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The Practice of Shared Responsibility in relation to Energy

Catherine Redgwell*

1. Introduction: scoping the terrain

The rationale for a chapter on energy¹ in a volume considering the practice of shared responsibility² might seem self-evident, given the number of situations where multiple actors engaged in energy activities contribute through their acts or omissions to a harmful outcome that international law seeks to prevent. International regulation of energy activities has resulted from the need for increased joint and coordinated action between states and other actors³ for the exploitation of their energy resources (e.g. joint development agreements);⁴ for energy transit (e.g. transboundary pipeline agreements)⁵ and transmission;⁶ in ensuring a

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¹ For discussion of the concept of 'energy' in the international law context, see D. Azaria, *Treaties on Transit of Energy via Pipelines and Countermeasures* (Oxford University Press, 2015), 30-35.

² For detailed exploration see P.A. Nollkaemper and D. Jacobs, 'Shared Responsibility in International Law: A Conceptual Framework' (2013) 34 *MIJIL* 359; and P.A. Nollkaemper, 'Introduction', in P.A. Nollkaemper and I. Plakokefalos (eds.), *Principles of Shared Responsibility in International Law: An Appraisal of the State of the Art* (Cambridge University Press, 2014), 1.

³ For discussion of the internationalisation of energy law in consequence of international energy markets and operations, see T.W. Waelde, 'International Energy Law – An Introduction to Modern Concepts, Context, Policy and Players', in J.P. Schneider and C. Theobald (eds.), *Handbuch zum Recht der Energiewirtschaft* (Munich: Verlag C.H. Beck, 2003); and K. Talus, 'Internationalization of Energy Law', in K. Talus (ed.), *Research Handbook on International Energy Law* (Cheltenham: Edward Elgar, 2014), 3. This perspective of energy law as a commercial, multiparty activity has implications for shared responsibility, not least in its procedural aspects: see, for example, F. Baetens, 'Procedural Issues Relating to Shared Responsibility in Arbitral Proceedings' (2013) 4 *JIDS* 319 (suitability of international arbitration for resolution of disputes involving issues of shared responsibility). See also Chapter 31 in this volume, O. Amao, 'Multinational Corporations', in P.A. Nollkaemper and I. Plakokefalos (eds.), *The Practice of Shared Responsibility in International Law* (Cambridge University Press, 2016), ___.

⁴ This chapter will not address issues of shared responsibility arising from resources subject to internationalised regimes since these have been addressed elsewhere in this volume; see Chapter 15 in this volume, I. Plakokefalos, 'Environmental Protection of the Deep Seabed', in P.A. Nollkaemper and I. Plakokefalos (eds.), *The Practice of Shared Responsibility in International Law* (Cambridge University Press, 2016), ___; and Chapter 16 in this volume, K. Bastmeijer, 'Antarctica', in P.A. Nollkaemper and I. Plakokefalos (eds.), *The Practice of Shared Responsibility in International Law* (Cambridge University Press, 2016), ___.

⁵ Azaria, *Treaties on Transit of Energy via Pipelines and Countermeasures*, n. 1; see also I.A. Siddiky, 'The International Legal Instruments for Cross-Border Pipelines', in K. Talus (ed.), *Research Handbook on International Energy Law* (Cheltenham: Edward Elgar, 2014), 308; C. Redgwell, 'Contractual and Treaty Arrangements Supporting Large European Transboundary Pipeline Projects: Can Adequate Human Rights Be Secured?', in M.M. Roggenkamp, L. Barrera-Hernandez, D.N. Zillman, and I. del Guayo (eds.), *Energy Networks and the Law: Innovative Solutions in Changing Markets* (Oxford University Press, 2012), 102; and D. Langlet,

stable legal framework for energy trade and investment (e.g. the Energy Charter Treaty);⁷ and for energy security⁸ (e.g. International Energy Agency Agreement).⁹ Coordinated action is also evident in addressing the harmful impacts of energy activities, and ensuring that they do not imperil (other) collective interests (e.g. human rights and environmental protection; avoiding catastrophic climate change);¹⁰ and in securing a sustainable energy for all.¹¹ Indeed, while it may be true to say that there remain close links between energy activities and territorial sovereignty,¹² the energy field is an increasingly internationalised one in consequence of this increased joint and coordinated action between states and other actors, and reflects the four fundamental trends in international law and society identified by Nollkaemper and Jacobs as the context for shared responsibility: interdependence; moralisation;¹³ heterogeneity; and permeability.¹⁴

One of the challenges in addressing the practice of shared responsibility in the energy context is defining the scope of the inquiry, specifically for these purposes, the area(s) of international law relevant to energy.¹⁵ Unlike some of the other contributions in this volume – that are grouped into the clusters on international criminal law, law of the sea and international refugee law for example – it is not readily apparent what comprises ‘international energy

‘Transboundary Transit Pipelines: Reflections on the Balancing of Rights and Interests in the Light of the Nordstream Project’ (2014) 63 ICLQ 977.

⁶ E.g. V. Roeben, ‘Governing Shared Offshore Electricity Infrastructure in the Northern Seas’ (2013) 62 ICLQ 839.

⁷ The Energy Charter Treaty, Lisbon, 17 December 1994, in force 16 April 1998, 2080 UNTS 95. More generally, see P. Cameron, *International Energy Investment Law – The Pursuit of Stability* (Oxford University Press, 2010).

⁸ See generally 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* (Oxford University Press, 2004), 17.

⁹ Agreement on an International Energy Program, Paris, 18 November 1974, in force 19 January 1976, 1040 UNTS 271 (International Energy Agency Agreement or IEA Agreement).

¹⁰ See further Chapter 38 in this volume, J. Peel, ‘Climate Change’, in P.A. Nollkaemper and I. Plakokefalos (eds.), *The Practice of Shared Responsibility in International Law* (Cambridge University Press, 2016), _____. Here shared responsibility arises not in consequence of concerted action, but because of cumulative effects resulting in a harmful outcome international law seeks to prevent.

¹¹ See discussion below, section 2.1.

¹² For emphasis on territorial sovereignty, see A.A. Fatouros, ‘An International Legal Framework for Energy’ (2007) 332 RCADI 355.

¹³ This is evident particularly in the context of access to energy, discussed further in subsection 2.1.

¹⁴ Nollkaemper and Jacobs, ‘Shared Responsibility in International Law’, n. 2, 370–379.

¹⁵ In general international law texts, energy matters are either referred to briefly in the context of the global economy (e.g. V. Lowe, *International Law* (Oxford: Clarendon Press, 2007)), or are subsumed within wider discussion of natural resources (e.g. J. Crawford, *Brownlie’s Principles of Public International Law*, 8th edn (Oxford University Press, 2012)). Similarly, for offshore energy activities, oil and gas finds a separate entry in R.R. Churchill and A.V. Lowe, *The Law of the Sea*, 3rd edn (Manchester University Press, 1999), or is subsumed within the regulation of natural resources in Y. Tanaka, *The International Law of the Sea*, 2nd edn (Cambridge University Press, 2015); and T. Stephens and D. Rothwell, *The International Law of the Sea* (Oxford and Portland, Oregon: Hart Publishing, 2010).

law'.¹⁶ Broadly, it may be defined as: '[the] rules [and principles] of public international law applicable to energy activities within, between and beyond States.'¹⁷ 'Activities' encompasses the physical siting of energy facilities, energy resources extraction, waste disposal, and transport – the energy 'life cycle' –, as well as regulation of (or by) key actors in the energy sector and the economic, social, human and environmental impacts of such activities.¹⁸

Owing to this breadth and the absence of the centralising or harmonising influence of a central energy treaty or institution, the international energy law picture is a fragmented one,¹⁹ with some of the contexts in which shared responsibility might arise from energy actors and activities consequently addressed more appropriately in other contributions to this volume,²⁰ most notably marine pollution;²¹ transboundary air pollution;²² climate change;²³ and liability for transboundary harm.²⁴ Accordingly, section 2 of this chapter will focus on those specifically energy contexts where shared responsibility has or might arise in consequence of:

¹⁶ For recent attempts to map the general landscape, see S. Bruce, 'International Energy Law', in *Max Planck Encyclopaedia of Public International Law*, available at <http://opil.ouplaw.com>; J.E. Viñuales, 'Vers Un Droit International De L'Énergie: Essai De Cartographie', in M. Kohen and D. Bentolila (eds.), *Mélanges en l'honneur du professeur Jean-Michel Jacquet: le droit des rapports internationaux économiques et privés* (Paris: LexisNexis, 2013), 321; Fatouros, 'An International Legal Framework for Energy', n. 12; Talus, 'Internationalization of Energy Law', n. 3; and C. Redgwell, 'International Regulation of Energy Activities', in M.M. Roggenkamp, C. Redgwell, A. Ronne, and I. del Guayo (eds.), *Energy Law in Europe*, 3rd edn (Oxford University Press, 2015), 13.

¹⁷ Redgwell, *ibid.*, at 14.

¹⁸ *Ibid.*

¹⁹ Thus, in his prolegomena, Fatouros describes his Hague Academy lectures on 'An International Legal Framework for Energy' as an 'experiment': n. 12, at 365 (emphasis added).

