/energyexplained/index.cfm?page=secondary_home>.

11 Bradbrook, above n 2, 195.

12 Ibid 197.

13 Ibid 194.

Energy law at an *international* level is best understood with reference to the *sources* of law that regulate 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. In this respect, it is crucial to understand that no single international governing body exists to set down a uniform set of energy laws that apply in all countries and cover all aspects of energy production, trade, transport and consumption. There is no single international energy 'law'. Rather, international energy 'law' stems from three broad sources.

First, 'law' refers to the principles enumerated in traditional sources of international law, such as treaties and customary international law. Various treaties on nuclear energy, such as the Convention on Nuclear Safety,[14] are a clear example of this source of law. Although to date few, if any, principles of customary international law of specific relevance to energy have been identified, it has been argued there is a nascent *Lex Petrolea*, or a set of rules of customary international law valid for the international oil industry.[15]

Secondly, 'law' here refers to the internationalisation or global spread of national laws and regulatory principles relevant to energy law, so that we can see common principles of energy law applied across countries, even though there is no treaty binding the Parties to apply these principles of law. An example is the global spread of principles of national laws for deregulating national electricity and gas industries.

Thirdly, 'law' here refers to principles of 'soft law', such as treaties expressed in non-mandatory language, and also the non-binding codes, guidelines, resolutions, directives, standards or model codes of international bodies, including intergovernmental organisations such as the International Atomic Energy Agency. While such guidelines and standards are not 'hard' or binding law per se, their importance in regulating behaviour in the energy industries/markets cannot be underestimated.

---

[14] *Convention on Nuclear Safety*, opened for signature 20 September 1994, 1963 UNTS 293 (entered into force 24 October 1996).

[15] R Doak Bishop, 'International Arbitration of Petroleum Disputes: The Development of a Lex Petrolea' (1998) 1 XXIII *Yearbook Commercial Arbitration* 1131; Thomas CC Childs, 'Update on *Lex Petrolea*: The Continuing Development of Customary Law Relating to Oil and Gas Exploration and Production' (2011) 4(3) *Journal of World Energy Law and Business* 214; Kim Talus, Scott Looper and Steven Otillar, '*Lex Petrolea* and the Internationalization of Petroleum Agreements: Focus on Host Government Contracts' (2012) 5 *Journal of World Energy Law and Business* 181-93.

International energy law is thus a conglomeration of rules of custom, treaties, national and regional laws, and principles of intergovernmental and non-governmental international institutions, which together regulate the various facets of energy production, supply, consumption and trade. The exploitation of each different energy resource will involve a different interface with the law. Energy law covers a multitude of legal issues, which will differ between resources but may include laws relating to research and development, exploration, production/generation, transportation, investment and financing, business and contractual arrangements, market access, subsidies and taxation, trade, dispute resolution, and environmental and safety issues, to name but a few. Energy law transcends legal boundaries, encompassing, for example, aspects of contracts, torts, property, constitutional law, administrative law, taxation law, environmental law and competition law.[16]

III Underlying Themes of International Energy Law

The internationalisation of energy law and the importance of soft law, are two fundamental features of the discipline of international energy law, and form two of the crucial 'underlying themes' of international energy law. It is simply not possible to appreciate the complexity of regulation of energy markets and industries, nor the scope of international energy law, without an understanding of these features.

A *The Internationalisation of Energy Law*

Historically, energy supply and consumption, with the possible exception of oil exploitation, were seen by nations to be matters solely of domestic concern. Energy markets started as small localised markets, eventually developing into nationally segregated electricity, coal and nuclear industries, with the supply and regulation of electricity provided by large, vertically-integrated, state-owned enterprises. The lack of international trade in energy prior to the 1970s, and the lack of understanding about the transboundary environmental impacts of energy use prior to the 1960s, meant that resource exploitation and environmental protection were largely seen as matters for internal control by nation-states, and therefore not a matter for international regulation. As a result, prior to the 1970s, there were few treaties or rules of custom

[16] Bradbrook, above n 2, 211.

which dealt with energy markets.[17] Because, under traditional analyses of international law, only treaties and customary international law and the other forms of law set out in Article 38 of the Statute of the International Court of Justice could be seen as sources of international law,[18] there was no 'international energy law'.

This situation has changed markedly since the 1970s. First, the changing structure of energy markets has led to an increase in the number of treaties concerning energy, particularly in the European Union, and upon matters of key importance to international energy markets, including free trade[19] and the environment.[20] Second, there has been increasing internationalisation of principles of energy law which were previously confined in application to national markets. These emerging common global principles of law are an integral part of international energy law, even though they are not necessarily mandated as binding principles of international law through a treaty. They may come to be included in a treaty or, over time, may become part of custom; but in general this type of internationalisation of energy law refers to the increasing spread and application across the globe of common national laws and practices in energy, in the absence of a treaty.

There are many examples of the internationalisation of energy law. One example is the increasing global application of principles of law relevant to the privatisation of electricity and gas corporations, and the restructuring of electricity and gas markets as competitive markets. The restructuring of the European Union internal electricity and gas markets has been underpinned largely by the European Union's Directives and Regulations, given the emergence of cross-border trading in energy between its members. However, the spread of the principles to other countries, such as those in South America, has taken place through a different process, in particular through tying the funding of World Bank and international multilateral financial institutions to the privatisation of national electricity markets.

---

[17] There were some rules of customary international law which affected investment, these being property protection rules, and some environmental treaties, such as those concerning marine pollution, relevant to the transport of oil, and nuclear liability.

[18] Statute of the International Court of Justice, 3 Bevans 1179; 59 Stat 1055; TS No. 993; [1945] ATS 1.

[19] For example, the GATT/WTO rules: see below nn 100-8, and accompanying text.

[20] For example, the *United Nations Framework Convention on Climate Change*, opened for signature 14 June 1992, 1771 UNTS 107 (entered into force 21 March 1994) and the *Kyoto Protocol to the United Nations Framework Convention on Climate Change*, opened for signature 11 December 1997, 2303 UNTS 148 (entered into force 16 February 2005).

Another example is provided by the renewable energy industry, where countries are increasingly adopting national laws to put in place common mechanisms for supporting the development of renewable energy — for example, feed-in tariffs[21] and renewable portfolio standards[22] in the electricity industries. There are no universal treaties regarding renewable energy law, although the European Union has a Directive (a secondary source of law) on renewable energy,[23] which is binding on the EU's member countries.

Oil and gas law provides one of the most well-known examples of international energy law arising from the internationalisation of domestic laws. There is no treaty which regulates the exploration and production of oil, as this is achieved through the domestic laws of each country. These generally include a Petroleum Law, Regulations and, in many countries, a separate contract — called a Host Government contract — between the government (in many cases, represented by the national oil company) and the international oil company undertaking exploration and production activities. Although upstream activities are subject to domestic regulation, there are many legal principles common to petroleum arrangements around the world, reflecting the international nature of world oil markets.

First, the international oil industry is characterised by the use of numerous standardised model contracts and practices which govern the commercial relations between oil companies worldwide. These contain similar types of clauses and structures. The early discovery of oil in the US in the nineteenth century spawned a body of contract law which developed to foster oil exploration and production on lands belonging to private landowners. When the US oil companies extended their activities across the globe over the course of the twentieth century, they carried with them their customary forms of contracts, business organisation and jurisprudential

---

[21] A feed-in tariff is a type of price support for renewable energy technologies, guaranteeing that electricity generated from renewable technologies will sell for a certain minimum price in electricity markets.

[22] A renewable portfolio standard is a legal mechanism whereby an electricity provider, usually the wholesaler, is legally obliged to source a certain percentage of their electricity from different renewable energy sources.

