

Global environmental regulation of offshore energy production: Searching for legal standards in ocean governance

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The international environmental regulation of all types of energy generation activities at sea is first and foremost anchored to the United Nations Convention on the Law of the Sea (UNCLOS). However, both at the global and regional levels, UNCLOS is complemented by an array of evolving environmental agreements. These normative developments can put flesh on the bare bones of the general (due diligence) obligation of States to protect the marine environment with regard to offshore energy activities. Parallel to binding obligations under environmental agreements, there are a variety of non-binding instruments, which can also play a key role in enriching the content of prevention obligations. Depending on their source, their form and the procedure by which they are adopted, these non-binding pronouncements may become legally relevant as interpretative guidance or standard of proof that a State has exercised due diligence. In this context, the article posits that synergies among environmental instruments and the interaction of non-binding instruments with binding rules of international law can fill the current legal gaps and strengthen the international legal standards for the regulation of this environmentally sensitive sector.

1 | INTRODUCTION

As the global demand for energy grows and scientific awareness about the irreversible effects of climate change increases, the oceans are receiving remarkable attention as a rich source of energy.¹ According to the International Energy Agency (IEA), a sustainable development scenario, according to which States get on track with their climate change and energy access goals, requires an

additional US\$4.6 trillion in capital investment in both traditional and renewable forms of offshore energy over the period to 2040.² The projected expansion of energy activities at sea raises reasonable concerns about their impact on the oceans. Traditionally, offshore oil and gas exploitation projects have been associated with a variety of environmental risks.³ Either in the form of operational pollution, including drill cuttings, leakages of hydrocarbons and muds, or as accidental pollution resulting from massive blow-outs and collisions with

¹The United Nations has been supporting the promotion of renewable energy for achieving worldwide access to clean energy. One initiative worth mentioning is 'Sustainable Energy for All', launched by the Secretary-General Ban Ki-moon in November 2011: <<https://www.seforall.org/>>.

²IEA, 'Offshore Energy Outlook' (IEA 2018) 44; IEA, 'World Energy Investment: Executive Summary' (IEA 2017) 1.

³M Gavouneli, *Pollution from Offshore Installations* (Graham & Trotman 1995) 40; GE Kwadzo Dzah, 'Re-conceptualizing Environmental Governance in Ghana's Offshore Oil and Gas Development' (2015) 29 *Ocean Yearbook* 224, 230–232; N Liu, 'Protection of the Marine Environment from Offshore Oil and Gas Activities' in R Rayfuse (ed), *Research Handbook on International Marine Environmental Law* (Edward Elgar 2015) 190, 190.

offshore energy installations, hydrocarbon extraction activities pose grave threats to the oceans.⁴ By comparison, marine renewable energy generation had been regarded as benign to the marine environment.⁵ Nonetheless, the projected expansion of the marine renewable industry has recently drawn the attention of scientists concerning their potential effects, including noise pollution, the alteration of electromagnetic fields, changes in water quality and disturbance of the habitat structure of fish, mammals and birds (the latter only when it comes to offshore wind farms) or even their direct mortality.⁶

Unsurprisingly, there is no single international agreement regulating the environmental externalities of offshore energy activities.⁷ The United Nations Convention on the Law of the Sea (UNCLOS), serving as the 'constitution of the oceans',⁸ sets forth the jurisdictional framework and spells out the general environmental duties of States, among others, regarding offshore energy production. UNCLOS provides the obligation to exercise due diligence in preventing, reducing or controlling marine environmental pollution from offshore energy activities within their jurisdiction.⁹ However, UNCLOS is complemented by an array of global and regional environmental treaties. These agreements can put flesh on the bare bones of the seemingly evasive due diligence obligation to protect the marine environment from risks related to offshore energy production activities.¹⁰ In other words, relevant environmental obligations can inform and shape the standard of due diligence.¹¹ Since failure to show due diligence in preventing significant marine environmental harm can give rise to State responsibility, it is indispensable for States to determine the normative content of that standard. Thus, defining the normative content of the international

obligation to prevent marine environmental harm in the context of marine energy generation activities is essential for States to evaluate whether their conduct is adequate to meet their international duties. Moreover, legal clarity regarding the environmental obligations of States and the standards applicable in offshore energy generation activities is equally important for industry. In particular, investors should be fully aware of the legal framework within which their offshore energy projects operate to estimate regulatory risks during the long life cycle of their capital-intensive investments.¹²

In addition, when it comes to the international environmental regulation of offshore energy generation, one needs to acknowledge that, besides States, there are a multiplicity of non-State actors, who also contribute to shaping and implementing the relevant legal framework.¹³ Parallel to the environmental obligations of States, non-binding environmental standards and instruments of corporate social responsibility also form part of a convoluted normative jigsaw puzzle. For instance, codes of conduct or technical recommendations¹⁴ produced by international organizations and other non-State actors (e.g. treaty bodies to multilateral environmental agreements (MEAs), professional energy associations), directly address the conduct of States and sometimes even the conduct of the offshore energy industry itself with the aim of preventing marine pollution.¹⁵ In so far as States have not yet managed (or lack the political willingness) to agree upon binding environmental standards for such activities, non-binding standards can play a significant role in enriching the content of due diligence obligations.

Within this fragmented ocean governance framework, this article examines whether normative developments have the potential to add content to the obligation of States to regulate offshore energy production for the protection of the marine environment under UNCLOS and, in that way, allow it to adapt to the ongoing factual and scientific developments. Focusing on the global level, the article first explores the content and nature of the environmental obligations of States with respect to offshore energy production activities taking place within their territorial sea, exclusive economic zone (EEZ) or continental shelf (thus excluding potential energy generation projects on the high seas). Following a short mapping exercise of the obligations which have implications for the regulation of offshore energy generation activities in Section 2, Section 3 investigates how environmental obligations under

⁴S Vinogradov, 'The Impact of Deepwater Horizon: The Evolving International Regime for Offshore Accidental Pollution Prevention, Preparedness and Response' (2013) 44 *Ocean Development and International Law* 335, 350; S Bosma, 'The Regulation of Marine Pollution Arising from Offshore Oil and Gas Facilities – An Evaluation of the Adequacy of the Current Regulatory Regimes and the Responsibility of States to Implement a New Liability Regime' (2012) 26 *Australia and New Zealand Maritime Law Journal* 89, 89.

⁵D Leary and M Esteban, 'Recent Developments in Offshore Renewable Energy in the Asia-Pacific Region' (2011) 42 *Ocean Development and International Law* 94, 109.

⁶D Wilhemson et al (eds), 'Greening Blue Energy: Identifying and Managing the Biodiversity Risks and Opportunities of Offshore Renewable Energy' (IUCN 2010) ix; UNGA 'Oceans and the Law of the Sea: Report of the Secretary-General' UN Doc A/67/79 (4 April 2012) 220. For an analysis of the impacts of offshore wind energy production on benthos, fish and birds, see J Ludeke, 'Exploitation of Offshore Wind Energy' in M Solomon and T Markus (eds), *Handbook on Marine Environment Protection: Science, Impacts and Sustainable Management* (Springer 2018) 168.

⁷This article considers the production of offshore energy to cover the generation of all sources of energy in marine areas, including both the exploitation of fossil fuels (offshore oil and gas) and harnessing renewable ocean energy.

⁸As suggested by Tommy Koh, president of the third UN Conference on the Law of the Sea; see M Nordquist (ed), *United Nations Convention on the Law of the Sea 1982 – A Commentary* (Martinus Nijhoff 1985) 11–16.

⁹United Nations Convention on the Law of the Sea (adopted 10 December 1982, entered into force 16 November 1994) 1833 UNTS 3 (UNCLOS) art 192.