²⁰ Other areas of potential overlap include the role of energy and energy installations in armed conflict (e.g. installations used themselves as 'weapons' for environmental and other harm, as illustrated in cases which proceeded before the United Nations Claims Commission concerning, inter alia, environment damage caused by the Iraqi destruction of Kuwaiti oil fields in 1990: see www.uncc.ch; and the obligations of belligerents with respect to permanent sovereign over natural resources (see Chapter 28 in this volume, E. Milano, 'Occupation', in P.A. Nollkaemper and I. Plakokefalos (eds.), *The Practice of Shared Responsibility in International Law* (Cambridge University Press, 2016), ___). For example, the principle of permanent sovereignty over natural resources arose in the *Armed Activities on the Territory of the Congo (Democratic Republic of the Congo v. Uganda)*, Judgment, ICJ Reports 2005, 168. However, as Vermeer-Künzli rightly observes, this example fits within the individualised approach to state responsibility of the ILC as the Democratic Republic of the Congo commenced three separate actions against Uganda, Rwanda and Burundi before the ICJ, with separate wrongful conduct identified for each: A. Vermeer-Künzli, 'Invocation of Responsibility', in P.A. Nollkaemper and I. Plakokefalos (eds.), *Principles of Shared Responsibility in International Law: An Appraisal of the State of the Art* (Cambridge University Press, 2014), 251, at 271-273.

²¹ See Chapter 11 in this volume, H. Ringbom, 'Ship-Source Marine Pollution', in P.A. Nollkaemper and I. Plakokefalos (eds.), *The Practice of Shared Responsibility in International Law* (Cambridge University Press, 2016), ___, especially at ____ (secondary rules on civil liability for oil pollution damage).

²² See Chapter 36 in this volume, P. Sand, 'Transboundary Air Pollution', in P.A. Nollkaemper and I. Plakokefalos (eds.), *The Practice of Shared Responsibility in International Law* (Cambridge University Press, 2016), ___.

²³ See Chapter 38 in this volume, Peel, 'Climate Change', n. 10.

²⁴ See Chapter 39 in this volume, I. Plakokefalos, 'Liability for Transboundary Harm', in P.A. Nollkaemper and I. Plakokefalos (eds.), *The Practice of Shared Responsibility in International Law* (Cambridge University Press, 2016), ___.

access to energy (2.1); energy as a shared resource (2.2); shared transboundary infrastructure, specifically its use for energy transit (2.3); international cooperation to ensure energy security (2.4); and (v) damage caused by energy activities. These provide examples of shared responsibility where multiple actors are responsible for their contribution to a single harmful outcome ranging from physical damage (e.g. the shared responsibility of nuclear operators and states for nuclear damage) or depletion of a shared reservoir²⁵ to interference with rights of third parties (e.g. disruption of petroleum transit causing harm in destination states) and non-realisation of a result stipulated by treaty (e.g. failure to ensure a collective response to a situation of energy insecurity).²⁶ Since in these energy contexts responsibility may also be shared between public and private actors, this issue is explored further in section 3 below, before concluding in section 4.

2. Energy contexts in which shared responsibility might arise

2.1 Access to energy: a shared responsibility?

Bradbrook defines energy law as: ‘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’, a definition which draws attention to

²⁵ In addition to the legal status of the resource, there are questions regarding the legal status of the pore space which may be used for other purposes – e.g. storage of CO₂ – and for which uses shared responsibility may arise between states, or between states and private entities. While there are similarities between the legal regime for abandonment of oil and gas fields and CO₂ storage sites, the principal difference between them is the retention of CO₂ in the latter and potential liabilities for leakage. Accordingly, the European Union Directive requires a more stringent regime with responsibility only transferring from the operator to the competent national authority when the former certifies that the stored CO₂ will be completely and permanently contained and that it has made a financial contribution covering at least the anticipated costs of monitoring for a period of 30 years (Article 18 para. 1). This is also subject to a non-binding opinion by the Commission: see 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, (2009) OJ L 140/114; and for analysis, H. Vedder, A. Ronne, M.M. Roggenkamp, and I. del Guayo, ‘EU Law’, in M.M. Roggenkamp, C. Redgwell, A. Ronne, and I. del Guayo (eds.), *Energy Law in Europe*, 3rd edn (Oxford University Press, 2015), section M; and I. Havercroft, R. Macrory, and R. Stewart (eds.), *Carbon Capture and Storage: Emerging Legal and Regulatory Issues* (Oxford: Hart Publishing, 2011).

²⁶ For general discussion of the benefits and burdens of energy activities, see further L. Barrera-Hernandez, B. Barton, L. Godden, A. Lucas, and A. Ronne (eds.), *Sharing the Costs and Benefits of Energy and Natural Resources Activity* (Oxford University Press, 2016 *forthcoming*). Contributions explore, inter alia, the concept of multiple actors constituting an ‘energy community’, whether geographically determined by the presence and extent of the resource itself (e.g. the presence of a petroleum deposit); created by an energy project (e.g. the creation of a ‘community of affected people’ through the construction of energy infrastructure); or a community created by law as a means of attributing competences (and rights and responsibilities) under law (e.g. the European Energy Community).

the multiplicity of actors in the energy field (though he does not accord international organisations separate mention) with a rights/duties interface.²⁷ This interface includes the implications *for* human rights, with increasing emphasis upon access to energy goods and services in acknowledgement of the key role that energy plays in achieving sustainable development.²⁸ Energy was identified as one of seven critical issues for consideration at the 2012 United Nations Conference on Sustainable Development (Rio+20), with an emphasis on Sustainable Energy for All (SEFA) comprising three elements: to ensure universal access to modern energy services, and to double the global rate of improvement in energy efficiency and of the share of renewable energy in the global energy mix.²⁹ The accompanying Global Action Agenda aims at making these objectives of SEFA ‘actionable’ through the identification of actions to be taken by key stakeholders (national and local governments, the private sector and civil society groups). Access to energy is not, however, expressed in rights/duty terminology, but rather as an objective, a policy and global action agenda which has not (yet) translated into legally binding obligations breach of which gives rise to responsibility.³⁰ In contrast, a *right* to development has been articulated in the (non-binding) United Nations Declaration on the Right to Development and seeks to impose on states ‘primary responsibility for the creation of national and international conditions favorable to the realization of the right to development’.³¹ The use of ‘primary’ here infers that this responsibility is shared with other actors. However, the legal status of the right is not firmly established such that violations of the right could give rise to responsibility; nor do any existing human rights instruments embed a right to development (or a right of access to

²⁷ A.J. Bradbrook, ‘Energy Law as an Academic Discipline’ (1996) 14 JENRL 194, at 206. On the multiplicity of energy actors, see further S. de Jong and J. Wouters, ‘Institutional Actors in International Energy Law’, in K. Talus (ed.), *Research Handbook on International Energy Law* (Cheltenham: Edward Elgar, 2014), 18.

²⁸ See, generally, Y. Omorogbe, ‘Policy, Law, and the Actualization of the Right of Access to Energy Services’, in K. Talus (ed.), *Research Handbook on International Energy Law* (Cheltenham: Edward Elgar, 2014), 361 (arguing, inter alia, that whatever their status, the right to development and the right of access to energy services are ‘inextricably intertwined’); OECD/IEA, *Energy Poverty: How to Make Modern Energy Access Universal?* (Paris: OECD/IEA, September 2010).

²⁹ See further www.se4all.org. This is reflected in the ‘appropriate energy mix’ outlined in the outcome document of Rio+20, ‘The Future We Want’, UN Doc. A/RES/66/288* (11 September 2012), para. 127. 2012 was also designated the International Year of Sustainable Energy (UN Doc. A/RES/65/151 (16 February 2011)) but, having failed to place the global energy system on a more sustainable path, was followed by the designation of 2014-2024 as the ‘United Nations Decade of Sustainable Energy for All’. See further www.se4all.org/decade/.

³⁰ See UNSG’s High-level Group on Sustainable Energy for All, *Sustainable Energy for All: A Framework for Action* (2012); and *A Global Action Agenda: Pathways for Concerted Action toward Sustainable Energy for All* (2012), available at www.se4all.org.