[23] *Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 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 L 140/16.

concepts.[24] There has been continuing development, widespread acceptance and use of model petroleum contracts drafted by national and international organisations such as the Association of International Petroleum Negotiators. These contracts span a whole range of commercial issues including (to name but a few) model Farmout Agreements, Unitisation Agreements and Confidentiality Agreements. This has contributed to a global standardisation of upstream petroleum contracts.[25]

Second, the internationalisation and standardisation of principles of oil and gas law has occurred through the internationalisation and standardisation of governments' petroleum legislation and Host Government Contracts between national governments and international oil companies. For example, the legal principles of the concession contract, which has its basis in the contracts developed in the US oil industry in the nineteenth century, spread globally as the major oil companies of the US and Europe explored and produced in the Middle East, Africa and Asia in the twentieth century. Other more recent types of petroleum agreements, such as the production sharing contract, most famously used by Indonesia in the mid-late twentieth century, have also spread internationally. Although there are no generally accepted model Host Government contracts, as these tend to be drafted to meet the specific ends and goals of each country involved, the contracts contain similar clauses and similar structures worldwide.[26] Their use has become increasingly globalised through their application by actors such as the World Bank and private lawyers advising host governments internationally; by the desire of governments to learn from previous experience; and by growing international education and awareness in this area.[27]

Furthermore, international dispute resolution under commercial arbitration treaties, investment treaties, and arbitration under the *Energy Charter Treaty*[28] has given rise to standard principles of international, rather than purely national, application. As many disputes have gone to international commercial arbitration in tribunals such

---

[24] Claude Duval et al, *International Petroleum Exploration and Exploitation Agreements: Legal, Economic and Policy Aspects* (Barrows, 2nd ed, 2009).

[25] A Timothy Martin and J Jay Park, 'Global Petroleum Industry Model Contracts Revisited: Higher, Faster, Stronger' (2010) 3(1) *Journal of World Energy Law and Business* 7; Talus, Looper and Otillar, above n 15, 185.

[26] Ibid 181.

[27] Ibid 181, 193.

[28] *Energy Charter Treaty*, opened for signature 17 December 1994, 34 ILM 360 (entered into force 16 April 1998).

as the International Centre for Settlement of Investment Disputes ('ICSID'), a major source of case law has arisen, which has given rise to standardised principles of law applicable at an international level to the global petroleum industry. This has given rise, as mentioned above, to an argument that there is in existence at least a nascent *Lex Petrolea* — a specific legal regime, or 'body of international norms' — which instructs or regulates the international petroleum industry.[29] This concept first arose in *Kuwait v AMINOIL*,[30] and, although not accepted by the Arbitral Tribunal in that case, appears to have become legitimised to a certain extent by subsequent academic research and writing on the topic.[31]

Whether or not there is an international law of specific application to the international oil industry, model contracts are evidence of international best practices being applied globally regardless of the location of the commercial transaction, while the existence of similar clauses in Host Government contracts are evidence of the internationalisation of initially domestic principles of oil and gas law.

B *The Importance of Soft Law*

The norms, principles or standards contained in the guidelines, declarations of principles and codes of practice of non-governmental organisations ('NGO's), intergovernmental organisations ('IGO's) and other international institutions, known as 'soft law', are a key part of international energy law. A norm is soft either when it is not part of a binding regime or when it is contained in a binding instrument but is not stated in obligatory terms. There are many actors and institutions which draft principles, norms and standards relevant to international energy law, including IGOs, NGOs and international lending institutions.

IGOs relevant to energy law include the International Energy Agency ('IEA'); the Energy Charter Conference and Secretariat; the International Atomic Energy Agency ('IAEA'); the United Nations Development Programme ('UNDP'); the

---

[29] Bishop, above n 15; Childs, above n 15.

[30] *Kuwait v American Independent Oil Co (AMINOIL) (Award)* (1982) 21 *International Legal Materials* 976.

[31] Bishop, above n 15; Childs, above n 15; Talus, Looper and Otillar, above n 15; A Timothy Martin, '*Lex Petrolea* in the International Oil and Gas Industry' in R King (ed), *Dispute Resolution in the Energy Sector: A Practitioner's Handbook* (Globe Law and Business, London, 2012); Alfredo de Jesús O, 'The Prodigious Story of the Lex Petrolea and the Rhinoceros: Philosophical Aspects of the Transnational Legal Order of the Petroleum Society', *TPLI Series on Transnational Petroleum Law*, Vol. 1, No 1 (2012).

United Nations Environment Programme ('UNEP'); the OECD Nuclear Energy Agency; and the International Renewable Energy Agency ('IRENA'). The primary and traditional role of IGOs, especially international energy institutions, is to provide secretariat services for conferences out of which energy regulatory instruments such as treaties emerge. They claim a 'service' role to governments, with whom rest formal decision powers, treaty-making powers and making or subsidiary law under treaties. However, IGOs can also influence the negotiation of, or create, technical standards, usually in collaboration with experts in government, industry associations and companies.[32]

NGOs relevant to international energy law, such as Greenpeace, Oxfam, WWF and Friends of the Earth, postulate the emergence/existence of new principles (for example, the human rights liability of transnational oil corporations), influence the negotiation of treaties, influence the negotiation of, or create, non-binding guidelines, principles and codes of conduct, and participate in international dispute settlement. Industry associations, such as the International Association of Oil and Gas Producers, the American Petroleum Institute and the World Nuclear Association, also influence the negotiation of treaties, influence the negotiation of, or create, non-binding technical standards, guidelines, principles and codes of conduct and participate in international dispute settlement.[33]

Finally, international financial institutions, such as the World Bank, the IMF and the Asian Development Bank, have a key role in the formulation of energy law and policy by lending money, particularly to emerging economies/developing countries, on the basis of certain conditions. Privatisation of electricity in Latin American countries, a very controversial issue in many of those countries, came about at least in part because of World Bank conditions attached to loans. In the environmental sphere, the requirement of prior environmental impact assessment has become a standard requirement of World Bank projects.[34]

---

[32] Thomas Wälde, 'The Role of Selected International Agencies in the Formation of International Energy Law and Policy Towards Sustainable Development' in Adrian J Bradbrook and Richard L Ottinger (eds), *Energy Law and Sustainable Development* (IUCN, 2003) 171, 173.

[33] Thomas Wälde, *International Energy Law: An Introduction to Modern Concepts, Context, Policy and Players*, unpublished draft manuscript, November 2001 (on file with author).

[34] See Alexandra S Wawryk, 'Adoption of International Environmental Standards by Transnational Oil Companies: Reducing the Impact of Oil Operations in Emerging Economies' (2002) 20 *Journal of Energy & Natural Resources Law* 402.

Whether so-called 'soft law' can truly be seen as a source of international law remains a controversial question to international legal scholars.[35] However, a failure to appreciate the source and extent of this type of 'regulation' will lead to a failure to truly understand the complexity of the way in which energy markets are regulated. It is also critical to understand that the continuing development and use of standards and guidelines has legal implications beyond the formal status of these documents as 'non-binding' guidelines. In both the international and national sphere, these non-legally-binding guidelines have the potential to 'harden' into binding law.[36]

First, soft law may contribute to the formation of binding international law, either through the incorporation of initially non-binding norms into a treaty, or, when these guidelines, codes or principles are viewed as legally authoritative by a sufficient number of countries over a sufficient length of time, through the creation of customary law.

Nationally, industry statements of best practice may come to be binding through their application by national courts or arbitral bodies, as evidence of industry 'best practice' in litigation or arbitration, when interpreting petroleum contracts that require the use of best practice, or to interpret legislative provisions that require the use of good international practice. National courts may also invoke international guidelines in prosecutions for environmental offences, where international technical standards may become the legal standard of due care in negligence cases concerning the environment. Alternatively, implementation of these standards may provide the basis for a 'due diligence' defence in cases of prosecution for environmental offences, reduce the risk of regulators implementing a prosecution, or, if a prosecution is mounted, may mitigate the penalty imposed by the court.[37]

---

[35] For a discussion of soft law see Christine Chinkin, 'The Challenge of Soft Law and Change in International Law' (1989) 38 *International and Comparative Law Quarterly* 850; Pierre-Marie Dupuy, 'Soft Law and the International Law of the Environment' (1990-91) 12 *Michigan Journal of International Law* 420; Hartmut Hillgenberg, 'A Fresh Look at Soft Law' (1999) 10(3) *European Journal of International Law* 499; Sir Geoffrey Palmer, 'New Ways to Make International Environmental Law' (1992) 86 *American Journal of International Law* 259; Paul C Szasz, 'International Norm-Making' in Edith Brown Weiss, *Environmental Change and International Law: New Challenges and Dimensions* (United Nations University Press, 1992) 69-72.