¹⁰The International Court of Justice (ICJ) in the *Gabčíkovo-Nagymaros* case stressed that 'new norms have to be taken into consideration and ... new standards given proper weight, not only when States contemplate new activities but also when continuing with activities begun in the past'; *Case Concerning the Gabčíkovo-Nagymaros Project (Hungary v Slovakia)* (Judgment) [1997] ICJ Rep 7 (*Gabčíkovo-Nagymaros*) para 140.

¹¹N Matz-Lück and E van Doorn, 'Due Diligence Obligations and the Protection of the Marine Environment' (2017) 42 *L'Observateur des Nations Unies* 177, 194.

¹²S Trevisanut and N Giannopoulos, 'Investment Protection in Offshore Energy Production: Bright Sides of Regime Interaction' (2018) 19 *Journal of World Investment and Trade* 789, 819.

¹³S Trevisanut, 'The Role of Private Actors in Offshore Energy: Shifting Models of Participation' (2014) 29 *International Journal of Marine and Coastal Law* 645, 651–660.

¹⁴For instance, the International Renewable Energy Agency (IRENA) has produced several technical recommendations which directly address the marine renewable industry and cooperates with offshore energy industry associations, such as the International Regulator's Forum: <http://www.irena.org/-/media/Files/IRENA/Agency/Publication/2013/Inventory_renewable_energy_standards.pdf?la=en&hash=9E18027869BB956421143C768963EE945FAE7926>.

¹⁵A Bonfanti and F Romanin Jacur, 'Energy from the Sea and the Protection of the Marine Environment: Treaty-based Regimes and Ocean Corporate Social Responsibility' (2014) 29 *International Journal of Marine and Coastal Law* 622, 632.

conventions of global remit interact and inform the prevention obligations under UNCLOS. Section 4 examines the relevance of non-binding instruments in defining the standard of due diligence. The section further explores the interactions between the international rules and non-binding instruments relevant to the offshore energy sector, as such instruments can offer guidance in the interpretation of the standard of due diligence. The article aims to assess their potential to complement and strengthen the treaty-based environmental regulation of offshore energy production. The hypothesis is that synergies among environmental instruments and the interaction of non-binding instruments with binding rules of international law can enhance the normatively modest legal framework.

2 | MAPPING THE GLOBAL INTERNATIONAL ENVIRONMENTAL OBLIGATIONS REGARDING OFFSHORE ENERGY ACTIVITIES

2.1 | Prevention obligations under UNCLOS and the normative contours of due diligence

First and foremost, the international environmental regulation of all types of offshore energy generation activities is anchored to UNCLOS.¹⁶ Coastal States are under an obligation to use all means at their disposal 'to prevent, reduce and control pollution of the marine environment arising from or in connection with seabed activities subject to their jurisdiction and from artificial islands, installations and structures under their jurisdiction'.¹⁷ Their duty to prevent pollution does not only entail the adoption of the necessary laws and regulations but, at the same time, they must show a certain degree of vigilance in their implementation and ensure that the activities of private actors engaging in such activities within their jurisdiction will not cause significant harm to the marine environment.¹⁸ States are expected to endeavour to prevent pollution, but it cannot be guaranteed that harm will not eventually take place.¹⁹ In other words, this obligation does not require States to achieve a certain result; it is merely an obligation of conduct. Still, the obligation to take all appropriate measures to prevent environmental harm requires States to meet the standard of due diligence.²⁰ The standard of due diligence reflects the conduct to be expected by good government, as it requires the adoption of laws and measures at the domestic level applicable to public

and private entities, which can prevent or limit transboundary environmental harm.²¹

Within the normative contours of the obligation of prevention, the standard of due diligence is measured against both the substantive and the procedural extensions of this primary obligation.²² The State is expected to adopt reasonable measures and safeguard their effective implementation and simultaneously to cooperate with the other potentially affected States. In this context, the procedural environmental obligations of the State to cooperate in good faith in mitigating transboundary environmental harm (by means of conducting an environmental impact assessment (EIA), notification, consultation and monitoring the effects of hazardous activities on the environment)²³ remain independent, but in parallel they are considered as the basic objective elements of the prevention obligation.²⁴ This connection between due diligence and primary environmental obligations seems to be confirmed in the *Pulp Mills* case, where the International Court of Justice (ICJ) ruled that:

*due diligence, and the duty of vigilance and prevention that it implies, would not be considered to have been exercised, if a party planning works liable to affect the regime of the river or the quality of its waters did not undertake an environmental impact assessment on the potential effects of such works.*²⁵

Therefore, while the nature of the prevention obligation offers regulatory discretion in its implementation, States are obliged to exercise due diligence and, at the bare minimum, conform with the international rules, standards and recommended practices and procedures.²⁶

The Advisory Opinions on the *Responsibilities of Sponsoring States in the Area* and *IUU Fishing* as well as the Award in the *South China Sea Arbitration* have shed some light on crucial elements of the seemingly elusive standard of due diligence.²⁷ First, it has been affirmed that the standard of due diligence is a 'variable concept',²⁸ making the content of the obligation of prevention dependent on the

²¹ Ibid 153–154.

²² International Law Association (ILA) Study Group on Due Diligence in International Law, 'First Report' (7 March 2014) 28.

²³ Y Tanaka, 'Costa Rica v Nicaragua and Nicaragua v Costa Rica: Some Reflections on the Obligation to Conduct an Environmental Impact Assessment' (2017) 26 Review of European, Comparative and International Environmental Law 91, 92–96.

²⁴ Plakokefalos, 'Prevention Obligations in International Environmental Law' (Amsterdam Center for International Law 2013) 41; *Certain Activities Carried Out by Nicaragua in the Border Area (Costa Rica v Nicaragua) and Construction of a Road in Costa Rica along the San Juan River (Nicaragua v Costa Rica)* (Judgment) [2015] ICJ Rep 665 (Costa Rica v Nicaragua cases), Separate Opinion of Judge Dugard, paras 8 and 9.

²⁵ *Pulp Mills on the River Uruguay (Argentina v Uruguay)* (Judgment) [2010] ICJ Rep 14 para 204 (*Pulp Mills*).

²⁶ UNCLOS (n 9) art 208(3), also read considering art 194(3).

²⁷ *Responsibilities and Obligations of States* (n 18); *Request for an Advisory Opinion Submitted by the Sub-regional Fisheries Commission (SRFC)* (Advisory Opinion) [2015] ITLOS Rep 4; *South China Sea Arbitration (Philippines v China)* (Award) (12 July 2016) (PCA Case No 2013-19) ICGJ 495.

²⁸ *Responsibilities and Obligations of States* (n 18) para 117.

¹⁶ V Frank, *The European Community and Marine Environmental Protection in the International Law of the Sea: Implementing Global Obligations at the Regional Level* (Martinus Nijhoff 2007) 24. For an analysis of the environmental framework of UNCLOS related to offshore energy production activities, see Trevisanut and Giannopoulos (n 12) 809–813.

¹⁷ UNCLOS (n 9) art 208(1), also read in light of art 194(3).

¹⁸ *Responsibilities and Obligations of States Sponsoring Persons and Entities with Respect to Activities in the Area* (Advisory Opinion) [2011] ITLOS Rep 10 (*Responsibilities and Obligations of States*) paras 117–120.

¹⁹ PM Dupuy, 'Reviewing the Difficulties of Codification: On Ago's Classification of Obligations of Means and Obligations of Result in Relation to State Responsibility' (1999) 10 European Journal of International Law 371, 375.