³¹ Declaration on the Right to Development, UN Doc. A/RES/41/128 (4 December 1986), Article 3(1). On the controversial status of the right as developed through the UN, see Omorogbe, ‘Policy, Law, and the Actualization of the Right of Access to Energy Services’, n. 28, at 367; and S. Chesterton, T. Franck, and D. Malone, *Law and Practice of the United Nations* (Oxford University Press, 2008), 374-378. See also the reports of the Intergovernmental Open-Ended Working Group on the Right to Development, established in 1998 by the UN Commission on Human Rights, at www.ohchr.org.

energy services), the violation of which could give rise to judicial enforcement or recourse to a complaints mechanism. While these issues are not further explored in this chapter,³² their centrality in terms of expressing a shared *objective* in poverty eradication and human development is clear.³³

2.2 Energy as a shared resource? Rules relating to the legal status and use of energy resources

While there are still relatively few international legal constraints on sovereign energy choices, limits are recognised on the manner in which such resources are exploited. Such limits do not (yet) relate to the sustainable exploitation and use of *energy* resources,³⁴ but rather to the duty to prevent, or to mitigate, harm arising from activities that may cause significant harm to the environment.³⁵ Moreover, with the exception of the mineral resources of the deep seabed which are the common heritage of mankind,³⁶ energy resources are neither the common

³² For in-depth analysis of *procedural* human rights in the context of energy resource development, see D. Zillman, A. Lucas, and G. Pring (eds.), *Human Rights in Natural Resource Development: Public Participation in the Sustainable Development of Mining and Energy Resources* (Oxford University Press, 2002). The compliance mechanism established under the 1998 Convention on Access to Information, Public Participation in Decision-Making, and Access to Justice in Environmental Matters, Aarhus, 25 June 1998, in force 30 October 2001, 2161 UNTS 447 – which unusually when compared with other multilateral environmental agreements employing compliance mechanisms allows for submissions by members of the public, including NGOs – has included a number of complaints involving energy projects. See further discussion in Redgwell, ‘International Regulation of Energy Activities’, n. 16, section H(2).

³³ Similarly, the issue of whether indigenous peoples’ right to self-determination extends to a right to free, prior, and informed consent in relation to development projects within their lands, and which impact their resources, is not addressed here. In practice such a right could, if violated, lead to claims of the shared responsibility of private actors (e.g. energy companies) and the state. See e.g. E.A. Daes, ‘Prevention of Discrimination and Protection of Indigenous Peoples: Indigenous Peoples’ Permanent Sovereignty over Natural Resources: Final Report of the Special Rapporteur, Erica-Irene A. Daes’, UN Doc. E/CN.4/Sub.2/2004/30 (13 July 2004), 17.

³⁴ For a recent proposal for a sustainable energy agreement either within, or outside of, the World Trade Organization, see M. Kennedy, *Legal Options for a Sustainable Energy Agreement* (2012), found at <http://ictsd.org>. The LOSC, n. 45, imposes no duty of conservation of non-living resources: see D. Ong, ‘Towards an International Law for the Conservation of Offshore Hydrocarbon Resources within the Continental Shelf?’, in D. Freestone, R. Barnes, and D. Ong (eds.), *The Law of the Sea: Problems and Prospects* (Oxford University Press, 2006), 93. This may be contrasted with obligations of sustainable use in the living resource context: see Chapter 14 in this volume, Y. Takei, ‘Fisheries’, in P.A. Nollkaemper and I. Plakokefalos (eds.), *The Practice of Shared Responsibility in International Law* (Cambridge University Press, 2016), ___.

³⁵ Established in the transboundary context in the seminar *Trail Smelter Arbitration (United States of America/Canada)* (1938 and 1941), Award, (1949) 3 RIAA 1905, and more recently reiterated in, for example, the Award in the *Arbitration regarding the Iron Rhine (“Ijzeren Rijn”) Railway between the Kingdom of Belgium and the Kingdom of the Netherlands* (2005) 27 RIAA 35, para. 59. See generally C. Redgwell, ‘Transboundary Pollution: Principles, Policy and Practice’, in S. Jayakumar, T. Koh, R. Beckman, and H.D. Phan (eds.), *Transboundary Pollution: Evolving Issues of International Law and Policy* (Cheltenham: Edward Elgar, 2014), 11; and Plakokefalos, ‘Liability for Transboundary Harm’, this volume, n. 24.

³⁶ See Article 136 LOSC, n. 45, and Plakokefalos, ‘Environmental Protection of the Deep Seabed’, this volume, n. 4.

heritage nor common concern of humankind,³⁷ nor are they ‘shared’ resources subject to the principle of equitable utilisation.³⁸ Thus, in general terms, international energy law is not permeated by notions of shared responsibility *ex ante* in the sense of common or shared resources. Indeed, the duty to cooperate over shared natural resources in international law has developed principally in the context of shared water resources, to preserve a balance of rights between upstream and downstream riparian users, and over fixed bodies of water.³⁹ Much more controversial is whether oil and gas are shared natural resources, with an attempt by the International Law Commission (ILC) Special Rapporteur on Shared Resources to address them meeting strong resistance from major states.⁴⁰ In the particular context of straddling hydrocarbon fields, a further question is the extent to which there is an obligation to agree on their joint development.⁴¹ There are numerous difficulties here, not least of which is the difficulty in reconciling a duty to cooperate – and the even more robust obligation jointly to manage such resources – with the principle of permanent sovereignty over natural resources.⁴² Thus, while the consensus view is that there is a procedural obligation to cooperate with respect to straddling fields – to notify, inform and consult, and to negotiate in good faith – international law imposes no substantive requirement in terms of outcome: there is no customary international law obligation requiring states to agree jointly to develop straddling hydrocarbons.⁴³ While underlying sovereignty (on land and in the territorial sea) or sovereign rights (in the continental shelf and exclusive economic zone) in the resources remain, this duty to cooperate includes ‘the duty to exercise mutual restraint from undertaking activities

³⁷ In contrast with e.g. biological diversity and genetic resources: see further Chapter 37 in this volume, A. Trouwborst, ‘Nature Conservation’, in P.A. Nollkaemper and I. Plakokefalos (eds.), *The Practice of Shared Responsibility in International Law* (Cambridge University Press, 2016), ____.

³⁸ P. Birnie, A. Boyle, and C. Redgwell, *International Law and the Environment*, 3rd edn (Oxford University Press, 2009), 192-194.

³⁹ See Chapter 34 in this volume, O. McIntyre, ‘Transboundary Water Resources’, in P.A. Nollkaemper and I. Plakokefalos (eds.), *The Practice of Shared Responsibility in International Law* (Cambridge University Press, 2016), ____.

There is, however, a lack of agreement on what constitutes a shared resource and the rights and responsibilities which flow from such characterisation: see C. Redgwell and L. Rajamani, ‘Energy Underground: what’s international law got to do with it?’, in D. Zillman, A. McHarg, L. Barrera-Hernandez, and A. Bradbrook (eds.), *The Law of Energy Underground: Understanding New Developments in Subsurface Production, Transmission, and Storage* (Oxford University Press, 2014), 107, at 119.

⁴⁰ S. Murase, ‘Shared Natural Resources: Feasibility of Future Work on Oil and Gas’, ILC, 62nd session, Geneva 3 May-4 June and 5 July-6 August 2010, UN Doc. A/CN.4/621 (9 March 2010).

⁴¹ See P.D. Cameron, ‘The Rules of Engagement: Developing Cross-Border Petroleum Deposits in the North Sea and Caribbean’ (2006) 55 ICLQ 559; D. Ong, ‘Joint Development of Common Offshore Oil and Gas Deposits: “Mere” State Practice or Customary International Law?’ (1999) 93 AJIL 771.

⁴² N. Schrijver, *Sovereignty over Natural Resources: Balancing Rights and Duties* (Cambridge University Press, 1997), 338; Cameron, *ibid.*, at 562.

⁴³ See, e.g., Cameron, *ibid.*, and the sources cited therein. On whether there is customary rule requiring unitisation of shared deposits, no such obligation based on analysis of extensive case practice; Bankes, does not directly address the question while noting conflicting authority on the point: N. Bankes, ‘Recent Framework Agreements for the Recognition and Development of Transboundary Hydrocarbon Resources’ (2014) 29 IJMCL 666, at 671.

within their jurisdiction or control that may cause damage to the natural resources or the environment of the other party, preserving the unity of a petroleum deposit'.⁴⁴

While there is no customary international legal obligation jointly to develop straddling fields, international courts and tribunals have been consistent in encouraging such development especially in the context of maritime boundary delimitation. Pending final delimitation, Articles 74(3) and 83(3) of the United Nations Convention on the Law of the Sea (LOS) have been interpreted as imposing on parties two obligations: (1) to make 'every effort to enter into provisional arrangements of a practical nature' (duty to cooperate); and (2) during this period, to 'make every effort . . . not to jeopardize or hamper the reaching of the final agreement' (obligation of restraint).⁴⁵ 'Every effort' falls short of a substantive obligation, and the jurisprudence appears to support the unilateral carrying out of seismic and exploratory drilling activities as consistent with this provision, particularly where there is notice given of such activities and any results are shared.⁴⁶ It is of course always open to the parties to address the matter: e.g., in *Tunisia-Libya* the parties voluntarily ceased activities in the overlapping area pending resolution of their maritime boundary dispute before the ICJ, and Libya and Malta eventually had a 'no drilling' agreement pending the outcome of their ICJ maritime boundary proceedings.⁴⁷ In the absence of such an agreement, provisional measures of protection may be sought pending resolution of the maritime boundary delimitation dispute. For example, in the *Dispute Concerning Delimitation of the Maritime Boundary Between Ghana and Cote D'Ivoire in the Atlantic Ocean* an ITLOS Special Chamber prescribed provisional measures of protection under Article 290(1) LOSC requiring, inter alia, that Ghana 'take all necessary steps to ensure that no new drilling either by Ghana or under its

⁴⁴ Cameron, *International Energy Investment Law*, n. 7, at 565. In the event of failure to negotiate an agreement to cooperate, it has been argued that the rule of capture and the prior apportionment rule would not apply, and are not part of customary international law; *ibid.*, at 569; see also Ong, *Joint Development of Common Offshore Oil and Gas Deposits*, n. 41; for less certainty on the status of the rule of capture at international law, see Redgwell and Rajamani, 'Energy Underground', n. 39, at 108.