[36] See Wawryk, above n 34.

[37] See, eg, *EPA v Great Southern Energy* [1999] NSWLEC 192; *EPA v The Shell Company of Australia Ltd* [1999] NSWLEC 16.

International guidelines also raise the standard expected of oil companies in ways other than their application by the courts. For example, governments themselves may require implementation of good environmental practices as a condition for granting development approval, even where these practices are not required by legislation. The practices voluntarily adopted by one company may become a model for national oil and gas legislation, thereby raising the standard expected of other companies seeking to operate in that country in the future.[38]

C *International Energy Law as a Multidisciplinary Subject: the Importance of Political, Social, Economic and Environmental Factors*

In 2008, Thomas Wälde wrote that 'leading practitioners and scholars have always been able to sharpen their analysis and application of law and contractual commercial transactions by a more than superficial understanding of the forces which underlie and determine the law'.[39] A true understanding of the development, current state and possible or likely future trends in international energy law, and a critical perspective on the law, requires a knowledge and understanding of non-legal factors that drive the law. While it is not possible in this chapter to identify and discuss all of these, some crucial examples can be given.

Understanding international oil and gas law requires an understanding of the changing market structure over the past century, from an industry in the early- to mid-twentieth century dominated by the former 'Seven Sisters', to one where the majority of production and reserves are in the oil-producing nations, under the control of state oil and gas companies, who are now themselves becoming international operators. Understanding the development and structure of the international oil industry provides a better understanding of the types of international petroleum contracts, their advantages or disadvantages for host countries/oil companies, and the types of clauses that are commonly included in these contracts. Geopolitics, issues of sovereign risk, and oil pricing are also key drivers in international oil and gas law.

In the electricity industry, changing economic views about the most efficient ownership structures of electricity enterprises led to restructuring and privatisation of

---

[38] *The Oil Industry: Operating in Sensitive Environments*, 'Texaco Exploration in North East Bangkok' (IPIECA/E&P Forum, Report No. 2.73/255, London, May 1997). At the time of the report, the Thai government was intending to use Texaco's procedures for closure of the site as the case study for future reference for other concessionaire operations onshore in Thailand.

[39] Thomas Wälde, 'Editor's Note' (2008) 1(1) *Journal of World Energy Law and Business* 1, 1.

the large, integrated, state-owned electricity companies in many countries, achieved only through legislative amendment.

More generally, concerns over energy security remain strong and persistent since the oil crises of the 1970s, particularly in Western countries, thus shaping the directions of trade between countries, and the desire to diversify energy sources. Concerns over energy security and climate change in Western countries have prompted movements towards energy efficiency and conservation as well as renewable energy, through a range of legal mechanisms, including emissions trading schemes. Access to energy remains a key and crucial concern in many developing countries, heavily influencing negotiations and the structure of international law on climate change. Climate change concerns may well see a renaissance in nuclear energy, notwithstanding the 2011 incident at Fukushima, and this will continue to raise the issue of the adequacy of laws to ensure the safety and security of nuclear energy installations and the transport of nuclear material. Understanding these, and other non-legal drivers behind the law, is arguably necessary for a deeper understanding of international energy law as an academic discipline.

IV Law by Energy Source

The laws governing various stages of development of the major sources of energy — such as oil and gas, nuclear power and renewable energy — form their own discrete body, as well as comprising a 'sub-discipline' or area of specialisation of international energy law. One part of the approach to teaching or researching international energy law is to study some of the most important laws and issues relevant to the exploitation of each energy source. Thus, for example, the various treaties relevant to the use of nuclear power can be examined to obtain an understanding of how the risks of nuclear power are regulated by the international community, and this is a worthy stand-alone topic. However, the laws regarding particular energy sources can also be researched or taught to demonstrate the themes that underlie international energy law, such as the theme of internationalisation of energy law.

A *Oil and Gas Law*

The regulation of the international oil industry is a mix of treaty law and internationalised principles of law and uniform practice. I have discussed the

internationalisation of principles of oil and gas law above. The history, principles and structures of petroleum agreements between companies, and between companies and host governments, are a key part of international oil and gas law as a sub-discipline of international energy law. Dispute resolution in the international oil industry, in particular international commercial arbitration, is a growing area of practical and academic focus.

One aspect of the international oil industry that is heavily regulated by treaty is the international legal regime for the protection of the marine environment, in particular from pollution caused by the maritime transport of oil.[40] Accidents involving oil tankers such as the Exxon Valdez and Torrey Canyon focused world attention on the grave environmental consequences of oil spills on the marine environment. Other types of actions that may also have a negative impact on the marine environment are the routine operational discharge of oil from tankers into the ocean; the deliberate dumping of wastes at sea, including the decommissioning and disposal of offshore oil platforms at sea; and the discharge of oil and wastes from land-based installations. The general obligations of states to protect the marine environment are set out in treaties such as the United Nations Convention on the Law of the Sea,[41] and specific obligations concerning these matters are set out in other multilateral and regional agreements and protocols.[42] However, the regulation of offshore oil exploration and production on the continental shelf (as well as onshore exploration and production) is still primarily a matter of domestic concern, and there is no global regime that

[40] For example, the *International Convention for the Prevention of Pollution from Ships* (MARPOL) 1973, absorbed by the *Protocol relating to the Prevention of Pollution from Ships*, 17 ILM (1978), 546 (in force 2 October 1983); *International Convention for the Safety of Life at Sea*, 1184 UNTS 2, UKTS 46 (1980) Cmnd 7874, TIAS 9700 (entered into force 25 May 1980); *International Convention on Oil Pollution Preparedness, Response and Cooperation* (London) 30 ILM (1991), 735 (entered into force 13 May 1995); *International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Damage* (Brussels), UKTS 77 (1971), Cmnd. 6056, 9 ILM (1970), 25 (entered into force 6 May 1975); and various treaties on liability and compensation.

[41] *United Nations Convention on the Law of the Sea* (Montego Bay), Misc. 11(1983), Cmnd. 8941; 21 ILM (1982), 1261 (entered into force 16 November 1994).

[42] For example, *Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter* (London), 26 UST 2403, TIAS 8165, UKTS 43 (1976), CMND. 6486, 11 ILM (1972), 1294 (entered into force 30 August 1975); *Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft* (Oslo), 932 UNTS 3, UKTS 119 (1975), Cmnd. 5551, 11 ILM 262 (1972) (entered into force 7 April 1974); *Convention for the Protection of the Marine Environment of the North-East Atlantic* (Paris) 32 ILM (1993), 1072 (entered into force 25 March 1998); *Convention on the Protection of the Mediterranean Sea Against Pollution* (Barcelona), 15 ILM (1976), 290 (in force 12 February 1978).

establishes norms or principles governing the issue of authorisations in offshore areas, environment and safety standards, and compensation and liability for oil pollution from incidents such as well blowouts.[43]

It is no coincidence that marine pollution caused by the maritime transport of oil is regulated by treaties, as the environmental impacts are often transboundary and require international co-operation for effective regulation. However, pollution of the marine environment is not the only area of international concern for the environment, with a growing focus on the link between oil exploitation and the abuse of human rights, the rights of indigenous peoples and onshore environmental degradation, and the means by which international and national laws, and industry standards and codes of conduct, can protect and preserve the environment, culture and human rights of the citizens of host countries.

B *Nuclear Energy*

Nuclear energy is a major fuel for generating electricity, accounting for some 13.4 per cent of the world's electricity generation in 2009,[44] and 19 per cent of the OECD's electricity production from January to May 2012.[45] Because of the many risks associated with the use of nuclear power, a relatively large body of international law has developed to regulate nuclear activities. It is an area of international law where there are many conventions, technical standards and Codes of Conduct. The major agreements and standards have been promulgated under the auspices of the IAEA

---

[43] However, there is some regionalisation of these issues: for example, the European Union has issued a number of Directives to member states, including Directive 94/22/EC of the European Parliament and of the Council of 30 May 1994 on the conditions for granting and using authorisations for the prospection, exploration and production of hydrocarbons, OJ L 164/3, 30 June 1994; Directive 2004/35/EC of the European Parliament and of the Council of 21 April 2004 on environmental liability with regard to the prevention and remedying of environmental damage, OJ L 143/56, 30 April 2004; and Directive 2013/30/EU of the European Parliament and of the Council of 12 June 2013 on safety of offshore oil and gas operations and amending Directive 2004/35/EC, OJ L 178/66, 28 June 2006. See also the *Protocol for the Protection of the Mediterranean Sea against Pollution Resulting from Exploration and Exploitation of the Continental Shelf and the Seabed and its Subsoil*, adopted 14 October 1994 (entered into force 24 March 2011).