²⁰ International Law Commission (ILC) 'Draft Articles on Prevention of Transboundary Harm from Hazardous Activities' UN Doc A/56/10 (11 May 2001) 154.

circumstances of the specific case. The flexibility of the due diligence benchmark allows the content of the obligation to adjust in relation to the risks that are posed by an activity, as a higher standard of care is expected for riskier activities.²⁹ In the law of the sea, due diligence can have a strongly technical nature, 'capable of measurement in terms of technical and scientific standards of behaviour that are commonly accepted by States'.³⁰ It is necessary for States to consider contemporary technological advancements,³¹ because developments in scientific awareness regarding the risks posed by specific activities may enhance the level of due diligence required.³² In addition, it was noted that the environmental measures adopted by States may not remain perpetually the most appropriate, but States have to review them regularly to comply with their duty to exercise due diligence in the face of new developments.³³

2.2 | The global international legal framework beyond UNCLOS

Although UNCLOS mandates States to develop further international environmental instruments,³⁴ limited progress has been made to adopt elaborate international rules and standards for offshore energy activities at the global level.³⁵ One of the reasons might well be that most of these activities are taking place in areas within national jurisdictions where States are vested with exclusive sovereign rights. Specific global environmental rules are even more scarce – if there are any – when it comes to the nascent marine renewable energy activities. This sub-section examines these rules. Parallel to the environmental framework of UNCLOS, the global conventions that have an impact on the environmental regulation of offshore energy activities fit into two wider categories: (i) those that (usually under the auspices of the International Maritime Organization (IMO))³⁶ address different sources of marine pollution, such as dumping or shipping-related pollution; and (ii) those that relate to nature conservation and the prevention of loss of marine biological diversity. While offshore hydrocarbon activities seem to fall under the scope of application of both categories of agreements, the environmental impacts of marine renewables are (indirectly at least) addressed by the second category of treaties, since installations used for the generation of

marine renewable energy do not emit traditional types of pollutants at sea.

2.2.1 | The relevance of the IMO conventions for offshore energy production

Within the first category, the International Convention for the Prevention of Pollution from Ships (MARPOL),³⁷ the 1972 London Dumping Convention³⁸ and the 1990 International Convention on Oil Pollution Preparedness, Response and Co-operation (OPRC)³⁹ are typical examples of instruments which are primarily focused on the prevention and control of operational and accidental discharges from ships. However, to some extent,⁴⁰ they are also concerned with pollution caused by offshore energy installations.⁴¹ In light of their *rationae materiae* scope of application, the relevant obligations under these conventions partly cover activities related to the operation of fixed or floating platforms engaging in offshore energy production.⁴² In essence, these instruments impose due diligence obligations on States, individually or collectively, to take all practicable measures to prevent marine pollution from different sources (discharges, dumping of waste, oil pollution accidents from offshore units),⁴³ which are elaborated in more detailed provisions and annexes. For instance, Regulation 21 of MARPOL specifically requires offshore structures, when engaged in the exploration, exploitation and associated offshore processing of seabed mineral resources, to be equipped, as far as practicable, with similar pollution-control devices required for ships of 400 gross tonnes and above, including oil discharge monitoring and control system oily water separating and oil filtering equipment and tanks for oil residues.⁴⁴ Under the OPRC, the operators of

²⁹ *ibid.*

³⁰ ILA Study Group on Due Diligence in International Law (n 22) 29–30.

³¹ ILC (n 20) 162.

³² L Chen, 'Realizing the Precautionary Principle in Due Diligence' (2016) 25 *Dalhousie Journal of Legal Studies* 1, 16; S Maljean-Dubois, 'Les Obligations de Diligence dans la Pratique: La Protection de l'Environnement' in Société Française pour le Droit International (ed), *Le Standard de Due Diligence et la Responsabilité Internationale* (Pedone 2018) 145, 159.

³³ *Responsibilities and Obligations of States* (n 18) para 222.

³⁴ UNCLOS (n 9) art 208(5).

³⁵ T IJlstra, 'Pollution from Offshore Installations: The Kuwait Protocol' (1990) 21 *Marine Pollution Bulletin* 8; M Kashubsky, 'Marine Pollution from the Offshore Oil and Gas Industry: Review of Major Conventions and Russian Law, Part 1' (2006) 151 *Maritime Studies* 1.

³⁶ Y Lyons, 'Offshore Oil and Gas in the SCS and the Protection of the Marine Environment' (Centre for International Law, National University of Singapore 2011) 11–12.

³⁷ International Convention for the Prevention of Pollution from Ships (adopted 11 February 1973, as modified by the Protocol of 17 February 1978, entered into force 2 October 1983) 1340 UNTS 61 (MARPOL). As of May 2018, the Convention has 156 contracting parties, the combined merchant fleets of which constitute approximately 99.42 percent of the gross tonnage of the world's merchant fleet. See IMO, 'Status of IMO Treaties' (10 April 2019) <<http://www.imo.org/en/About/Conventions/StatusOfConventions/Documents/Status%20-%202019.pdf>>.

³⁸ Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matters (adopted 29 December 1972, in force 30 August 1975, superseded by the 1996 Protocol, 7 November 1996, into force 24 March 2006) 1046 UNTS 120 (London Convention).

³⁹ International Convention on Oil Pollution Preparedness, Response, and Co-operation and Final Act of the Conference (adopted 30 November 1990, entered into force 13 May 1995) 30 ILM 733 (OPRC). As of 14 May 2018, the OPRC had 112 contracting parties.

⁴⁰ Operational discharges seem to fall outside the scope of application of most of the IMO conventions. During the negotiations of the 1996 Protocol to the Dumping Convention, the suggestion to extend the definition of dumping to include discharge of wastes resulting from the exploration and exploitation of offshore oil and gas was rejected by the majority of States for fear it would widen undesirably the coverage of the Convention; see A Sielen, 'The New International Rules on Ocean Dumping: Promise and Performance' (2009) 21 *Georgetown International Environmental Law Review* 295, 308–309.

⁴¹ For instance, Annex I of the MARPOL Convention, as amended by the Protocol of 1978, also applies to pollution by oil and contains special requirements for fixed and floating drilling rigs and platforms, floating production, storage and offloading vessels (FPSOs) and floating storage units (FSUs) used for the offshore storage of produced oil.

⁴² MARPOL (n 37) art 2(4); London Convention (n 38) art 4(a); OPRC (n 39) art 2.

⁴³ MARPOL (n 37); London Convention (n 38); OPRC (n 39) art 1(1).

⁴⁴ MARPOL (n 37) Annex I, Regulation 21.

offshore energy installations are required to formulate oil pollution emergency plans⁴⁵ and there is an obligation to immediately report any discharge of oil.⁴⁶ These more elaborate provisions, which require specific implementation measures, attach substantive content to the prevention obligation of States. By imposing more precise obligations, they restrict the wide discretion that States have in regulating the operation of offshore energy installations.⁴⁷

2.2.2 | The contextual implications of marine biodiversity-related instruments

Biodiversity-related conventions have further contextual implications for the regulation of offshore energy activities. While they do not contain explicit rules for offshore energy activities, they create obligations for States to adopt conservation management measures to protect marine areas or species. Such conservation measures can indirectly influence the regulation of offshore energy activities. These instruments aim to restrict, limit or even prohibit hazardous activities to protect biodiversity, and thus become relevant to the planning, siting and operation of offshore energy generation projects.⁴⁸ For instance, the 1992 Convention on Biological Diversity (CBD)⁴⁹ requires its parties to take, as far as possible and appropriate, action to halt the destruction of species, habitats and ecosystems.⁵⁰ It provides that States shall 'identify processes and categories of activities which have or are likely to have significant adverse impacts on the conservation or sustainable use of biological diversity', and when these effects are determined, they shall 'regulate and manage' such activities.⁵¹ Similarly, the Convention on the Conservation of Migratory Species (CMS),⁵² the Convention on Wetlands of International Importance (Ramsar Convention)⁵³ and the International Convention for the Regulation of Whaling⁵⁴ can carry implications for the regulation of marine energy generation. For example, under the CMS, range States have an unqualified obligation to prohibit any 'taking' of the listed species, which can serve as the legal basis for adopting measures to reduce harassment of

migratory species by marine energy installations.⁵⁵ Furthermore, several resolutions adopted by the Conferences of the Parties (COP) to these environmental agreements and reports by their Scientific Committees, have explicitly addressed environmental aspects of marine renewables.⁵⁶ Among others, these resolutions urge contracting States to conduct EIAs prior to authorizing offshore energy activities and recommend the use of best environmental practices (BEP) and best available techniques (BAT).