⁴⁵ *Guyana v. Suriname*, Arbitral Award, 17 September 2007, available at www.pca-cpa.org. United Nations Convention on the Law of the Sea, Montego Bay, 10 December 1982, in force 16 November 1994, 1833 UNTS 3 (LOS).

⁴⁶ *Aegean Sea Continental Shelf (Greece v. Turkey)*, Judgment, ICJ Reports 1978, 3 (seismic); *Guyana v. Suriname*, *ibid.* (exploratory drilling). Licensing of oil and gas activities has not been recognised by the ICJ to constitute a relevant circumstance in maritime boundary delimitation (*Land and Maritime Boundary between Cameroon and Nigeria (Cameroon v. Nigeria: Equatorial Guinea intervening)*, ICJ Reports 2002, 303) and recourse to such devices in an attempt to cement sovereign claims may risk inflaming a boundary dispute – not to mention placing petroleum companies on the front lines in such disputes (e.g. the threat of the use of force by a Suriname gunboat against a CGX drilling rig undertaking exploratory work for Guyana: see *Guyana v. Suriname*, *ibid.*

⁴⁷ R. Bundy, 'Natural Resources Development (Oil and Gas) and Boundary Disputes', in G.H. Blake (ed.) *The Peaceful Management of Transboundary Resources* (Dordrecht: Kluwer, 1995), 23, at 24.

control takes place in the disputed area' and to prevent information resulting from exploration activities, and not already in the public domain, from being used to the detriment of Cote d'Ivoire.⁴⁸ However, while the obligation of restraint imposed here clearly has implications for private entities under Ghana's jurisdiction and control, the obligation remains that of the state.

Joint development agreements are an increasingly common legal form for embedding state cooperation to exploit a straddling field⁴⁹ though the circumstances of their conclusion and their content vary widely.⁵⁰ For example, joint development zones may be adopted either as a part of the final settlement of a disputed boundary, e.g. in the 1988 Tunisia–Libya Benghazi Agreement,⁵¹ or by means of an interim arrangement pending the exclusive economic zone/continental shelf delimitation, e.g. as agreed in the 1989 Australia–Indonesia Timor Gap Treaty.⁵² Their content may include detailed institutional and operational provisions with exploitation of the resources of the zone jointly agreed, often carried out by private entities through joint operating or production sharing agreements to which states, e.g. through national oil companies, and non-state actors may be parties.⁵³

⁴⁸ *Dispute Concerning Delimitation of the Maritime Boundary Between Ghana and Cote D'Ivoire in the Atlantic Ocean (Ghana/Côte d'Ivoire)*, Provisional Measures, ITLOS Case No. 23, Order of 25 April 2015, para. 108, available at www.itlos.org. This stopped short of granting Cote d'Ivoire's request for the suspension by Ghana of all ongoing oil exploration and exploitation operations in the disputed area: *Request for the Prescription of Provisional Measures Submitted by the Republic of Cote d'Ivoire Under Article 290, Paragraph 1, of the United Nations Convention on the Law of the Sea*, 27 February 2015, para. 54; on this point, see also the Separate Opinion of Judge ad hoc Mensah (noting, inter alia, Ghana's argument that these activities 'are not new' and that such prescription would 'deliver a crippling blow to Ghana's petroleum industry'): Separate Opinion of Judge ad hoc Mensah, *ibid.*, paras. 6 and 7.

⁴⁹ For discussion of recent practice, see Bankes, 'Recent Framework Agreements for the Recognition and Development of Transboundary Hydrocarbon Resources', n. 43; for an earlier comprehensive study see H. Fox (ed.), *Joint Development of Offshore Oil and Gas*, 2 vols (London: British Institute of International and Comparative Law, 1989/90).

⁵⁰ E.g. Treaty between Australia and the Republic of Indonesia on the Zone of Cooperation in an Area between the Indonesian Province of East Timor and Northern Australia [Timor Gap Treaty], Australian Treaty Series 1999 No. 9, available at www.austlii.edu.au/au/other/dfat/treaties/1991/9.html#fnB2.

⁵¹ Available at www.un.org/depts/los/LEGISLATIONANDTREATIES/PDFFILES/TREATIES/LBY-TUN1988CS.PDF. This Agreement implemented the ICJ's decision in *Continental Shelf (Tunisia/Libyan Arab Jamahiriya)*, Judgment, ICJ Reports 1982, 18.

⁵² See relevant analysis in B. Kwiatkowska, 'Resource, Navigational and Environmental Factors in Equitable Maritime Boundary Delimitation' (2005) 5 *IMB* 3223.

⁵³ See n. 49 above.

2.3 Shared infrastructure, shared responsibility?

In addition to the physical resources themselves straddling international boundaries, or requiring international cooperation owing to their location in areas beyond national jurisdiction, there is extensive international cooperation regarding the energy infrastructure required for their exploitation. Transit of energy by pipeline has been a particularly fertile area for international cooperation and agreement.⁵⁴ Recent detailed analysis of two multilateral agreements (the World Trade Organization General Agreement on Tariffs and Trade and Energy Charter Treaty)⁵⁵ and sixteen plurilateral agreements has highlighted a potential shift from purely bilateral, reciprocal obligations regarding energy flows via pipelines to the creation of interdependent or *erga omnes partes* obligations, as states seek increasingly to secure via bespoke pipeline agreements their *collective interest* in uninterrupted transit flows. Particularly with regard to ‘plurilateral bespoke pipeline agreements’ it has been argued that these ‘create indivisible (collectively owed) obligations regarding established energy flows’.⁵⁶ *Erga omnes partes* obligations are arguably found in several regional pipeline agreements (Nabucco,⁵⁷ West African Gas Pipeline (WAGP)⁵⁸ and Trans Adriatic Pipeline (TAP))⁵⁹ which are designed to protect interests transcending the individual interests of the parties⁶⁰ and for breach of which shared responsibility may arise. One reason cited for such plurilateral *erga omnes* approaches is energy security, as reflected in Article 1.2 of the Nabucco Agreement which provides that the object and purpose of the Agreement is to ensure ‘security

⁵⁴ See references at n. 5.

⁵⁵ General Agreement on Tariffs and Trade, Geneva, 30 October 1947, in force 1 January 1948, 55 UNTS 187; Energy Charter Treaty, n. 7.

⁵⁶ D. Azaria, *Treaties on Transit of Energy via Pipelines and Countermeasures*, n. 1, 252.

⁵⁷ Agreement among the Republic of Austria, the Republic of Bulgaria, the Republic of Hungary, Romania and the Republic of Turkey regarding the Nabucco project, Ankara, 13 July 2009 (Nabucco Agreement), reproduced in R. Leal-Arcas, *Energy Transit Activities: Collection of Intergovernmental Agreements of oil and gas transit pipelines and commentary*, Report prepared for the Energy Charter Secretariat Knowledge Centre, July 2014, available at www.law.qmul.ac.uk/docs/staff/ccls/136150.pdf, Annex 1. Although concluded in 2009, the Agreement has not been operationalised owing to the 2013 decision to transport Azeri gas via the TAP (see n. 59); Azaria, *Treaties on Transit of Energy via Pipelines and Countermeasures*, n. 1, 118-119.

⁵⁸ Treaty on the West African Gas Pipeline Project between the Republic of Benin, the Republic of Ghana, the Federal Republic of Nigeria and the Togolese Republic, Dakar, 31 January 2003, available at www.wagpa.org (WAGP Agreement). A further feature of the WAGP Agreement is the explicit displacement of unilateral responses to material breach by expressly requiring parties not to discontinue performance of treaty obligations (Article XVII.2).

⁵⁹ Agreement among the Republic of Albania, the Hellenic Republic and the Italian Republic relating to the Trans Adriatic Pipeline Project, Athens, 13 February 2013, see www.tap-ag.com (TAP Agreement). The Implementation Commission established pursuant to the Agreement is tasked with overseeing treaty compliance but expressly does not deal with inter-state disputes; however, non-performance of treaty obligations (e.g. the unilateral interruption of energy flows) requires the prior consent of all parties (Articles 10, 12 and 13).