[44] International Energy Agency, *Key World Energy Statistics 2011* <http://www.iea.org/publications/freepublications/publication/key_world_energy_stats-1.pdf>.

[45] International Energy Agency, *Monthly Electricity Statistics: May 2012* <http://www.iea.org/stats/surveys/mes.pdf> 1.

and the OECD Nuclear Energy Agency, while the *Euratom Treaty* is the key treaty by which the member of the EU aims to ensure the safe and sustainable use of nuclear energy.[46]

There are two broad headings under which the current numerous international instruments can be categorised: first, ensuring the safety of nuclear power; and second, putting in place effective safeguards against weapons proliferation and terrorism. Nuclear power safety issues that are addressed by law include the health and safety of workers in the nuclear energy industry, in particular protection from radiation; the prevention of nuclear accidents; the transport of nuclear materials; the transport and disposal of radioactive waste; the duty to notify other states in case of a radiological emergency or nuclear accident, and the right to seek assistance; liability for harm from nuclear accidents; and the decommissioning of nuclear power plants.[47]

C *Renewable Energy and Energy Conservation*

As with oil and gas laws, the internationalisation of renewable energy laws stems from the increasingly global application of national legal principles and measures to foster the use of renewable energy. A key problem with the large-scale development and deployment of renewable energy is its cost. Historically (and at the time of writing), many sources are not cost-competitive with traditional energy sources such as coal and oil, and the technologies are not sufficiently developed to provide reliable and cost-competitive power for electricity markets, or to power consumer cars on a large scale. As a result, legal initiatives to promote renewable energy are concerned with

---

[46] *Treaty establishing the European Atomic Energy Community*, opened for signature 25 March 1957, 298 UNTS 167 (entered into force 25 March 1957).

[47] Some of the major IAEA Conventions in these areas are as follows: *Statute of the International Atomic Energy Agency*, opened for signature 23 October 1956, 276 UNTS 3 (entered into force 29 July 1957); *Convention on Nuclear Safety*, opened for signature 20 September 1994, [1997] ATS 5 (entered into force 24 October 1996); *Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management*, opened for signature 5 September 1997, [2003] ATS 21 (entered into force 18 June 2001); *Convention on Early Notification of a Nuclear Accident*, opened for signature 26 September 1986, [1987] ATS 14 (entered into force 27 October 1986); *Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency*, opened for signature 26 September 1986, [1987] ATS 15 (entered into force 26 February 1987); *Convention on the Physical Protection of Nuclear Material*, opened for signature 3 March 1980, [1987] ATS 16 (entered into force 8 February 1987); *Treaty on the Non-Proliferation of Nuclear Weapons*, opened for signature 1 July 1968, 729 UNTS 161 (entered into force 5 March 1970); *Convention on Civil Liability for Nuclear Damage*, opened for signature 21 May 1963, 2 ILM 727 (entered into force 12 November 1977).

providing financial incentives for renewable energy development, or for reducing the gap in cost-competitiveness by, for example, the provision of subsidies to the renewable energy industry or by price support schemes; or by mandating the use of renewable energy in the supply of electricity. Other concerns relate to electricity market reform; grid integration; the removal of national legal barriers to renewable energy; and, at the international level, trade barriers.

Although there are some international agencies concerned with fostering renewable energy, these are not charged with legislative mandates, and no single international agency is charged with drafting and administering treaties. While many bodies, including IGOs and industry and community NGOs, undertake activities concerning renewable energy, the list of actors is extensive and changes constantly, with little systematic pooling of information, analysis and co-ordination at the international level. The main focus of the International Renewable Energy Agency ('IRENA'), created in Bonn on 26 January 2009, is to bring all stakeholders in renewable energy together at the global level.[48] Although IRENA's member states pledge to advance renewables in their own national policies and programs, and to promote, both domestically and through international co-operation, the transition to a sustainable and secure energy supply, IRENA itself does not have a mandate to undertake any law reform or to draft and supervise any international law in the form of treaties pertaining to renewable energy.

There is no body of treaties that deals specifically with renewable energy.[49] The same is true of energy conservation measures. While there are well-known legislative mechanisms for encouraging energy conservation — for example, vehicle fuel efficiency standards, energy efficiency standards for electrical goods and buildings, and educational and informational measures such as energy efficiency labelling of cars, electrical goods and buildings — these have very much stemmed from national measures which have spread to different countries, and are not the subject of treaties.

---

[48] As of 11 July 2012, the European Union and 100 States were Members of the Agency, and 58 States were IRENA Signatories/applicants for membership: *IRENA: List of Members, signatories and applicants for membership as of 11.07.2012* <http://www.irena.org/DocumentDownloads/Signatory/IRENA_List_of_Members.pdf>.

[49] As noted above, the European Union has issued a Directive on Renewable Energy, which is not a treaty but is binding on member states: *Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the Promotion of the Use of Energy from Renewable Sources and Amending and Subsequently Repealing Directives 2001/77/EC and 2003/30/EC (Text with EEA relevance)* [2009] OJ L 140/16.

Again, an exception may be the very few European Union Directives regarding energy efficiency, which, although secondary sources of law, and not treaties, are binding on its member states.[50]

D *Secondary Energy — Electricity and Gas Markets — Access to Markets, Competition Laws*

Another subset of international energy law is the set of rules concerning the functioning of electricity and gas markets. Since the 1970s, common principles of law have spread across the globe regarding the operation of electricity and gas markets, particularly with respect to the dismantling of large, integrated electricity companies into generation, transmission and distribution companies, the privatisation of electricity and gas markets, and the emergence of cross-border trading between members of the European Union and in North America. The laws cover a wide range of issues, including electricity and gas generation and distribution/transport, market arrangements (that is, rules governing buying and selling in the marketplace, including retail sales), and competition issues such as pricing and access to electricity grids and gas pipelines. These emerging common principles of law are part of international energy law, and many are expressed in what is known as European Union energy law.

V European Union Energy Law

European Union energy law is an integral part or subset of 'international' energy law[51] and conversely, energy law itself has played a fundamental role in the formation of the European Union, with two of the three founding treaties focusing on energy. The initial aim of European Union energy law was to restructure the institutional and legal foundation of its members' national energy industries to develop a European Union-wide energy industry. Key issues concerned the liberalisation of national energy industries, especially the dismantling of national energy trade monopolies, and ensuring that the owners of natural monopolies (transport, storage and distribution)

---

[50] See below n 67.

[51] Wälde, above n 32, 192. There are many references on European Union energy law. For a recent description of the development of European Union energy law, see Ludwig Gramlich, 'Regulating Energy Supranationally: EU Energy Policy' (2012) 3 *European Yearbook of International Economic Law* 371.

provide non-discriminatory access as reasonable conditions to competitors.[52] The objectives and principles of competition law are thus an integral part of EU energy law.[53]

The main law in this respect is the *EU Treaty*,[54] with its key general provisions for freedom of movement and control of anti-competitive conduct; a series of specific Directives concerning electricity and gas markets, which began with the Electricity Market Directive of 1996[55] and the Gas Market Directive of 1998,[56] and which were later superseded by new Directives in 2003[57] and 2009[58] by the second and the third legislative packages for an internal EU gas and electricity market respectively;[59] various Regulations addressing access to gas and electricity networks;[60] and a number

---

[52] Wälde, above n 32, 193.

[53] On this topic, see Peter Cameron, *Competition in Energy Markets. Law and Regulation in the European Union* (Oxford University Press, 2nd ed, 2007).