2.3 | The vague nature of the relevant environmental obligations

The global international legal framework regulating some aspects of the environmental risks posed by offshore energy production stands out as being largely sectoral and recommendatory in nature. The IMO instruments are only partly concerned with specific sources of marine pollution emanating from offshore oil and gas installations, while the biodiversity agreements seem to have contextual implications for the adverse impact of offshore energy activities on the conservation of marine biological diversity. Despite the importance of such initiatives, and with a few exceptions, most of these agreements contain normatively modest obligations of conduct. States are under no obligation to achieve a certain result, but they are expected to take all appropriate and necessary measures towards achieving the prevention of harm to the marine environment. Again, as is the case for the obligations under UNCLOS, due diligence plays an essential role as the required standard of care. Nonetheless, global environmental agreements largely fail to provide clear normative guidance on the standard of diligence that States are expected to exercise.

The generalized use of obligations of conduct in environmental agreements reflects the cornerstone principle of permanent sovereignty over natural resources. Creating vague obligations of conduct is opted for as a matter of deference to the sovereign rights of States: it allows them a wide discretion in complying with their duty to regulate and, at the same time, it does not impose a blanket prohibition on the development of economic activities, such as offshore energy generation. Furthermore, the negotiation of global environmental agreements is usually affected by the tension between attracting universal participation and creating clear and precise legal commitments. In that sense, the vague wording of their texts reflects the compromises struck during the lawmaking process. For instance, even though the CBD enjoys almost universal acceptance, most of its obligations

⁴⁵OPRC (n 39) art 3(2).

⁴⁶ibid art 4(1)(b)(ii).

⁴⁷The OPRC also requires specific tools and equipment to be developed to coordinate the response to a pollution incident; OPRC (n 39) art 6(2).

⁴⁸Y Lyons, 'Transboundary Pollution from Offshore Oil and Gas Activities in the Seas of Southeast Asia' in R Warner and S Marsden (eds), *Transboundary Environmental Governance in Inland, Coastal and Marine Areas* (Ashgate 2012) 188.

⁴⁹Convention on Biological Diversity (adopted 5 June 1992, entered into force 29 December 2003) 1760 UNTS 79 (CBD). The CBD has 196 contracting parties.

⁵⁰ibid art 7(1).

⁵¹ibid arts 7(1)(c) and 8(i).

⁵²Convention on the Conservation of Migratory Species of Wild Animals (adopted 23 June 1979, entered into force 1 November 1983) 1651 UNTS 333 (CMS). The CMS has 126 parties.

⁵³Convention on Wetlands of International Importance especially as Waterfowl Habitat (adopted 2 February 1971, entered into force 16 May 1976) 996 UNTS 245 (Ramsar Convention).

⁵⁴International Convention for the Regulation of Whaling (adopted 2 December 1945, entered into force 10 November 1948) 161 UNTS 72 (Whaling Convention).

⁵⁵CMS (n 52) art 3(5); J Harrison, *Saving the Oceans through Law: The International Legal Framework for the Protection of the Marine Environment* (Oxford University Press 2017) 52.

⁵⁶CMS Res 7.5, 'Wind Turbines and Migratory Species' (24 September 2002), repealed in part by Doc.21.1.10 (18 May 2017); CMS Res 9.19, 'Adverse Anthropogenic Marine/Ocean Noise Impacts on Cetaceans and Other Biota' (5 December 2008); CMS Res 10.24, 'Further Steps to Abate Underwater Noise Pollution for the Protection of Cetaceans and Other Migratory Species' (25 November 2011); CMS Res 10.19, 'Migratory Species Conservation in the Light of Climate Change' (7 February 2017); Ramsar Res X.26, 'Wetlands and Extractive Industries' (4 November 2008); Ramsar Res XI.10, 'Wetlands and Energy Issues' (July 2012); International Whaling Commission, 'Report of the IWC Scientific Committee Workshop on Interactions between Marine Renewable Projects and Cetaceans Worldwide' SC/64/Rep6 Rev1 <<https://archive.iwc.int/?r=5284>>.

are phrased in vague terms and are further watered down by qualifiers, such as 'as far as possible and as appropriate'.⁵⁷ Therefore, the global instruments themselves seem to fail to offer concrete environmental standards for offshore energy production activities.

3 | NORMATIVE INTERACTIONS BETWEEN UNCLOS AND MULTILATERAL ENVIRONMENTAL AGREEMENTS: UPDATING THE PREVENTION OBLIGATION FOR OFFSHORE ENERGY PRODUCTION

Notwithstanding the weaknesses of the global legal framework,⁵⁸ the interplay between UNCLOS and other environmental agreements might lead the way forward. Importantly, the drafters of UNCLOS did not envisage its environmental obligations to operate in clinical isolation from normative developments in international environmental law. To the contrary, the Convention incorporates different mechanisms to adapt to legal, environmental and technological developments. In that respect, it could be claimed that UNCLOS is the 'mother' of all normative interactions with 'external' normative developments. This section examines legal mechanisms that enable the interaction of external environmental rules with the prevention obligations under UNCLOS, and that may result in better defining the normative contours of the due diligence standard.

3.1 | Normative interactions through interpretation

Through the process of interpretation, relevant environmental agreements can interact with UNCLOS and enable the latter to keep abreast with legal developments without formal amendment of the former.⁵⁹ According to the customary rules of interpretation, as reflected in the Vienna Convention on the Law of Treaties (VCLT), the interpreter of UNCLOS is required to take into account the evolution of the content of its provisions and subsequent normative developments, by means of its interpretation in light of the object and purpose, subsequent agreements and practice and relevant rules of international law applicable between the parties.⁶⁰ In that spirit, the tribunal in the *South China Sea Arbitration* stressed that UNCLOS shall be interpreted as embedded in the normative environment created by simultaneously applicable environmental agreements.⁶¹ In the view of the tribunal, environmental agreements, prior or subsequent to the conclusion of UNCLOS, form the 'corpus of international law relating to the environment' for the

purpose of interpretation of the obligations under Part XII of UNCLOS.⁶²

Even though the International Law Commission (ILC) report on the fragmentation of international law attached significant importance to the role of Article 31(3)(c) of the VCLT as a legal basis for the 'evolutionary' interpretation of treaties in light of further normative developments,⁶³ the precise content of the principle of systemic integration remains obscure.⁶⁴ The debates within the ILC illustrated the remarkable disagreement among its members as to the range of external rules of international law that shall be taken into account during the process of interpretation.⁶⁵ The thorniest issues seem to have been the intertemporality of Article 31(3)(c) VCLT (whether the interpreter needs to take into account only rules which were in force at the time the concerned treaty was concluded, or whether it is allowed to engage in an evolutionary interpretation)⁶⁶ and whether, particularly in the case of multilateral treaties with broad participation, there is a requirement of parallel membership among the agreements that shall be taken into account by the interpreter.⁶⁷

Due to the convoluted issues of interpretation arising from the application of Article 31(3)(c), the principle of 'systemic integration' seems to be rather cautiously relied upon by international courts and tribunals.⁶⁸ Yet, the use of open-ended terms and the object and purpose of UNCLOS are key elements opening the door to the evolutionary interpretation of its environmental rules in the light of relevant developments in international environmental law.⁶⁹ Specifically, the

⁶² *ibid*; see also C Kojima, 'South China Sea Arbitration and the Protection of the Marine Environment: Evolution of UNCLOS Through Interpretation and the Duty to Cooperate' (2018) 21 Asian Yearbook of International Law 167, 172.