⁶⁰ Azaria, *Treaties on Transit of Energy via Pipelines and Countermeasures*, n. 1. Discussion of each agreement and the *erga omnes partes* character of the obligations is found at 116-119 (Nabucco) 120-121 (WAGP) and 123-124 (TAP).

of supply [since] this is necessary for the welfare and security of each citizen and ... State Parties are therefore determined to act in a spirit of solidarity to achieve collective energy security'.⁶¹

2.4 Energy security: a nascent shared responsibility regime?

The establishment of the International Energy Agency (IEA) in 1974 signaled a shift from essentially unilateral responses to energy supply disruptions to a multilateral conception of and response to such disruption embedded in a binding treaty.⁶² The 1973/74 energy crisis, precipitated by Organization of the Petroleum Exporting Countries (OPEC)'s restrictions on production,⁶³ had served to highlight the frailties of a unilateral, non-binding approach. Thus the Agreement on an International Energy Program was signed by 16 states on 18 November 1974.⁶⁴ It is only open to members of the Organisation for Economic Co-operation and Development (OECD) able and willing to meet the requirements of the Programme, though cooperation with non-members such as Russia, China, and India has taken place.⁶⁵ Nor are all members of the IEA oil importing countries: Canada, Denmark, and Norway are all net oil-exporting members of the IEA. The Agreement establishing an International Energy Program, from the preamble through its operative provisions, makes repeated reference to energy cooperation and its mechanisms are dependent on collective action. For example, Article 2(1) provides that: 'The Participating Countries shall establish a *common emergency self-sufficiency* in oil supplies' (emphasis added) via various mechanisms (e.g. oil stocks) that are subject to oversight by the IEA Governing Board.

⁶¹ Article 1.2 of the Nabucco Agreement, n. 57.

⁶² The definitive work on the IEA remains the two-volume treatment by a former legal adviser to the IEA, R. Scott, *The History of the International Energy Agency 1974-1994: IEA: The First Twenty Years*, 2 vols (Paris: OECD/IEA, 1994) with a 2003 supplement by his successor Craig Bamberger, available at www.iea.org.

⁶³ OPEC was established in 1960 at the joint initiative of Venezuela and Iraq, who were joined by Iran, Kuwait, and Saudi Arabia as founding members: see the Agreement concerning the creation of the Organization of Petroleum Exporting Countries (OPEC), Baghdad, 14 September 1960, in force 1 October 1960, 443 UNTS 247. In 1973, Arab oil producers moved to deploy the 'oil weapon' of selective delivery and/or production cuts directed against Denmark, the Netherlands, Portugal, Rhodesia, South Africa, and the United States, precipitating the first energy crisis of 1973/74 and leading, inter alia, to the establishment of the IEA.

⁶⁴ See n. 9.

⁶⁵ Article 71, IEA Agreement, n. 9. There are presently 29 states that are members of the IEA (Estonia was the most recent to join, in 2014). For further background, including discussion of the legal status of the Agreement at international and in domestic law, see Scott, *IEA: The First Twenty Years*, n. 62, Ch. 3.

The quest for energy security is one of the founding principles of the IEA and constitutes one of its main objectives.⁶⁶ Today the IEA's four main areas of focus are energy security, economic development (including elimination of energy poverty), environmental awareness and global engagement.⁶⁷ Geopolitical instability, price volatility, demand growth, and growing threats to the environment are the factors adversely affecting such policies. The main oil security principles are set forth in the first four chapters of the IEA Agreement and are addressed both to short-term emergency supply problems and to long-term programmes designed to reduce oil import dependency. The parties, 'desiring to promote secure oil supplies on reasonable and equitable terms', undertake three principal obligations: oil stockpiling, demand restraint, and data exchange. Physical sharing of oil stocks which have been established and maintained (stockdraw),⁶⁸ short term reduction of demand through demand restraint measures (demand restraint), and the gathering and transmission to the IEA of emergency oil data (data system), are referred to collectively as the emergency sharing system (ESS) of the IEA.⁶⁹ All are emergency measures designed to address short-term energy security concerns arising from major international oil disruptions and requiring collective response. In practice, both oil stockpiling and demand restraint have become an essential part of the IEA's response to oil supply disruptions, even when the ESS as such has not been triggered under the threshold established by the IEA Agreement.⁷⁰ For example, both operated in response to the 1979 oil crisis.⁷¹ This more flexible 'non-ESS' response is called the Coordinated Emergency Response Measures (CERM).⁷² A CERM-like response was

⁶⁶ See IEA, *Energy Supply Security: Emergency Response of IEA Countries* (Paris: OECD/IEA, 2014), available at www.iea.org.

⁶⁷ See further www.iea.org/aboutus/whatwedo/.

⁶⁸ Net exporting members – presently Canada, Denmark and Norway – do not have stockpiling obligations, though in practice Denmark holds stocks in fulfilment of its obligations under European Union law, whilst Norway has its own national stockholding and emergency arrangements. Canada and Norway implement their stockholding arrangements relying solely on company stocks, while Denmark uses a blend of company stocks and agency stocks maintained for emergency purposes by both public and private bodies. See IEA, *Energy Supply Security*, n. 66, with national updates on oil – and now gas – emergency policies.

⁶⁹ For further in-depth discussion of each element of the ESS, see further Redgwell, 'International Energy Security', n. 8, 29–34.

⁷⁰ In 1980, an IEA Dispute Settlement Centre was established, modelled in part on the World Bank's International Centre for the Settlement of Investment Disputes, to provide a specialised arbitral forum for commercial disputes that could arise in consequence of the application of the ESS or similar ad hoc arrangement. It has never been utilised not least because the ESS has never been formally triggered.

⁷¹ See further Scott, *IEA: The First Twenty Years*, n. 62, 114–123.

⁷² Decision on Stocks and Supply Disruptions, 11 July 1984, IEA/GB(84)27, Item 2(a)(ii), Annex I and Appendices. In 1995, the IEA Governing Body formally endorsed more flexible measures, deciding that even where a risk to oil security passes the threshold trigger for application of the ESS (i.e. 7 per cent or higher supply restriction as required under Article 13) consideration would be given in the first instance to 'lighter measures than the oil sharing system'.

deployed in the 1991 Gulf War,⁷³ in response to the drop in global refining capacity caused by Hurricane Katrina's destruction of United States Gulf coast refineries in 2005 and in 2011 owing to prolonged disruption of oil supplies from Libya.⁷⁴ However, there has never been an invocation of the formal dispute settlement machinery of the IEA, a factor which Scott attributes in part to the practice of adopting decisions by consensus,⁷⁵ which itself is evidence of a preference for political over legal solutions to any disputes arising among states.⁷⁶

2.5 Liability regimes: operationalising shared responsibility?

If responsibility of states and legal persons is shared, the contents and limits of their respective responsibility is far from clear, whether it is for human rights violations or, in the ILC's work on prevention of transboundary harm from hazardous activities (2001 Draft Articles) and allocation of loss in the event of such harm (2006 Draft Principles).⁷⁷ The latter in Article 4(2) explicitly provides that measures of compensation foreseen by the state of origin 'should include the imposition of liability on the operator or, where appropriate, other person or entity...'. The Commentary observes that this imposition of primary liability on the operator 'is widely accepted in international treaty regimes and in national law and practice' but, as Gattini criticises, neither specifies whether the operator's liability flows from international or national law, nor how (if at all) the liability of the operator is linked with the responsibility of the state of origin.⁷⁸ The 'international treaty regimes' in question are heavily dominated by energy operators with well-developed liability regimes for oil pollution⁷⁹ and for nuclear damage in particular.⁸⁰ Here there are possibilities of shared

⁷³ Governing Body Conclusion on the Gulf Situation, 11 January 1991, annexed to the Decision adopting the Coordinated Energy Emergency Response Contingency Plan, IEA/GB(91)1, Item 3 and Annex, para. (c). The plan was activated, on 17 January 1991, with the launch of the air campaign against Iraq and terminated on 6 March 1991, less than one week after the cessation of hostilities (IEA/GB(91)19, Item 3).

⁷⁴ Neither the invasion of Iraq in 2003 nor the events of 11 September 2001 triggered the ESS, nor were contingency plans in anticipation of potential 'Year 2000' computer problems implemented.

⁷⁵ Scott, *IEA: The First Twenty Years*, Vol. I, n. 62, at 85.

⁷⁶ *Ibid.*, at 85-87.

⁷⁷ Draft Articles on Prevention of Transboundary Harm from Hazardous Activities, ILC *Yearbook* 2001/II(2) (2001 Draft Articles); Draft principles on the allocation of loss in the case of transboundary harm arising out of hazardous activities, ILC *Yearbook* 2006/II(2) (2006 Draft Principles).

⁷⁸ A. Gattini, 'Breach of International Obligations', in P.A. Nollkaemper and I. Plakokefalos (eds.), *Principles of Shared Responsibility in International Law: An Appraisal of the State of the Art* (Cambridge University Press, 2014), 25, at 57.

⁷⁹ See discussion by Ringbom, 'Ship-Source Marine Pollution', n. 21; accordingly, this is not addressed further here.

responsibility in the provisions relating to operator and (host) state liability and each warrants more thorough examination. Mention will also be made of liability for decommissioned offshore installations, the legal regime for which remains unsettled.