[54] *Treaty on European Union*, opened for signature 7 February 1992, [1992] OJ C 191/1 (entered into force 1 November 1993) ('*EU*'). The *Treaty of Lisbon Amending the Treaty on European Union and the Treaty Establishing the European Community*, opened for signature 13 December 2007, [2007] OJ C 306/1 (entered into force 1 December 2009). The *Treaty Establishing the European Community* has been renamed the *Treaty on the Functioning of the European Union* ('*FEU*'). For a consolidated version of the *EU* and *FEU*, see European Union Consolidated Versions of the *Treaty on European Union and of the Treaty Establishing the European Community*, OJ C 306, 17 December 2007 <http://europa.eu/lisbon_treaty/full_text/index_en.htm>.

[55] *Directive 96/92/EC of the European Parliament and of the Council of 19 December 1996 Concerning Common Rules for the Internal Market in Electricity* [1997] OJ L 27/20.

[56] *Directive 98/30/EC of the European Parliament and of the Council of 22 June 1998 Concerning Common Rules for the Internal Market in Natural Gas* [1998] OJ L 204/1.

[57] *Directive 2003/54/EC of the European Parliament and of the Council of 26 June 2003 Concerning Common Rules for the Internal Market in Electricity and Repealing Directive 96/92/EC* [2003] OJ L 176/37; *Directive 2003/55/EC of the European Parliament and of the Council of 26 June 2003 Concerning Common Rules for the Internal Market in Gas and Repealing Directive 98/30/EC* [2003] OJ L 176/57.

[58] *Directive 2009/72/EC of the European Parliament and of the Council of 13 July 2009 Concerning Common Rules for the Internal Market in Electricity and Repealing Directive 2003/54/EC (Text with EEA relevance)* [2009] OJ L 211/55; *Directive 2009/73/EC of the European Parliament and of the Council of 13 July 2009 Concerning Common Rules for the Internal Market in Natural Gas and Repealing Directive 2003/55/EC* [2009] OJ L 211/94.

[59] The latest Electricity and Gas Directives are those under the Third Package: see <http://ec.europa.eu/energy/gas_electricity/legislation/legislation_en.htm>.

[60] For example, *Regulation (EC) No 714/2009 of the the European Parliament and of the Council of 13 July 2009 on Conditions for Access to the Network for Cross-Border Exchanges in Electricity and Repealing Regulation (EC) No 1228/3003* [2009] OJ L 211/15; *Regulation (EC) No 715/2009 of the European Parliament and of the Council of 13 July 2009 on Conditions for Access to the Natural Gas Transmission*

of Directives and Regulations directed to other issues, such as security of supply.[61] More recently, the EU has introduced a range of measures to reduce greenhouse gas ('GHG') emissions and meet its obligations under the *Kyoto Protocol*,[62] including the EU emissions trading scheme,[63] and measures to encourage renewable energy,[64] carbon capture and storage[65] and energy efficiency.[66]

EU energy law has influence beyond those countries that are its member states. As well as the laws and Directives being binding upon its 27 member states,[67] the countries of the European Economic Area[68] apply most of the EU's energy law. The EU exports its energy laws and policies both formally and informally. The *Energy*

Networks and Repealing Regulation (EC) No 1775/2005 (Text with EEA relevance) [2009] OJ L 211/36.

61 Kim Talus, 'OGEL Ten Years Special Issue: Internationalisation of Energy Law', Editorial (2002) 10(3) *Oil, Gas and Energy Law* <www.ogel.org>. As examples of other Directives and Regulations see also *Directive 2003/96/EC of 27 October 2003 Restructuring the Community Framework for the Taxation of Energy Products and Electricity* [2003] OJ L 283/51, and amending Directives; and *Regulation (EC) No 713/2009 of the European Parliament and of the Council of 13 July 2009 Establishing an Agency for the Cooperation of Energy Regulators (Text with EEA relevance)* [2009] OJ L 211/1.

62 Talus, above n 62. For an overview of the EU's Climate and Energy package, see <http://ec.europa.eu/clima/policies/package/index_en.htm>. Energy efficiency is addressed separately under the EU's Action Plan for Energy Efficiency 2007-2012 and Energy Efficiency Plan 2011: see <http://ec.europa.eu/energy/efficiency/action_plan/action_plan_en.htm> and <http://europa.eu/legislation_summaries/energy/energy_efficiency/l27064_en.htm>.

63 *Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 Establishing a Scheme for Greenhouse Gas Emission Allowance Trading within the Community* [2003] OJ L 275/32, plus various amending Directives, Regulations and Decisions.

64 *Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the Promotion of the Use of Energy from Renewable Sources and Amending and Subsequently Repealing Directives 2001/77/EC and 2003/30/EC (Text with EEA relevance)* [2009] OJ L 140/16.

65 *Directive 2009/31/EC of the European Parliament and of the Council of 23 April 2009 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 (Text with EEA relevance)* [2009] OJ L 140/114.

66 See *Directive 2012/31/EC of the European Parliament and of the Council of 19 May 2010 on the Energy Performance of Buildings* [2012] OJ L 153/13; *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 (Text with EEA relevance)* [2012] OJ L 315.

67 Austria, Belgium, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and the United Kingdom.

68 The members of the EEA are the EU and its 27 member states, plus Iceland, Liechtenstein and Norway.

Charter Treaty of 1994,[69] for example, commits its Parties to certain principles that in many ways reflect the early days of EU energy law.[70] The fundamental aim of the *Energy Charter Treaty* is to 'strengthen the rule of law on energy issues, by creating a level playing field of rules to be observed by all participating governments, thereby mitigating risks associated with energy-related investment and trade'.[71] Its key provisions concern the protection of investment, trade in energy materials and products, transit and dispute settlement. Those states that have signed the Treaty, such as Australia, are members of the Energy Charter Conference, the IGO established by the Treaty to be the governing and decision-making body for the Energy Charter process. To date, the Treaty has been signed or acceded to by 51 states, the European Community and Euratom.[72]

More recently, the *Energy Community Treaty*[73] of 2006 creates an internal market for electricity and natural gas between the 27 member states of the EU and seven European states and territories in the Balkans, who comprise the 'Energy Community'.[74] One of the crucial obligations of Contracting Parties to the Treaty is to implement part of EU legislation, the relevant '*acquis communautaire*', on energy, environment, competition and renewable energies, as well as to ensure compliance

---

[69] *Energy Charter Treaty*, opened for signature 17 December 1994, 34 ILM 360 (entered into force 16 April 1998).

[70] Talus, above n 62. The aim of the Treaty is to establish a legal framework to promote long-term co-operation in the energy sector based on the principles enshrined in the *European Energy Charter* of 1991. The *European Energy Charter* is a political declaration of the principles underpinning international energy co-operation, based on a shared interest in secure energy supply and sustainable economic development. The Energy Charter has been signed by 58 countries, including the US and Canada, as well as the European Communities. All Charter signatories are observers to the Charter process, and signing is a first and necessary step towards accession to the 1994 Energy Charter Treaty: Home Page Energy Charter <http://www.encharter.org/index.php?id=1&L=0>.

[71] Energy Charter Secretariat, *About the Charter* <http://www.encharter.org/index.php?id=7&L=0>.

[72] Ibid.

[73] *Treaty Establishing the Energy Community*, opened for signature 25 October 2005, [2006] OJ L 198/18 (entered into force 1 July 2006); see also *Council Decision 2006/500/EC of 29 May 2006 on the Conclusion by the European Community of the Energy Community Treaty* [2006] OJ L 198/15.

[74] The Parties to the Treaty are the European Union, Albania, Bosnia and Herzegovina, Croatia, the former Yugoslav Republic of Macedonia, Moldova, Montenegro, Serbia, Ukraine and the United Nations Interim Administration Mission in Kosovo. Armenia, Georgia, Norway and Turkey take part as observers. For a good article on this, see Heiko Prange-Gstöhl, 'Enlarging the EU's Internal Energy Market: Why Would Third Countries Accept EU Rule Export?' (2009) 37 *Energy Policy* 5296.

with certain general Community standards relating to technical systems[75] and to develop an adequate regulatory framework and liberalise their energy markets in line with the *acquis* under the Treaty.