⁶³ ILC 'Fragmentation of International Law: Difficulties Arising from the Diversification and Expansion of International Law: Report of the Study Group of the International Law Commission' UN Doc A/CN.4/L.68 (13 April 2006) para 420.

⁶⁴ P Merkouris, 'Debating the Ouroboros of International Law: The Drafting History of Article 31(3)(c) of the Vienna Convention' (2007) 9 International Community Law Review 1; D Pulkowski, *The International Law and Politics of International Conflict* (Oxford University Press 2014) 272–298; H van Gellecum, 'Environmental Law in the Context of Article 31(3)(c) of the Vienna Convention on the Law of Treaties. Reconciling Treaty Interpretation and Progressive Environmental Norms: The Pulp Mills Case and Beyond' (2015) <<https://ssrn.com/abstract=1989468>>.

⁶⁵ ILC (n 63) paras 429–432.

⁶⁶ *ibid* paras 475–478; M Fogdestam Agius, *Interaction and Delimitation of International Legal Orders* (Brill 2014) 295–298.

⁶⁷ ILC (n 63) paras 470–472.

⁶⁸ A recent example is the award in the *South China Sea Arbitration* (n 27), which relied on a variety of treaty interpretation techniques beyond Article 31(3)(c) to interpret UNCLOS in the wider framework of marine environmental agreements. Similarly, the judgment in the *Whaling in the Antarctic* case (*Whaling in the Antarctic (Australia v Japan)* (Judgment) [2014] ICJ Rep 226) does not refer to Article 31(3)(c) despite claims by the parties. J Smith, 'Evolving to Conservation?: The International Court's Decision in the Australia/Japan Whaling Case' (2014) 45 Ocean Development and International Law 301, 318. See also A Boyle, 'Further Development of the Law of the Sea Convention: Mechanisms for Change' (2005) 54 International and Comparative Law Quarterly 564, 567; D French, 'Treaty Interpretation and the Incorporation of Extraneous Legal Rules' (2006) 55 International and Comparative Law Quarterly 281, 300.

⁶⁹ Y Tanaka, 'Reflection on Time Elements in the International Law of the Environment' (2013) 73 Zeitschrift für ausländisches öffentliches Recht und Völkerrecht 139, 150; J Arato, 'Subsequent Practice and Evolutive Interpretation: Techniques of Treaty Interpretation over Time and their Diverse Consequences' (2010) 9 The Law and Practice of International Courts and Tribunals 443, 468; French (n 68) 295; Boyle (n 68) 567–568; ILC (n 63) para 478.

⁵⁷ A Trouwborst et al, 'International Wildlife Law: Understanding and Enhancing its Role in Conservation' (2017) 67 BioScience 784, 784.

⁵⁸ Y Tanaka, 'Four Models on Interaction between Global and Regional Legal Frameworks on Environmental Protection against Marine Pollution: The Case of the Marine Arctic', 30 Ocean Yearbook 345, 355–356.

⁵⁹ J Barret, 'The UN Convention on the Law of the Sea: A Living Treaty?' in J Barret and R Barnes (eds), *Law of the Sea: UNCLOS as a Living Treaty* (BIICL 2016) 3, 25.

⁶⁰ Vienna Convention on the Law of Treaties (adopted 23 May 1969, entered into force 27 January 1980) 1155 UNTS 331 art 31.

⁶¹ *South China Sea Arbitration* (n 27) para 941.

inclusion of 'by definition evolutionary'⁷⁰ terms in UNCLOS has been conceptualized as an inter-temporal *renvoi*, which is based on the presumed intentions⁷¹ of State parties to allow for such terms to be interpreted in the light of legal developments.⁷² In addition, considering its object and purpose, UNCLOS was not intended by its drafters to be interpreted as a static legal instrument. For that reason, many of its terms are considered 'inherently evolutionary'.⁷³

Part XII of UNCLOS includes open-ended terms, which permit their evolutionary interpretation. For instance, the term 'marine environment' in Article 192 and 'ecosystem' in Article 194(5) UNCLOS can be interpreted in light of Article 2 CBD,⁷⁴ which defines ecosystem as 'a dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit'. Therefore, against the normative background of the CBD, Part XII can be interpreted as covering the protection of marine biodiversity, which results in mainstreaming the ecosystem approach in UNCLOS. Indeed, the tribunal in the *South China Sea Arbitration* confirmed that Article 192 UNCLOS is so broadly phrased that it can be interpreted as entailing the protection of marine biodiversity.⁷⁵ Similarly, the broad definition of pollution of the marine environment in Article 1(4) UNCLOS can be interpreted in the light of subsequent agreements like the aforementioned biodiversity-related conventions, which have developed recommendations on measures to mitigate the negative impact of noise caused by offshore renewable energy devices to marine species.⁷⁶ That is important, because, at the time of its conclusion, the negotiators of UNCLOS mainly had in mind the sources and the definition of pollution found in the pre-existing IMO agreements.⁷⁷ The added value of the ecosystem approach compared to the piecemeal approach to the protection of the marine environment against each source of pollution is that it adopts a more holistic and integrated perspective to the protection of marine species and their habitats, since a threat to any single element of the ecosystem has potentially adverse impacts on all other components of marine biodiversity.⁷⁸

3.2 | Due diligence as an integrative tool for environmental obligations

Another channel for the interaction of the normative developments in international environmental law with UNCLOS is the evolutionary nature of the standard of due diligence itself. The standard of due diligence is variable and changes over time to adapt to technological, environmental and legal changes. Yet, it also has an objective component: it is informed and shaped by the primary environmental obligations of States.⁷⁹ Thus, the standard of due diligence can serve as an integrative tool, bringing together the relevant environmental obligations of States regarding the regulation of offshore energy production activities. This argument is supported by the reasoning in the award in the *South China Sea Arbitration*, which considered the content of due diligence as a question of law rather than only depending on the facts of each case.⁸⁰ What makes the contribution of the *South China Sea Arbitration* ground-breaking is the remarkably high level of diligence that the Tribunal deduced from the provisions of UNCLOS by engaging in a systemic interpretation of Part XII of the Convention in the light of other relevant rules of international law.⁸¹ Primary environmental obligations of States were accepted as forming part of the standard of due diligence, as they 'can be seen as a relevant factor in meeting the due diligence obligation'.⁸² In other words, the standard of due diligence in complying with the prevention obligation under UNCLOS is informed and substantiated by the relevant 'external' environmental obligations of States.⁸³

Furthermore, UNCLOS uses the method of incorporation by reference of internationally accepted rules and standards to determine the content of due diligence. Article 208 UNCLOS dictates that a minimum standard of due diligence shall be measured against international rules and standards.⁸⁴ The predominant position in the literature supports that the ultimate objective of the rules of reference is to make those rules,⁸⁵ which have not taken the form of an international commitment for the States concerned but which enjoy general acceptance by most States, compulsory for all parties to UNCLOS. While the wording used in Article 208 UNCLOS differs from other provisions by referring to 'international' rather than 'generally accepted' rules and standards, it

⁷⁰Dispute Regarding Navigational and Related Rights (*Costa Rica v Nicaragua*) (Judgment) [2009] ICJ Rep 213 para 64.