2.5.1 Liability for offshore energy infrastructure

While the international legal framework for offshore energy activities is anchored in the LOSC,⁸¹ it ‘is complemented by an array of relevant instruments and measures at the global, regional and national levels’.⁸² The LOSC also regulates the functional jurisdiction⁸³ coastal states exercise over the associated exploration and production infrastructure (such as offshore installations and devices, and submarine cables and pipelines) and activities (such as drilling and maritime transport).⁸⁴ Primary obligations rest with the (coastal, flag, and port) state. However, there are gaps: an example is Article 60(3) LOSC which falls well short of providing detailed guidance for states with respect to offshore decommissioning and any residual liabilities. It provides:

Due notice must be given of the construction of such artificial islands, installations or structures, and permanent means for giving warning of their presence must be maintained. Any installations or structures which are abandoned or disused shall be removed to ensure safety of navigation, taking into account any generally accepted international standards established in this regard by the competent international organization. Such removal shall also have due regard to fishing, the protection of the marine environment and the rights and duties of other States. Appropriate publicity shall be given to the depth, position and dimensions of any installations or structures not entirely removed.⁸⁵

⁸⁰ See further G. Handl, ‘Preventing Transboundary Nuclear Pollution: A Post-Fukushima Legal Perspective’, in S. Jayakumar, T. Koh, R. Beckman, and H. Duy Phan (eds.), *Transboundary Pollution: Evolving Issues of International Law and Policy* (Cheltenham: Edward Elgar, 2015), 190.

⁸¹ See n. 45.

⁸² Report of the Secretary-General, ‘Oceans and the law of the sea’, UN Doc. A/67/79 (4 April 2012), para. 27. While the report addresses marine renewable energy in particular, this observation is generally applicable to offshore energy activities.

⁸³ See generally M. Gavouneli, *Functional Jurisdiction in the Law of the Sea* (Leiden: Martinus Nijhoff, 2007).

⁸⁴ It is additionally concerned with protection of the marine environment, within and beyond national jurisdiction, on which the offshore energy sector has a major impact. See further Ringbom, ‘Ship-Source Marine Pollution’, n. 21, this volume.

⁸⁵ For the drafting history of this provision, see S.V. Nandan, S. Rosenne, and N.R. Grandy (eds.), *The United Nations Convention on the Law of the Sea 1982: A Commentary*, vol. II (Dordrecht: Martinus Nijhoff, 1993), 586. The IMO is the ‘competent international organization’ for the purposes of Article 60(3), and for a number of other provisions in the LOSC which adopt this phrase, as it was always understood that more technical guidelines and standards would be elaborated – and evolve – outside of the LOSC: see generally C. Redgwell, ‘Mind the gap in the GAIRS’ (2014) 29 IJMCL 600. On recent abandonment practice see R. Beckman, ‘Global Legal Regime on the Decommissioning of Offshore Installations and Structures’, in M. Nordquist, J.N. Moore,

In 1989, the International Maritime Organization (IMO) produced a set of ‘Guidelines and Standards for the Removal of Offshore Installations and Structures on the Continental Shelf and in the Exclusive Economic Zone’.⁸⁶ Although not directly binding, parties to the LOSC have an obligation under Article 60(3) to take these Guidelines into account when considering the decommissioning of offshore installations. However, not only were states once again unwilling to stipulate either for principal (or exclusive) state responsibility or for explicit sharing, at least in the Paris/Brussels sense (see section 2.5.2 below), but there was equally a lack of agreement regarding the imposition of liability (at least in international guidelines and standards) on the operator alone.⁸⁷ And, of course, even had these (non-binding) Guidelines done so, this would not absolve the state of its customary obligations of prevention and due diligence. In the event, the IMO Guidelines and Standards merely exhort that:

3.10 The coastal State should identify the party responsible* for maintaining the aids to navigation if they are deemed necessary to mark the position of any obstruction to navigation, and for monitoring the condition of remaining material. The coastal State should also ensure that the responsible party* conducts periodic monitoring, as necessary, to ensure continued compliance with these guidelines and standards.

3.11 The coastal State should ensure that legal title to installations and structures which have not been entirely removed from the sea-bed is unambiguous and that responsibility for maintenance and the financial ability to assume liability for future damages are clearly established.

....

*The phrase ‘party responsible’ refers to any juridical or physical person identified by the coastal State for a purpose mentioned in the above paragraph 3.10.

What is left completely open-ended is whether responsibility lies with the state or the operator, or whether responsibility is shared between them. State practice has clarified this, with domestic petroleum legislation requiring appropriate insurance or other financial guarantee by offshore operators for an abandonment plan to be approved.⁸⁸ The United

A. Chircop and R. Long (eds.), *The Regulation of Continental Shelf Development: Rethinking International Standards* (Leiden: Martinus Nijhoff, 2013); and Y. Lyons, ‘The New Offshore Oil and Gas Installation Abandonment Wave and the International Rules on Removal and Dumping’ (2014) 29 IJMCL 480.

⁸⁶ Guidelines and Standards for the Removal of Offshore Installations and Structures on the Continental Shelf and in the Exclusive Economic Zone, IMO Assembly Resolution A.672(16), 10 October 1989, adopted on 19 October 1989.

⁸⁷ Nandan et al., *The United Nations Convention on the Law of the Sea 1982*, n. 85.

⁸⁸ See, for example, section 29 of the United Kingdom 1998 Petroleum Act as amended, and DECC, ‘Guidance Notes Decommissioning of Offshore Oil and Gas Installations and Pipelines under the 1998 Petroleum Act’ (version 6, 2011), particularly sections 3 (Process) and 16 (Residual Liability and Decommissioning Legacies),

Kingdom Guidance, for example, indicates that '[a]ny claims for compensation by third parties arising from damage caused by any remains will be a matter for the owners and the affected parties and will be governed by the general law.'⁸⁹ Damage caused while the installation is operational – such as the Deepwater Horizon blow out – is not subject to international treaty regulation with the exception of regional arrangements for the Baltic and Mediterranean Sea areas.⁹⁰

2.5.2 Nuclear damage

With respect to treaty-based obligations, the nuclear sector has been the subject of considerable regulatory activity at the international level.⁹¹ Given that nuclear energy activities are ultrahazardous in character with potentially devastating transboundary implications, this degree of international regulatory activity is unsurprising.⁹² As Handl noted post Fukushima, 'nuclear safety matters are inherently a matter of international concern': 'a nuclear accident anywhere truly is an accident everywhere'.⁹³ The first international agreements, at both global and regional level, were concerned with regulating liability and compensation for nuclear damage, largely with a view to rendering a fledgling energy industry commercially viable. They also reflected the generally unsatisfactory nature of the

available at www.gov.uk/government/uploads/system/uploads/attachment_data/file/69754/Guidance_Notes_v6_07.01.2013.pdf (DECC Guidance). These provisions are quite broad: not only may a section 29 abandonment notice be served on the licensees but also on the company that manages the installation (the operator), the owners of the installation and the parties to a joint operating, or similar, agreement. Section 29 notices may also be served on parents or other associates (including requiring work to be done if the person responsible has not done so satisfactorily). Moreover, in the case of a transfer of ownership where there is doubt whether the transferee as sole owner of the field has sufficient resources to meet decommissioning costs, the Secretary of State may require both the transferor and the transferee to enter into a decommissioning security agreement to which the Secretary of State also becomes a party: DECC Guidance, *ibid.*, Annex G.

⁸⁹ DECC Guidance, *ibid.*, at 56, para. 16.3.

⁹⁰ See also the European Union legislative response requiring operators to prove that they have 'sufficient physical, human and financial resources to minimise and rectify the impact of major accident', as well as 'adequate provision ... to cover liabilities' related to its offshore operations: see Directive 2013/30/EU of the European Parliament and of the Council of 12 June 2013 on safety of offshore oil and gas operations, (2013) OJ L 178/66. This is an example of the augmentation of state responsibility (in its classical individualised sense) with non-state actor liability.

⁹¹ For a succinct overview, see Chapter 9, 'Nuclear Energy and the Environment', Birnie, Boyle, and Redgwell, *International Law and the Environment*, n. 38, at 488-534.

⁹² Apart from the nuclear sector, there has also been considerable regulation of hazardous activities and substances, focusing on environmentally sound management and regulation of the transboundary movement of such substances. See further Chapter 35 in this volume, K. Kummer Peiry, 'Transboundary Movement of Hazardous Waste and Chemicals', in P.A. Nollkaemper and I. Plakokefalos (eds.), *The Practice of Shared Responsibility in International Law* (Cambridge University Press, 2016), ____.

⁹³ G. Handl, 'Preventing Transboundary Nuclear Pollution', n. 80, at 191 and 192.

general customary international law principles in respect of state responsibility as well as the magnitude of the potential harm to humans and the environment.