Informally, the provision of technical assistance to countries through various development assistance programs, such as the Tacis (former USSR), Phare (Eastern Europe) and Synergie programs, has enabled the EU to influence energy policies in those countries.[76] It has also been seen as a pilot for integrating energy markets in other regions, with Thomas Wälde stating that 'the importance of the EU as the global economy's laboratory for modern, post-privatisation energy law as an instrument of economic and environmental regulation in emerging integrated energy markets cannot be over-estimated'.[77]

VI Other Themes and Cross-cutting Issues

As well as identifying legal issues particular to the regulation of the markets for each energy source, various topics can be identified that cut across the whole of the international energy sector. These are all areas of specialisation in their own right. I will raise these only briefly here, in order to provide an overview of some cross-cutting topics of the practical and topical importance.

A *Energy and Environment*

The exploitation of energy is inextricably entwined with issues of environmental protection, with numerous issues of planning and environment protection and conservation law relevant to the industry. For example, the nuclear power industry has enormous potential environmental impacts, in terms of the storage and disposal

---

[75] *Treaty Establishing the Energy Community*, art 3. Title II of the Treaty, which deals with the 'Extension of the Acquis Communautaire', is organised as follows: arts 10 and 11 are directed to the Acquis on Energy, arts 12-17 to the Acquis on Environment, arts 18-19 to the Acquis on Competition, art 20 the Acquis on Renewables, arts 21-3 on Compliance with Generally Applicable Standards of the European Community, and art 21 on the Adaption and Evolution of the Acquis. *The Energy Community Treaty* (20 November 2007) Europa: Summaries of EU Legislation <http://europa.eu/legislation_summaries/energy/external_dimension_enlargement/l27074_en.htm>; see also *About Us* (30 August 2013) Energy Community, <http://www.energy-community.org/portal/page/portal/ENC_HOME/ENERGY_COMMUNITY>.

[76] Talus, above n 62; Wälde, above n 32, 196.

[77] Wälde, above n 32, 193.

of radioactive wastes, and the impacts of nuclear accidents. The onshore and offshore exploration and production of oil, the maritime transport of oil, and transport of oil by pipelines, require regulation to control the potentially negative environmental impacts of this industry, while the burning of coal in electricity has led to problems of acid rain and air pollution over large cities. Large hydro-electric plants can have massive environmental consequences because of the damming of rivers, while wind farms can affect birds and bats, create noise and interfere with landscape and amenity.

The energy industry is also inextricably entwined with the climate industry.[78] With energy use emissions from stationery energy use and from transport accounting for some 80 per cent of world greenhouse gas emissions,[79] the mechanisms for reducing greenhouse gas emissions and moving the world towards a 'low carbon economy' have a fundamental impact on the producers and users of energy.[80] Just a few of these mechanisms include carbon taxes; emissions trading schemes;[81] mechanisms such as feed-in tariffs and renewable portfolio standards which mandate the use of renewable energy in electricity; measures to improve energy efficiency standards in buildings, cars and white goods; and the support of carbon capture and storage technologies.

---

[78] The Montreal Protocol to the United Nations Convention on Substances that Deplete the Ozone Layer is also relevant to preventing climate change, as it controls emissions of chlorofluorocarbons (CFCs), which are greenhouse gases. *Vienna Convention for the Protection of the Ozone Layer*, opened for signature 22 March 1985, 1513 UNTS 293 (entered into force 22 September 1988); *Montreal Protocol on Substances that Deplete the Ozone Layer*, opened for signature 16 September 1987, 1522 UNTS 3 (entered into force 1 January 1989).

[79] Elizabeth Bossley and Andy Kerr, *Climate Change and Emissions Trading: What Every Business Needs to Know* (CEAG Ltd, 3rd ed, 2009) 37.

[80] The two major international legal instruments which comprise the response of the international community to climate change are the *United Nations Framework Convention on Climate Change*, opened for signature 14 June 1992, 1771 UNTS 107 (entered into force 21 March 1994), and the *Kyoto Protocol to the United Nations Framework Convention on Climate Change*, opened for signature 11 December 1997, 2303 UNTS 148 (entered into force 16 February 2005).

[81] While there is as yet at time of writing no single, global, international emissions trading scheme in existence, there are a number of national and regional schemes either in place or proposed. The European Emissions Trading Scheme, a regional scheme, has been in existence for some time, and forms the backbone of the billion-dollar global carbon market. Other non-European jurisdictions that have introduced an emissions trading scheme include New Zealand, Australia (currently the carbon pricing mechanism, destined to become a fully flexible ETS by 2014, unless repealed by the new Coalition government which took office in September 2013), and the US State of California, while China introduced a pilot emissions trading scheme in 2013.

The numerous environmental impacts of energy exploitation are addressed through treaties and/or domestic laws, and/or by the numerous instruments of 'soft' law which are relevant to each energy industry.

B *Energy and Indigenous Peoples*

Issues of 'good governance' and the 'licence to operate' of corporations, which include a consideration of the social and cultural impacts of energy projects as well as the environmental impacts, is a major theme in international energy law. Particular issues include reducing the negative impacts on indigenous peoples, and the provision of social services to local communities. Again, this is an issue that cuts across energy sources. Construction of dams for large hydro-electricity projects can have devastating impacts on indigenous peoples, who may need to be relocated away from their traditional lands. The exploitation of oil and gas has had a long and often shameful history regarding local and indigenous communities. In some cases, the degradation caused by oil and gas exploration and production to the physical environment and to the health, cultural, religious and traditional economic activities of local and indigenous communities has been so devastating that a breach of human rights has occurred.[82]

Because of this, the development of various treaties and declarations,[83] and domestic laws, which pertain to the protection of human rights in general, and indigenous peoples in particular, have a cross-cutting impact on the development of energy. Again, and as a constant theme in international energy law, simply considering the formal or binding sources of law does not provide an adequate understanding of the entirety of the way in which corporate behaviour is modified or regulated. The

---

[82] Inter-American Commission on Human Rights, *Report on the Situation of Human Rights in Ecuador*, OAS Doc OEA/Serv.L/V.II.96, doc 10, rev 1, 24 April 1997, Inter-American Commission on Human Rights <http://www.cidh.oas.org/country.htm>.

[83] For example, the *United Nations Declaration on the Rights of Indigenous Peoples*, United Nations General Assembly, A/RES/61/295, adopted 13 September 2007; *ILO Convention (No. 169) Concerning Indigenous and Tribal Populations in Independent Countries*, 72 ILO Off Bull 59; 28 ILM 1382 (1989) (entered into force 5 September 1991); *Convention on the Elimination of All Forms of Racial Discrimination*, 660 UNTS 195; [1975] ATS 40 (entered into force 4 January 1969); *International Covenant on Civil and Political Rights*, 999 UNTS 171; [1980] ATS 23; 6 ILM 368 (1967) (entered into force 23 March 1976); *African Charter on Human and Peoples' Rights*, OAU doc CAB/LEG/67/3/Rev.5 (1981); 21 ILM 58 (1982) (entered into force 18 July 1978); and the *American Convention on Human Rights*, OAS TS No. 36 at 1; OAS Off Rec OEA/Ser.L/V/II.23, doc 21, rev 6; 9 ILM 99 (1970) (entered into force 18 July 1978).

development of an idea of 'corporate social responsibility' has been reinforced through the internal codes of conduct of transnational corporations, through the codes and guidelines of particular industry bodies (for example, the International Association of Oil and Gas Producers) and general business organisations (for example, the World Council on Sustainable Development), of multilateral lending institutions such as the World Bank, and the codes and guidelines of various NGOs.