⁷¹In the words of the Special Rapporteur for the ILC, Sir Humphrey Waldock: 'whether the terms used were intended to have a fixed content or to change in meaning with the evolution of the law could be decided only by interpreting the intention of the parties'. See J Noyes, 'Memorializing UNCLOS III, Interpreting the Law of the Sea Convention, and the Virginia Commentary' in M Lodge and M Nordquist (eds), *Peaceful Order in the World's Oceans: Essays in Honor of Satya N. Nandan* (Brill 2014) 230, citing ILC 'Yearbook of the International Law Commission, Vol 1, Part II' UN Doc A/CN.4/SER.A/1966 (1966).

⁷²French (n 68) 296; Tanaka (n 69) 153.

⁷³Boyle (n 68) 568; Noyes (n 71) 227.

⁷⁴*South China Sea Arbitration* (n 27) para 956.

⁷⁵*South China Sea Arbitration* (*Philippines v China*) (Award on Jurisdiction and Admissibility) (29 October 2015) (PCA Case No 2013-19) para 284.

⁷⁶For instance, in the *South China Sea Arbitration*, the Arbitral Tribunal held that 'CITES forms part of the general corpus of international law that informs the content of Article 192 and 194(5) of the Convention'; *South China Sea Arbitration* (n 27) para 956.

⁷⁷S Trevisanut, 'La Convention des Nations Unies sur le Droit de la Mer et le Droit de l'Environnement: Développement Intrasystémique et Renvoi Intersystémique' in H Ruiz Fabri et L Gradoni (eds), *La Circulation des Concepts Juridiques* (Société de Législation Comparée 2009) 397, 414–415.

⁷⁸Harrison (n 55) 30.

⁷⁹I Papanicopolu, 'On the Interaction Between Law and Science: Considerations on the Ongoing Process of Regulating Underwater Acoustic Pollution' (2011) 1 *Aegean Review of the Law of the Sea and Maritime Law* 247, 253.

⁸⁰I Caracciolo, 'Due Diligence et Droit de la Mer' in Société Française pour le Droit International (n 32) 177; MM Mbengue, 'The South China Sea Arbitration: Innovations in Marine Environmental Fact-finding and Due Diligence Obligations' (2016) 110 *American Journal of International Law Unbound* 286.

⁸¹Mbengue (n 80) 285.

⁸²*Responsibilities and Obligations of States* (n 18) para 123.

⁸³In that sense, the Seabed Advisory Opinion pointed out that the level of due diligence is not uniform but depends on the primary norms that form part of it; see *ibid* paras 235 and 236.

⁸⁴E Franckx, 'Marine Environmental Jurisdictional Issues: Coastal States' in M Nordquist et al (eds), *The Stockholm Declaration and Law of the Marine Environment* (Kluwer 2003) 287, 290.

⁸⁵ILA Committee on Coastal State Jurisdiction Relating to Marine Pollution, 'Final Report' (2000) 33; B Oxman, 'The Duty to Respect Generally Accepted International Standards' (1991) 24 *New York University Journal of International Law and Politics* 109, 157.

has been interpreted as requiring that those rules are generally accepted in State practice.⁸⁶ According to Oxman, in view of the strategic interest of States in offshore resources, the obligation of the coastal State to accept a restriction of its sovereign right over its marine natural resources in the form of environmental rules and standards, which it has not explicitly consented to, shall be only interpreted as covering only those 'truly international by virtue of their widespread (that is general) acceptance'.⁸⁷

There seems to be some convergence among scholars that certain IMO conventions, such as MARPOL, the International Convention for the Safety of Life at Sea and the London Dumping Convention, contain international rules, which enjoy wide acceptance by States and thus qualify as international rules in the meaning of UNCLOS.⁸⁸ Arguably, at the time of adoption of UNCLOS, the drafters had these agreements in mind when they referred to generally accepted rules.⁸⁹ As was discussed, these agreements include some rules which are applicable to offshore energy production activities. Besides the IMO agreements, it seems that some biodiversity-related agreements have reached the same level of acceptance and can similarly be considered as rules informing the standard required by Article 208 UNCLOS. The *South China Sea Arbitration* ruled that the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) is the subject of nearly universal adherence and it forms 'part of the general corpus of international law'.⁹⁰ Similarly, the universal character of CBD, and at least its acceptance among parties to UNCLOS, was a rather important element in the reasoning of the arbitral tribunal to support the argument that it has an impact in the interpretation of Part XII of UNCLOS.⁹¹ Indeed, the CBD had 196 parties and CITES 183 parties respectively at the time the award was issued.⁹² Therefore, the relevant provisions of the CBD, CITES and most likely the Ramsar Convention, which has 170 parties, qualify as generally accepted rules. This conclusion cannot be safely reached regarding the CMS, which does not seem to enjoy the same quasi-universal acceptance by States,⁹³ counting only 125 parties.

Biodiversity-related agreements include a wealth of benchmarks for States to determine what constitutes significant harm to the marine environment and what is the standard of care that needs to be exercised to prevent such harm. In particular, these agreements

impose an obligation upon their parties to integrate biodiversity considerations into all their plans, programmes and activities.⁹⁴ For instance, the CBD goes beyond the obligation to conduct an EIA enshrined in Article 206 UNCLOS, because it explicitly requires the introduction of strategic environmental assessments (SEAs) to ensure that any plans or programmes likely to affect the biodiversity are duly considered by States.⁹⁵ Moreover, following the normative guidance under biodiversity conventions, EIAs should reflect essential ecological processes and pay attention to the cumulative impacts of economic activities on the marine environment.⁹⁶ Basic requirements on the scope and the content of EIAs are provided by the CBD and its COP decisions.⁹⁷ Under the CBD,⁹⁸ an important element relating to the obligation to conduct EIA and SEA, which is not found in Article 206 UNCLOS, is public participation.⁹⁹ Public participation is essential, because it offers the public access to environmental information and decision-making processes. These more elaborate provisions of environmental agreements can give the due diligence prevention obligations under UNCLOS a 'particular shape'.¹⁰⁰

The precautionary principle can further inform the standard of due diligence required by States in regulating offshore energy production, by expanding their obligation to cover situations where there is no scientific certainty about the risk of planned activities. According to the Seabed Disputes Chamber of the International Tribunal for the Law of the Sea (ITLOS), adopting a precautionary approach is an essential part of the primary obligations, which inform the standard of due diligence.¹⁰¹ The Chamber identified that the incorporation of the precautionary principle in numerous environmental agreements has initiated a trend towards its crystallization as a rule of customary international law.¹⁰² In practice, the precautionary principle can be conceptualized against the backdrop of the procedural obligations that a State has to comply with to meet the standard of due diligence. For instance, such a reading would create an obligation to incorporate a measure of precaution in conducting EIAs, notifying and consulting with the other concerned States in good faith even in the absence of scientific certainty regarding the potential risks of the planned activities.¹⁰³ The precautionary principle would expand the scope of application and in that sense strengthen these procedural obligations, since the ICJ in the *Costa Rica v Nicaragua* cases has declared that the standard of due diligence with respect to the rule of prevention requires a State to comply with them only when risk of significant harm is

⁸⁶ Oxman (n 85) 132–133.

⁸⁷ *ibid* 133.