What do these liability regimes provide? The following main principles are reflected in both the regional and global regimes:⁹⁴

(i) The operator (a private entity or a state) of a nuclear installation is liable for damage⁹⁵ to or loss of life of any person and for damage to or loss of any property caused by a nuclear accident in a nuclear installation or during transport of nuclear substances to and from installations.⁹⁶ Liability is channelled exclusively to the operator of the nuclear installations in the first instance⁹⁷ and there is provision for several operators to be jointly liable.⁹⁸ Some states, such as Germany, Greece and Austria, have elected to widen liability beyond the operator in order to ensure responsible behavior not only of the operator but of manufacturers and suppliers in the nuclear energy fuel chain as well.⁹⁹ However, for most European states channeling through the operator has been acceptable owing to the availability to it of insurance; the use of civil and criminal penalties to induce ‘good behaviour’ by others; and the application of adequate safety standards in the construction and operation of nuclear installations to prevent damage occurring in the first place.¹⁰⁰

(ii) The operator is held liable irrespective of fault, with litigants required only to prove that damage was caused by the nuclear incident. There is only very limited exculpation for the operator where there is negligence by the victim or the ‘damage caused by a nuclear incident is directly due to an act of armed conflict, hostilities, civil war, insurrection or [unless national

⁹⁴ Regionally, the OECD’s 1960 Paris Convention on Third Party Liability in the Field of Nuclear Energy and supplementary 1963 Brussels Convention (as amended by subsequent Protocols), available at www.oecd-nea.org; globally, the IAEA’s 1963 Vienna Convention on Civil Liability for Nuclear Damage (as amended), available at www.iaea.org. See also n. 103.

⁹⁵ Nuclear damage is defined as: loss of life or personal injury; loss of or damage to property; economic loss; costs of reinstatement measures for impaired environment; loss of income caused by a significant impairment of environment; and costs of preventive measures (Article 1(f) of the Convention, and Article 2 of the Protocol, *ibid.*).

⁹⁶ For this reason, both the Paris/Brussels and Vienna regimes, n. 94, are supplemented by the 1971 Convention relating to Civil Liability in the Field of Maritime Carriage of Nuclear Material, Brussels, 17 December 1971, in force 15 July 1975, 974 UNTS 255, which, in relation to maritime transport, excludes from liability any person who might be held liable thereunder for damage caused by a nuclear accident where the nuclear operator is liable under the Paris or Vienna Conventions. Both the Paris and Vienna Conventions make provision for ascertaining whether it is the sending or the receiving operator which is liable.

⁹⁷ Article 6 Paris Convention, *ibid.*; Article II Vienna Convention, *ibid.*

⁹⁸ Article 4(d) Paris Convention, *ibid.*; Article II(2) Vienna Convention, *ibid.*

⁹⁹ See reservations to the Paris Convention, *ibid.*, made on ratification by Germany, Greece and Austria, available at www.iaea.org.

¹⁰⁰ Birnie, Boyle, and Redgwell, *International Law and the Environment*, n. 38, at 526.

law otherwise provides] a grave natural disaster of an exceptional character'.¹⁰¹ However, damage caused by a terrorist attack is not excluded nor, once the Protocols enter into force,¹⁰² will it be possible to rely on the 'grave natural disasters' exception.

(iii) Liability is limited in time and in amount. For example, read together, the regional Paris/Brussels regime sets out three layers of compensation and thus spreads the risk between three tiers: first, the nuclear operator (variable national limits but with a minimum of 5 million Special Drawing Rights (SDRs)); second the installation state (up to a cumulative total of 175 million SDRs); and third, all contracting parties (up to a cumulative total of 300 million SDRs). As indicated, financial liability limits are set at each level – the last set by comparing gross national product with number of reactors within the territory.¹⁰³ Thus in the event of a serious accident to which the Convention applies, the burden of compensation would ultimately be shared across the community of nuclear states. However, there has not yet been a serious test of these compensation provisions within Europe, nor of the Vienna regime globally. In the case of the Fukushima nuclear incident, not only has there been no evidence of significant transboundary harm but Japan is not a party to the global regime, preferring to address matters of nuclear liability as a matter for domestic law.¹⁰⁴

(iv) The operator must maintain insurance or other financial security for an amount corresponding to its liability; if such security is insufficient, the installation state is obliged to make up the difference up to the limit of the operator's liability.

(v) Jurisdiction over actions lies exclusively with the courts of the contracting party in whose territory the nuclear incident occurred; and

(vi) The principle of non-discrimination applies with access to justice for victims on the grounds of nationality, domicile, or residence.¹⁰⁵

¹⁰¹ Article 9 Paris Convention, as amended by the 1964 and 1982 Protocols, n. 94; Article IV (3) Vienna Convention, n. 94.

¹⁰² See n. 94 and 103.

¹⁰³ Article 3(b) Convention of 31 January 1963 Supplementary to the Paris Convention on Third Party Liability in the Field of Nuclear Energy (as Amended by the Additional Protocol of 28 January 1964 and by the Protocol of 16 November 1982), Brussels, 31 January 1963, in force 4 December 1974, 1041 UNTS 358 (Brussels Supplementary Convention). See also n. 94.

¹⁰⁴ Thus compensation for nuclear damage arising from the Fukushima Daiichi accident is governed exclusively by Japanese law, on which see: Handl, 'Preventing Transboundary Nuclear Pollution', n. 80.

¹⁰⁵ See 'Civil Liability for Nuclear Damage: International Framework', www.iaea.org/Publications/Documents/Conventions/liability.html; and discussion of the 1998 Aarhus Convention, n. 32.

However, in respect of routine, non-catastrophic but accidental, discharges of radiation, the regime still provides little relief to claimants. The twin hurdles of proving causation (damage caused by radiation arising from the nuclear incident and surmounting the threshold of harm (does the harm suffered fall within the definition of damage?)) are difficult for litigants to surmount.¹⁰⁶ Additionally, a major weakness of the Paris/Brussels and Vienna Conventions is the small number of states possessing nuclear facilities that are parties to either Convention, with major nuclear states such as the United States and Japan remaining outside both regimes.

3. Shared responsibility between public and private energy actors

In many of the scenarios examined above, state and non-state actors may share responsibility for their contribution to harmful outcomes. As we have seen, this is particularly evident in liability regimes for oil pollution and nuclear damage which take account of the central role of non-state actors (ship and cargo owners; nuclear operators). Shared responsibility of states and private actors¹⁰⁷ has been argued particularly in the human rights context, with (unsuccessful) attempts to hold corporations responsible under international law for human rights violations either directly or concurrently with state(s).¹⁰⁸ Gattini notes the ‘circuitous and “gluey” development’ of the concept through the United Nations, most notably through the adoption of non-binding instruments such as the 2003 Draft Norms on the Responsibilities of Transnational Corporations and other Business Enterprises with regard to Human Rights¹⁰⁹ and the 2011 Guiding Principles on Business and Human Rights.¹¹⁰ The former, controversial

¹⁰⁶ On the causation hurdle see, for example, P. Bowden and J. Isted, ‘The Sellafield Childhood Leukemia Cases 1993’ (1994) 53 *NLB* 44.

¹⁰⁷ P.A. Nollkaemper, ‘Concurrence between Individual Responsibility and State Responsibility in International Law’ (2003) 52 *ICLQ* 615; J. d’Aspremont, P.A. Nollkaemper, I. Plakokefalos, and C. Ryngaert, ‘Sharing Responsibility Between Non-State Actors and States in International Law: An Introduction’ (2015) 62 *NILR* 49.

¹⁰⁸ For brief discussion of the difficulties, see Gattini, ‘Breach of International Obligations’, n. 78, 54-59. Attempts at national law directly to apply international human rights standards to (energy) corporations have not met with success, a recent example being *Kiobel v. Royal Dutch Petroleum Co., et al.*, 621 F. 3d 111 (S. Ct., 17 April 2013) where the plaintiffs sought to argue that the corporation had aided and abetted the Nigerian government in human rights violations. On ‘corporate complicity’ see further M. Karavias, ‘Shared Responsibility and Multinational Enterprises’ (2015) 62 *NILR* 91, section 4.

¹⁰⁹ The (unrequested) Draft Norms were adopted by the UN Sub-Commission for the Promotion and Protection of Human Rights (UN Doc. E/CN.4/Sub.2/2003/12/Rev.2 (2003)), but ‘rebuffed’ by ECOSOC (Res. 279/2004) (Draft Norms). For analysis see D. Weissbrot and M. Kruger, ‘Norms on the Responsibilities of Transnational Corporations and Other Business Enterprises with Regard to Human Rights’ (2003) 97 *AJIL* 901.