C *Energy and Human Rights: Universal Access to Energy*

Providing access to modern energy is a key policy objective in many developing countries where large parts of the population, particularly in rural areas, live without electricity for cooking, heating and light. In recent years, there has been increasing international awareness of the fundamental importance of access to energy services in eradicating poverty and achieving many of the recognised economic and social and cultural human rights.[84] Although there are no binding international commitments in public international law in relation to universal access to energy services,[85] and access to modern energy services is not recognised as an express human right in any international human rights instrument, it has been argued that

> access to energy services should be an implied human right given that many express rights (such as the right to education and the right to an adequate standard of living, to name but a few) cannot be achieved without access to energy services.[86]

---

[84] See, eg, the UN Secretary-General's Advisory Group on Energy and Climate Change, *Energy for a Sustainable Future: Summary Report and Recommendations* (2010) <http://www.un.org/wcm/webdav/site/climatechange/shared/Documents/AGECC%20summary%20report[1].pdf>; United Nations General Assembly, *Resolution Adopted by the General Assembly 65/151, International Year for Sustainable Energy for All*, UN Doc A/65/436, 6 December 2010, 28-9; The UN Secretary-General's High-Level Group on Sustainable Energy for All, *Sustainable Energy for All: A Framework for Action* (January 2012) <http://www.un.org/wcm/webdav/site/sustainableenergyforall/shared/Documents/SE%20for%20All%20-%20Framework%20for%20Action%20FINAL.pdf>.

[85] A key issue in this regard concerns the perceived tensions between achieving universal access to energy where that is sourced from traditional fossil fuels, with the need to stabilise greenhouse gas emissions to avoid climate change.

[86] Adrian Bradbrook and Judith Gardam, 'Placing Access to Energy Services within a Human Rights Framework' (2006) 28 *Human Rights Quarterly* 389, 405. See also Adrian Bradbrook, Judith Gardam and Monique Cormier, 'A Human Dimension to the Energy Debate: Access to Modern Energy Services' (2008) 26 (4) *Journal of Energy &Natural Resources Law* 526; Stephen Tully, '*The Contribution of Human Rights to Universal Energy Access*' (2006) 4 *Northwestern Journal of International Human Rights* 518; United Nations Office of the High Commissioner for Human Rights, *Claiming the Millennium*

This issue of universal access to energy services will continue to receive growing legal attention through the possible development of a framework for access to energy services as a human right; increasing national and international action to expand access to energy, promote energy efficiency and invest in renewable energy in developing countries, which must be underpinned by law; and by a myriad of issues related to the provision of baseload power and transmission of electricity.

D *Protection of Investment*

The protection of foreign investors through international investment treaties is a major topic which transcends the laws pertaining to each different source of energy. The major concern has been to achieve stability by a reduction of political and regulatory risk associated with energy production in order, thereby, to protect investment and facilitate investment flows and trade.[87] The need for legal and political stability is 'particularly acute' in the energy sector, where projects are usually long-term and highly capital-intensive.[88] The reduction of political and regulatory risk encompasses a range of issues designed to ensure a level playing field for investors and government/state 'good governance', in contrast to corruption and cronyism, and disrespect for property and the law.

There is no agreed definition of 'international energy investment', which can be defined to include investment in the exploitation of raw materials, energy production and generation, and the transportation and distribution of energy.[89] Historically, the focus of analysis has been on oil and gas production, where the investor oil companies and host companies have had both an 'antagonistic and interdependent' relationship. Indeed, international energy law and international investment law have shared a common history with some of the first cases adjudicated by international arbitral tribunals in the twentieth century concerning the expropriation of international oil companies' property interests by host governments.[90] While disputes between

Development Goals: A Human Rights Approach (2008) 1 <http://www2.ohchr.org/SPdocs/Claiming_MDGs_en.pdf?bcsi_scan_FFD951F933E7491A=0&bcsi_scan_filename=Claiming_MDGs_en.pdf>.

87 Thomas Wälde, 'International Energy Investment' (1996) 17 *Energy Law Journal* 191.

88 Yulia Selinova, 'The Energy Charter and the International Energy Governance' (2012) 3 *European Yearbook of International Economic Law* 307, 315.

89 Markus Krajewski, 'The Impact of International Investment Agreements on Energy Regulation' (2012) 3 *European Yearbook of International Economic Law* 343, 348-9.

90 Ibid 343-4.

investors in the international oil industry and host governments continue to form a key part of the case load of international dispute settlement bodies, in recent times disputes have arisen regarding the protection of investment in other energy sectors, including coal mining, coal-based power generation including coal supply, the generation and distribution of electricity, the construction of transmission lines and carbon-related energy investments.[91]

As with the entirety of international energy law, international energy investment law is not a distinct and coherent body of public international law. It arises from 'a variety of different legal sources which contain some core principles despite their heterogeneity', including bilateral investment treaties, regional free trade agreements with an investment chapter such as the *Energy Charter Treaty*; and in a broader sense, the internationalisation of principles stemming from the body of state-investor contracts signed between the foreign investor and the host government.[92] Some common principles or provisions in investment treaties and investor-government contracts include the protection against the expropriation of assets without the payment of compensation; the requirement to afford the investor fair and equitable treatment; and umbrella clauses, which require the host state to fulfil 'any other obligations' it may have entered into with regard to investments protected by a treaty.[93]

E *Dispute Resolution*

Dispute resolution in energy industries cuts across the different energy sources, and has many different facets of interest. I will raise only a few here in the context of the international oil industry to give an idea of the range of issues of interest.

The use of international commercial arbitration in energy-related disputes has become of increasing importance since the 1970s. Of application initially in the context of disputes between international oil companies and host states in the mid-twentieth century, the use and implications of international commercial arbitration in this industry have received much attention.[94] Crucially, as discussed above, the

---

91 Ibid.

92 Ibid 353-4.

93 Ibid 360-1.

94 For an early article on this topic, see Thomas Wälde, 'The Role of Arbitration in the Globalisation of Energy Markets' (2000) 6 *The Centre for Energy, Petroleum and Mineral Law and Policy Journal* (online)

findings and decisions of international arbitral bodies, particularly in relation to disputes over oil and gas investments in the upstream sector, have contributed to an internationalisation of principles of law and led to the assertion that there is a *lex petrolea* regulating international oil and gas exploration and production. More recently, the use of arbitration has spread beyond the oil sector to encompass a range of disputes between states and investors over energy-related investments.

Other important issues of dispute resolution concern the extraterritorial application of laws, and access to the court system of the country of incorporation of large transnational corporations for environmental and/or human class actions, undertaken by people, often local or indigenous peoples, where resource exploitation (in particular oil) has occurred. Examples include legal actions undertaken by people of Ecuador against Chevron in the US;[95] by people of Nigeria against Chevron in the US[96] and Shell in the UK;[97] and people of Columbia against BP in the UK.[98]

There are many other aspects of energy-related disputes which may be resolved in international courts and tribunals — for example, maritime boundary delimitation in the International Court of Justice, which is highly relevant to determining which

---

<http://www.dundee.ac.uk/cepmlp/journal/html/vol6/article6-18.html>.

[95] *Aguinda v Chevron Texaco*; a bitter, long running and continuing court case that has moved between the US and Ecuador and also involved international commercial arbitration between Chevron and the Ecuadorean government.

[96] *Bowoto v Chevron Texaco Corp*, 312 F Supp 2d 1229 (ND Cal, 2004) was a class action lawsuit charging Chevron/Texaco Corporation with gross violations of human rights including extrajudicial killing, crimes against humanity, and cruel, inhuman or degrading treatment against villagers in the Niger Delta region who were engaging in environmental protest against Chevron. It was filed in both the US District Court for the Northern District of California and the Superior Court of California. The suit was dismissed on December 1, 2008, with the jury unanimously finding Chevron not guilty. Centre for Constitutional Rights <http://ccrjustice.org/ourcases/current-cases/bowoto-v.-chevron>.

[97] In March 2012, a unit of Royal Dutch Shell Plc (RDSA) was sued in Britain by 11 000 Nigerians seeking compensation for two massive oil spills in the Niger River delta in 2008. Erik Larson, 'Shell Sued in U.K. Over "Massive" 2008 Nigerian Oil Spills', *Bloomberg News*, 23 March 2012 <http://www.businessweek.com/news/2012-03-23/shell-sued-in-u-dot-k-dot-over-massive-oil-spills-in-nigeria-in-2008>.