⁸⁸ ILA Committee on Coastal State Jurisdiction Relating to Marine Pollution (n 85) 39; C Redgwell, 'The Never Ending Story: The Role of GAIRS in UNCLOS Implementation in the Offshore Energy Sector' in Barret and Barnes (n 59) 176; Lyons (n 48) 194; Bonfanti and Romanin Jacur (n 15) 630; B Sage-Fuller, *The Precautionary Principle in Marine Environmental Law, With Special Reference to High Risk Vessels* (Routledge 2013) 16–17.

⁸⁹ M Nordquist et al (eds), *United Nations Convention on the Law of the Sea 1982: A Commentary, Volume IV: Articles 192 to 278* (Brill 1991) Part XII UNCLOS, 6–9.

⁹⁰ *South China Sea Arbitration* (n 27) para 956.

⁹¹ Boyle (n 68) has stressed that the level of participation in a treaty cannot be ignored as it provides evidence on whether it has the support of UNCLOS parties.

⁹² Kojima (n 62) 174.

⁹³ R Caddell, 'International Law and the Protection of Migratory Wildlife: An Appraisal of Twenty-five Years of the Bonn Convention' (2005) 16 *Colorado Journal of International Environmental Law and Policy* 113, 146 (arguing that the general nature of the CMS has had a 'chilling effect' on the prospect of new parties adhering to it).

⁹⁴ Harrison (n 55) 46.

⁹⁵ CBD (n 49) art 14(b).

⁹⁶ D Pritchard, 'International Biodiversity-related Treaties and Impact Assessment – How Can They Help Each Other?' (2005) 23 *Impact Assessment and Project Appraisal* 7, 15.

⁹⁷ L Kong, 'Environmental Impact Assessment under the United Nations Convention on the Law of the Sea' (2011) 10 *Chinese Journal of International Law* 651, 665.

⁹⁸ CBD (n 49) art 14(a).

⁹⁹ Kong (n 97) 666.

¹⁰⁰ Mbengue (n 80) 286.

¹⁰¹ *Responsibilities and Obligations of States* (n 18) 131.

¹⁰² *ibid* para 135.

¹⁰³ *ibid* paras 81 and 82.

ascertained.¹⁰⁴ In other words, the precautionary principle extends the rule of prevention to apply at a timescale where there is no certain scientific proof meeting the threshold of risk that triggers the rule of prevention.¹⁰⁵ In this regard, precaution and prevention cannot be easily separated.¹⁰⁶ The precautionary principle provides another example of how different environmental norms can enhance the standard of due diligence. Thus, as the obligation to prevent harm to the marine environment is further enhanced by developments in international environmental law, the discretion of States in determining their duty to regulate is commensurately restrained.

3.3 | The limits of normative interactions between UNCLOS and environmental agreements

Nonetheless, UNCLOS contains certain safeguards, which limit the impact of subsequent normative developments on the basic principles forming its foundations. Article 311(3) stresses that States cannot modify the core principles of UNCLOS by subsequent agreements or practice.¹⁰⁷ In case of conflict with later agreements, UNCLOS will prevail over the later treaty, regardless of the *lex posterior* norm. Emphasizing the importance of UNCLOS as a package deal, Article 311(3) clarifies that any future agreements should not disrupt the balance established under the general treaty between the rights and obligations of parties. Such a restriction is equally important when other agreements are used as interpretative guidance in the implementation of the rights and duties of UNCLOS. Therefore, with the caveat of upholding the basic rights and duties under UNCLOS, the Convention is open to its interpretation and implementation in the light of external normative developments.¹⁰⁸

4 | NON-BINDING INSTRUMENTS AND THEIR RELEVANCE IN SETTING ENVIRONMENTAL STANDARDS FOR OFFSHORE ENERGY ACTIVITIES

The present inquiry into normative developments that affect the standard of prevention under UNCLOS cannot ignore the parallel existence of a variety of non-binding, but legally relevant instruments. Non-binding instruments can differ with respect to the norms contained, the actors that develop them and their addressees:¹⁰⁹ memoranda of understanding among different agreements,

declarations of environmental principles and action plans adopted at international conferences, codes of conduct, technical standards and recommendations adopted by international organizations, and ocean corporate responsibility instruments are just a few examples. Next to their precursory role in the creation of rules of international environmental law,¹¹⁰ non-binding instruments can also impact on the standard of environmental protection by influencing UNCLOS through interpretation. As a detailed analysis of all the relevant non-binding instruments goes beyond the scope of this article, this section focuses on developments by international organizations, treaty bodies to environmental agreements and self-regulatory initiatives by the offshore energy industry.

4.1 | Non-binding instruments by international organizations

When it comes to standards, one should first acknowledge the non-binding instruments related to offshore energy production activities adopted by the IMO. For instance, in 2009 the IMO Assembly adopted the third version of the Code for the Construction and Equipment of Mobile Offshore Drilling Units (MODU Code).¹¹¹ In 2010, its Marine Environmental Protection Committee (MEPC) issued an instrument to assist States in the development of regulations on safety, pollution prevention and security of floating production storage and offloading facilities (FPSOs) and floating storage units (FSUs).¹¹² Besides the IMO, the International Renewable Energy Agency (IRENA) in collaboration with renewable energy professional associations, such as the International Electrotechnical Commission, have collected renewable energy standards and reports, which are mostly addressed to the industry and the domestic regulators.¹¹³ With regard to environmental standards, IRENA has also published renewable energy technology briefs on ocean thermal energy conversion, salinity gradient energy, tidal and wave energy.¹¹⁴

The question is whether these non-binding instruments can have any normative impact on the standard of due diligence. While those instruments have been considered by some scholars as examples of international standards for the application of Article 208(3) UNCLOS,¹¹⁵ their actual content seems to fall short to that end. Even though UNCLOS is silent on the meaning of standards, recommended procedures and practices, Article 208(5) UNCLOS creates an inter-linked obligation for States acting, individually or through competent international organizations or diplomatic conference, to establish

¹⁰⁴ *Costa Rica v Nicaragua* cases (n 24) para 104.

¹⁰⁵ Sage-Fuller (n 88) 81.

¹⁰⁶ *ibid* 68.

¹⁰⁷ I Buga, 'Between Stability and Change in the Law of the Sea Convention: Subsequent Practice, Treaty Modification, and Regime Interaction' in D Rothwell et al (eds), *The Oxford Handbook of the Law of the Sea* (Oxford University Press 2015) 46, 64.

¹⁰⁸ Boyle (n 68) 578; R Caddell, 'The Integration of Multilateral Environmental Agreements: Lessons from Biodiversity-related Conventions' (2012) 23 *Yearbook of International Environmental Law* 1, 16.

¹⁰⁹ For an overview of non-binding instruments in international environmental law, see J Friedrich, *International Environmental 'Soft Law'* (Springer 2013) 15–60.

¹¹⁰ A Boyle, 'Some Reflections on the Relationship of Treaties and Soft Law' (1999) 48 *International and Comparative Law Quarterly* 901, 904–905.

¹¹¹ IMO Res A.1023(26), 'Code for the Construction and Equipment of Mobile Offshore Drilling Units, 2009 (2009 MODU Code)' (2 December 2009).

¹¹² IMO, 'Guidance for the Application of Safety, Security and Environmental Protection Provisions to FPSOs and FSUs' MSC-MEPC.2/Circ.9 (25 May 2010).

¹¹³ IRENA, 'New IRENA Platform Supports Renewable Energy Innovation, Quality and Collaboration' (6 July 2015).

¹¹⁴ <<http://www.irena.org/publications/2014/Jun/IRENA-Ocean-Energy-Technology-Briefs>>.