¹¹⁰ As part of implementation of the ‘Protect, Respect and Remedy’ Framework, UN Doc. A/HRC/17/31 (21 March 2011), endorsed by the Human Rights Council (HRC Res. 17/4, 16 June 2011), available at www.ohchr.org/Documents/Publications/GuidingPrinciplesBusinessHR_EN.pdf (Guiding Principles). For analysis in the energy context, see R. Lindsay et al., ‘Human Rights Responsibilities in the Oil and Gas Sector: Applying the UN Guiding Principles’ (2013) 6 *JWELB* 2. They note that, while not a ‘law-free zone’ the

in their origins and rebuffed by the Economic and Social Council, embodies an expression of shared (or concurrent) responsibility in Article 1:

States have the primary responsibility to promote, secure the fulfilment of, respect, ensure respect of and protect human rights recognized in international as well as national law, including ensuring that transnational corporations and other business enterprises respect human rights. Within their respective spheres of activity and influence, transnational corporations and other business enterprises have the obligation to promote, secure the fulfilment of, respect, ensure respect of and protect human rights recognized in international as well as national law, including the rights of indigenous peoples and other vulnerable groups.¹¹¹

However, neither the Draft Norms nor the Guiding Principles create legal obligations directly for transnational corporations, nor has the ‘obligation’ of transnational corporations envisaged in Article 1 above been operationalised, unlike e.g. space liability.¹¹²

Issues of shared responsibility between private actors and international organisations may also arise in the human rights context. For example, human rights standards may be enforced indirectly (by the international financial institution (IFI) against the state) through loan conditionality, often in the context of large energy infrastructure projects. In its lending practices, and as set forth in its Operational Guidelines, the International Bank for Reconstruction and Development (World Bank) requires conformity with certain International Labour Organization conventions, including on forcible resettlement of populations.¹¹³ Additionally, non-state actors in the borrower country may seek internal review by the World Bank’s Inspection Panel of the Bank’s failure to comply with its own policies and procedures on human rights protection. Indeed, it was controversy surrounding an energy project – the

Guiding Principles do not create new, directly applicable, legal obligations, which continue to flow to non-state actors via domestic implementation: *ibid.*, 6. However, given the prevalence of national oil companies in the sector, the Guidelines exhort states to take additional steps to prevent human rights abuses arising from activities carried out by such entities: *ibid.*, Principle 4 of the Guiding Principles.

¹¹¹ In contrast, Principle 11 of the 2011 Guiding Principles, *ibid.*, is more circumspect: ‘The responsibility to respect human rights is a global standard of expected conduct for all business enterprises wherever they operate. It exists independently of States’ abilities and/or willingness to fulfil their own human rights obligations, and does not diminish those obligations. And it exists over and above compliance with national laws and regulations protecting human rights.’ Lindsay et al. emphasise that, while business enterprises do not have general obligations under international human rights law, this last sentence was inserted to reflect an obligation where domestic legal protection of human rights is weaker than required under international human rights law: *ibid.*, at 11.

¹¹² See Chapter 18 in this volume, P. Medes De Leon and H. Van Traa, ‘Space Law’, in P.A. Nollkaemper and I. Plakocefalos (eds.), *The Practice of Shared Responsibility in International Law* (Cambridge University Press, 2016), ___.

¹¹³ Operational Guidance on Environment Impact Assessment 4.0; see also the discussion in G Triggs, ‘The Rights of Indigenous Peoples to Participate in Resource Development: An International Legal Perspective’, in D. Zillman, A. Lucas, and G. Pring (eds.), *Human Rights in Natural Resource Development: Public Participation in the Sustainable Development of Mining and Energy Resources* (Oxford University Press, 2002), 123.

Narmada dam in India – which ultimately led the World Bank to establish its inspection panel procedure as an in-house mechanism for ensuring compliance with its own guidelines and policies.¹¹⁴

Human rights – and environmental standards – may also be subsumed within private contractual arrangements or be incorporated by non-binding undertaking. Such was the case in the Baku–Tbilisi–Ceyhan (BTC) pipeline project.¹¹⁵ There the original contract terms gave rise to ‘a perfect storm’¹¹⁶ with concerns expressed particularly by non-governmental organisations (NGOs) regarding the human rights and environmental impacts of the BTC project.¹¹⁷ The stabilisation clause in particular proved a lightning rod for criticism, not only because of the apparent ousting of domestic regulatory sovereignty;¹¹⁸ but also because such freezing effect fails to take account of the inherent dynamism and evolutionary nature of human rights and environmental law norms. Amnesty International highlighted the potential trumping effect of the ‘no-conflict’ warranty of the Intergovernmental Agreement (IGA)¹¹⁹ between Turkey, Georgia and Azerbaijan over human rights obligations should, for example, Turkey’s international human rights obligations conflict with the pipeline’s construction or operation (e.g. with respect to workers, indigenous communities, and property rights).

The response to these criticisms by the host states and BTC Co. was the issuing of a Joint Statement in 2003 as part of the IGA¹²⁰ and the addition of a new Code of Practice to the Host Government Agreements (HGAs) setting forth internationalised standards to be applied to the project regarding environmental and social issues to which BTC Co. must conform;¹²¹ and a

¹¹⁴ A. Gowlland-Galtieri, ‘The Environmental Accountability of the World Bank to Non-State Actors: Insights from the Inspection Panel’ (2002) 72 BYIL 213.

¹¹⁵ See in detail Redgwell, ‘Contractual and Treaty Arrangements Supporting Large European Transboundary Pipeline Projects’, n. 5; and Cameron, *International Energy Investment Law*, n. 7. BTC Co. comprises 11 co-venturers including BP (UK) (30.1 per cent), Statoil (Norway) (8.71 per cent), ENI (Italy) (5 per cent) and Total (France) (5 per cent).

¹¹⁶ So characterised by Cameron, *ibid.*, at 402.

¹¹⁷ See, for example, Amnesty International, *Human Rights on the Line: The Baku-Tbilisi-Ceyhan Pipeline Project* (2003), available at www.amnesty.org.uk and, generally, C.P.M. Waters, ‘Who Should Regulate the Baku-Tbilisi-Ceyhan Pipeline?’ (2003-04) 16 GIELR 403.

¹¹⁸ Reyes graphically refers to the agreements as creating ‘a thousand-mile swath of militarized corporate sovereignty running from Azerbaijan’s Caspian shore to Turkey’s Mediterranean’: A.S. Reyes, ‘Protecting the “Freedom of Transit of Petroleum”’: Transnational Lawyers Making (Up) International Law in the Caspian’ (2006) 24 Berk JIL 842.

¹¹⁹ Agreement among the Azerbaijan Republic, Georgia and The Republic of Turkey relating to the Transportation of Petroleum Via the Territories of The Azerbaijan Republic, Georgia and the Republic of Turkey Through the Baku-Tbilisi-Ceyhan Main Export Pipeline, Istanbul, 18 November 1999, in force 9 October 2000, Article II (8).

¹²⁰ *Ibid.*, the Joint Statement is expressly stated to be part of the Project Agreements.

¹²¹ This is benchmarked to the relevant standards and practices applicable to comparable projects in the Netherlands or, for mountainous or earthquake-prone areas, in Austria. However, conformity is a requirement

Human Rights Undertaking by BTC Co. limiting the scope of the extensive guarantees of stability contained in the Agreements.¹²² Additionally, BP and Amnesty International concluded a non-binding ‘Memorandum of Understanding in relation to Human Rights’ which disapplies the suspension of new legislative provisions in relation to human rights protection, anti-discrimination and health and safety requirements. BP was also the subject of a partially successful complaint by non-governmental human rights and environmental organisations in the United Kingdom for breach of the OECD’s Guidelines for Multinational Corporations.¹²³ However, there is no legal obligation on enterprises to participate in this complaints process nor is the outcome legally binding.¹²⁴ This illustrates the continuing difficulty of determining the responsibility of non-state actors through the direct application of international obligations and the quest for alternatives, in particular standard-setting imposing a normative framework (OECD Guidelines) and a supervisory or compliance-monitoring mechanism allowing for a determination of accountability (national contact points for complaints).¹²⁵

4. Conclusion

Given the enormous heterogeneity of energy law identified in the introduction, one of the challenges of this chapter has been in the identification of the primary norms of application in the energy context. The approach taken here was to identify several contexts which might serve to illustrate its potential as a rich source of shared responsibility in practice, namely: access to energy; energy as a shared resource; shared transboundary infrastructure, specifically its use for energy transit; international cooperation to ensure energy security; and damage caused by energy activities. The clearest examples of shared responsibility are the developed liability regimes for oil pollution and nuclear damage, in recognition of the need to provide a legal ‘safety net’ for activities considered vital for a variety of reasons, including

under domestic law, benchmarked against evolving European Union, World Bank and international human rights standards, and not an example of the direct assumption of international obligations by non-state actors.

¹²² A UN/IFC Report endorses transparency through publication of such undertakings: UN/IFC, *Stabilization Clauses and Human Rights* (2009). In this connection it should be noted that the HGAs apply the Extractive Industries Transparency Initiative (available at <http://eiti.org>).

¹²³ The United Kingdom pursuant to the OECD Multinational Guidelines has established a national contact point for complaints. One of the first ‘cases’ before it was the 2003 complaint by six non-governmental organisations, regarding BP’s actions in Turkey. A revised final statement was issued in 2011 finding breach of Chapter V para. 2(b) of the Guidelines in respect of BP’s grievance and monitoring procedures for addressing complaints received outside of formal channels of intimidation against affected communities by local security forces: see www.thecornerhouse.org.uk/resources/results/taxonomy:87.

¹²⁴ Lindsay et al., ‘Human Rights Responsibilities in the Oil and Gas Sector’, n. 110, 53.

¹²⁵ D’Aspremont et al., ‘Sharing Responsibility Between Non-State Actors and States’, n. 107, 62.

energy security and economic well-being. These examples, and the attempts directly to impose human rights and environmental standards on transnational corporations, also reflect the strong presence of both public and private entities in the exploitation of energy resources. However, as the discussion of the Draft Norms and Guiding Principles underscored, these do not create directly applicable international legal obligations for non-state actors thus fuelling the quest for alternative forms of standard-setting and accountability.