[98] In 2005, more than 1000 Colombian farmers instructed British lawyers to bring a human rights challenge against BP in the High Court in London to support a claim for compensation of £15 million, arguing BP benefited from harassment and intimidation meted out by Colombian paramilitaries employed by the government to guard an oil pipeline. In 2006, the BP Exploration Company (Colombia) agreed to set up a trust fund to pay compensation in settlement of the dispute. Robert Verkaik, 'BP pays out millions to Colombian farmers', *The Independent*, 22 July 2006 <http://www.independent.co.uk/news/world/americas/bp-pays-out-millions-to-colombian-farmers-408816.html>.

state has the right to regulate offshore oil installations and levy taxes/royalties on the oil produced from them.

F *Energy and Trade Law*

Ensuring the free trade in energy materials and products is a major, integral sub-topic on international energy law. As Mireille Cossy has stated so succinctly, the World Trade Organisation and energy has become 'a fashionable topic'.[99] The sources of law most relevant to energy and free trade are those established by treaties, in particular the rules of the multilateral trading system established by the *General Agreement on Tariffs and Trade* ('GATT') and other WTO Agreements,[100] but also the *Energy Charter Treaty* and the *North American Free Trade Agreement* ('NAFTA').[101]

Neither the GATT nor the WTO have dealt with energy as a distinct sector (the rules of the GATT developed prior to 1947 when there was little trade in energy products and resources), nor has a special agreement on trade in energy been concluded. However, because the WTO rules are applicable to all forms of trade, they apply to trade in energy products or services, and can be enforced through the WTO dispute settlement procedures.[102] Some of the most important rules are:[103] the

---

[99] Mireille Cossy, 'Energy Trade and WTO Rules: Reflexions on Sovereignty over Natural Resources, Export Restrictions and Freedom of Transit' (2012) 3 *European Yearbook of International Economic Law* 281, 281.

[100] *General Agreement on Tariffs and Trade*, opened for signature 30 October 1947, 55 UNTS 194 (entered into force 1 January 1948); *Marrakesh Agreement Establishing the World Trade Organization*, opened for signature 15 April 1994, 1867 UNTS 3 (entered into force 1 January 1995); *Marrakesh Agreement Establishing the World Trade Organization*, opened for signature 15 April 1994, 1867 UNTS 187 (entered into force 1 January 1995) annex 1A ('*General Agreement on Tariffs and Trade 1994*'); *Marrakesh Agreement Establishing the World Trade Organization*, opened for signature 15 April 1994, 1869 UNTS 299 (entered into force 1 January 1995) annex 1C ('*Agreement on Trade-Related Aspects of Intellectual Property Rights*'); *Marrakesh Agreement Establishing the World Trade Organization*, opened for signature 15 April 1994, 1869 UNTS 401 (entered into force 1 January 1995) annex 2 ('*Understanding on Rules and Procedures Governing the Settlement of Disputes*'). Trade in services, which is an important part of energy trade, has been covered since 1995 by the *General Agreement on Trade in Services* ('*GATS*'). *Marrakesh Agreement Establishing the World Trade Organization*, opened for signature 15 April 1994, 1869 UNTS 183 (entered into force 1 January 995) annex 1B ('*General Agreement on Trade in Services*').

[101] *North American Free Trade Agreement*, Canada-Mexico-US, opened for signature 17 December 1992, 32 ILM 289 (entered into force 1 January 1994).

[102] Ludwig Gramlich, 'Regulating Energy Supranationally: EU Energy Policy' (2012) 3 *European Yearbook of International Economic Law* 371.

[103] See Gabrielle Marceau, 'The WTO in the Emerging Energy Governance Debate' (2010) 5 *Global Trade and Customs Journal* 83.

national treatment obligation, which prohibits discrimination in taxes or regulation between imported and domestic products; the most-favoured nation obligation, by which energy goods and materials cannot be discriminated against on the basis of their origin or destination; the prohibition on quantitative restrictions on import and exports; and the principle of freedom of transit.[104] Important exceptions of application to energy include arts XX and (b) and (g) which permit members to take measures 'necessary to protect human, animal and plant life and health' and measures 'relating to protection of exhaustible natural resources'. Members can also take certain measures relating to fissionable material (art XXI).[105]

Most recently, the increasing demand for renewable energy technologies within the last 2-5 years has led to fierce competition between the major producers and exporters of these technologies, in order to gain market share.[106] The existence of national laws to encourage renewable energy technology, including grants or subsidies to the manufacturers of renewable energy products, and local procurement laws, have become the subject of WTO complaints, and the degree to which countries can help support their burgeoning renewable energy sectors is now coming under scrutiny from the WTO. For example, Japan and the EU have brought two separate complaints against Canada over local content requirements in the province of Ontario's feed-in tariff scheme, with the parties disputing as to whether the scheme is a legitimate government procurement or an illegal subsidy, providing less favourable treatment to imported equipment than that accorded to like products originating in Ontario.[107]

---

104 Cossy, above n 92, 282.

105 Ibid 282.

106 Ibid 281.

107 Dispute Settlement: Dispute DS412, *Canada — Certain Measures Affecting the Renewable Energy Generation Sector* <http://www.wto.org/english/tratop_e/dispu_e/cases_e/ds412_e.htm>; Dispute Settlement: Dispute DS426, *Canada — Certain Measures Affecting the Renewable Energy Generation Sector* <http://www.wto.org/english/tratop_e/dispu_e/cases_e/ds426_e.htm>. On 22 December 2010, the United States requested consultations with China concerning certain measures providing grants, funds or awards to enterprises manufacturing wind power equipment (including the overall unit, and parts thereof) in China. See Dispute Settlement: Dispute DS419, *China — Measures Concerning Wind Power Equipment* <http://www.wto.org/english/tratop_e/dispu_e/cases_e/ds419_e.htm>. On 25 May 2012, China requested consultations with the United States concerning the imposition of countervailing duty measures by the United States. Dispute Settlement: Dispute DS437, *United States — Countervailing Duty Measures on Certain Products from China* <http://www.wto.org/english/tratop_e/dispu_e/cases_e/ds437_e.htm>

The *Energy Charter Treaty* also sets out terms under which energy can be traded and transported. It covers a wide range of energy materials and products including coal, natural gas, oil, petroleum and petroleum products, electricity, charcoal and nuclear energy.[108] Its trade framework is based on the rules established by the GATT and other WTO Agreements, and non-derogation from WTO rules is the cornerstone of the trade regime.[109] The *Energy Charter Treaty* applies the WTO rules to the trade of Contracting Parties that are not members of the WTO, whether that trade is with WTO members, or with one another. While this has historically been an important tool to extend the rules of the WTO to non-WTO members, the more recent accession of states to the WTO, particularly Eastern European states and other key energy-exporting and transit countries, will reduce the significance of this effect.[110]

G *Financing, Taxation, Subsidies, Royalties*

Finally, and extremely briefly, there are many laws and issues concerning different aspects of financing (for example, access to finance for renewables), taxation and subsidies (issues of free trade, creating a level playing field, implicit subsidies in relation to fossil fuels and nuclear energy, encouraging investment in renewable and energy conservation) and royalties (particularly in relation to oil and gas).

VI Conclusion

The supply and consumption of energy, and the legal issues associated with that supply and demand, will continue to become internationalised. There are numerous legal issues that will continue to be the focus of global developments. Of major importance will be the ongoing internationalisation and standardisation of principles of oil law, stemming from the use of common or model forms of contracts and the resolution of disputes regarding petroleum arrangements; and international developments as countries respond to the Deepwater Horizon incident off the coast of the US, in particular developments regarding the regulation of the safety of offshore oil installations, and the possible development of a regime (or regimes) for civil liability for offshore incidents by the International Maritime Organisation.

---

108 Annex EM I.

109 Selinova, above n 88, 311.

110 Wälde, above n 32, 184.

Other developments to monitor include the possibility of new treaties or other forms of international agreements on the security of energy supply; further developments in the intersection between resource exploitation, the environment and human and indigenous rights law; the issue of universal access to energy; and developments in climate change law, including developments in (global) carbon markets. There is likely to be a continuing internationalisation and standardisation of principles of renewable energy law and energy conservation, in particular in relation to mechanisms to encourage renewable energy sources in electricity generation and to conserve energy, and WTO decisions regarding renewable energy and trade. As these and other developments continue, International Energy Law will come into its own as a legal academic discipline.