¹¹⁵ Harrison (n 55) 216–217; Liu (n 3) 196–197.

those international standards. It seems that UNCLOS attaches some importance to the forum in which those standards are promulgated. Another implicit requirement is that their content should be able to inform the laws and regulations adopted by States.¹¹⁶ Therefore, their normative nature and the language used should provide some guidance on whether these were drafted with the aspiration of becoming generally accepted international standards.

In that respect, it seems that the above-mentioned instruments are not aimed at providing standards that can clarify the content of the duty of States to regulate the environmental externalities of offshore energy production activities. For example, the 2009 MODU Code is only relevant to the construction and equipment of offshore installations, and its aim is to ensure safety for these devices and the personnel working on them.¹¹⁷ It does not provide any environmental standards for the operation of offshore installations, which would be relevant for the application of the rule of reference of Article 208. Even though it has been revised in 2009, the MODU Code does not refer to the requirement to develop international standards under Article 208(5), but explicitly mentions that 'drilling operations are subject to control by the coastal State'.¹¹⁸ Similarly, the 1989 Guidelines and Standards for the Removal of Offshore Installations and Structures on the Continental Shelf and in the EEZ¹¹⁹ do not directly address the issue of international standards for the operation of offshore installations. Instead, they have been adopted by the IMO to implement the removal obligation under Article 60(3) UNCLOS.¹²⁰ Therefore, it seems difficult to argue that any of these documents provides international standards under Article 208 UNCLOS. Still, these documents could be considered as context to environmental agreements, and qualify as supplementary means of interpretation according to Article 32 VCLT.¹²¹

With respect to environmental standards, it is perhaps worth mentioning the IMO guidelines clarifying the application of certain provisions of the MARPOL Annex I with regard to FPSOs and FSUs.¹²² Similarly, in 2010 the MEPC issued an instrument to guide States on the development of regulations on safety, pollution prevention and security of FPSOs and FSUs.¹²³ Again, these instruments fall short of providing international standards for the purpose of the rule of reference, as they just reiterate the obligations under IMO agreements. It

is however noticeable that those instruments make explicit references to industry-produced guidelines and recognize their contribution to pollution prevention from FPSOs and FSUs.¹²⁴

4.2 | Non-binding resolutions and reports by treaty bodies to environmental agreements

Most of the environmental obligations applicable to offshore energy generation activities are evolving over time through resolutions and decisions of treaty bodies. Under many environmental agreements, the COP is competent to decide upon binding understandings of the agreement's provisions.¹²⁵ However, many decisions and resolutions by treaty bodies, such as scientific committees, are not legally binding and their normative value as interpretative tools cannot be taken for granted. A typical example is the practice of the COP to the CBD, which has preferred in many instances to use non-binding decisions to provide recommendations to the parties on the measures they need to take to comply with their obligations.¹²⁶

Treaty bodies to the biodiversity-related agreements under consideration have produced guidance on the conduct of EIAs and SEAs, which are important for offshore energy projects.¹²⁷ These guidelines stress the importance of applying a precautionary approach in decision making when there is scientific uncertainty regarding the risk to marine biodiversity.¹²⁸ Furthermore, they recommend including noise emissions in the screening criteria for determining the need for EIA,¹²⁹ and they recall the importance of continuous monitoring of the impact of the planned activities. Similarly, the guidance related to activities in the energy sector, including tidal and wave energy projects, adopted by the COP to the Ramsar Convention¹³⁰ recommends the meticulous application of EIAs and SEAs to energy production activities that may significantly affect the ecological character of wetlands. It further urges the need for adoption of a precautionary approach.¹³¹ Likewise, the CMS COP has adopted resolutions on the prevention and mitigation of impacts of marine renewable energy devices on migratory species.¹³²

¹²⁴ibid para 5.

¹²⁵N Matz-Lück, 'Harmonization, Systemic Integration and Mutual Supportiveness as Conflict-solution Techniques: Different Modes of Interpretation as a Challenge to Negative Effects of Fragmentation' (2006) 17 Finnish Yearbook of International Law 39, 51.

¹²⁶S Harrop and D Pritchard, 'A Hard Instrument Goes Soft: The Implications of the Convention on Biological Diversity on Biological Diversity's Current Trajectory' (2011) 21 Global Environmental Change 474, 474–480.

¹²⁷CBD 'Decision X1/18, Marine and Coastal Biodiversity' UN Doc UNEP/CBD/COP/11/23 (5 December 2012).

¹²⁸S McDonald and D VanderZwaag, 'Renewable Ocean Energy and the International Law and Policy Seascape: Global Currents, Regional Surges' (2015) 29 Ocean Yearbook 299, 307.

¹²⁹ibid.

¹³⁰Ramsar Res XI.10 (n 56).

¹³¹G Goettsche-Wanli, 'Sustainable Production of Offshore Renewable Energy: A Global Perspective' in M Kotzur et al (eds), *Sustainable Ocean Resource Governance: Deep Sea Mining, Marine Energy and Submarine Cables* (Brill 2018) 8, 26.

¹³²CMS Res 11.27, 'Renewable Energy and Migratory Species' (9 November 2014).

¹¹⁶Oxman (n 85) 148.

¹¹⁷A Roach, 'International Standards for Offshore Drilling' in M Nordquist et al (eds), *The Regulation of Continental Shelf Development: Rethinking International Standards* (Brill 2013) 105, 108–109.

¹¹⁸2009 MODU code (n 111) preambular para 6.

¹¹⁹IMO Res A.672(16), 'Guidelines and Standards for the Removal of Offshore Installations and Structures on the Continental Shelf and in the Exclusive Economic Zone' (19 October 1989).

¹²⁰ibid preambular para 2.

¹²¹I Buga, *Modification of Treaties by Subsequent Practice* (Oxford University Press 2018) 46.

¹²²IMO, 'Guidelines for the Application of the Revised MARPOL Annex I Requirements to Floating, Production, Storage and Offloading Facilities (FPSOs) and Floating Storage Units (FSUs)' Resolution MEPC.139(53) (22 July 2005).

¹²³IMO (n 112).

4.2.1 | Decisions by treaty bodies as subsequent practice for the interpretation of environmental obligations

The normative weight of those COP decisions and resolutions first depends on whether they can be considered subsequent agreements or practice for the interpretation of the rules in their respective agreements according to Article 31(3)(a) and (b) VCLT. The ICJ in its advisory opinions regarding *Certain Expenses*¹³³ and the *Wall*¹³⁴ has relied on decisions of the United Nations (UN) Security Council and resolutions of the General Assembly to deduce subsequent practice of the UN regarding the interpretation of the UN Charter.¹³⁵ Remarkably, in the above advisory opinions the ICJ relied on the UN General Assembly resolutions even though they were adopted by majority vote and with strong opposition by some States.¹³⁶ However, the Court seems to have adopted a slightly different view with regard to the requirements that decisions of COPs to treaties need to meet to qualify as subsequent practice for the interpretation of the treaty. In *Whaling in the Antarctic*, the ICJ acknowledged that non-binding recommendations made by the International Whaling Commission could still be used in interpreting the rules of the Whaling Convention in so far as they are adopted by consensus or unanimous vote.¹³⁷ Regarding resolutions that were adopted without the support of all States parties to the Whaling Convention, the Court declared that 'these instruments cannot be regarded as subsequent agreement to an interpretation of Article VIII, nor as subsequent practice establishing an agreement of the parties regarding the interpretation of the treaty'.¹³⁸

Considering the reasoning of the ICJ in *Whaling in the Antarctic*, the non-binding COP decisions to the CBD, Ramsar and the CMS providing guidance with respect to the conduct of EIAs prior to offshore energy activities could only be considered as subsequent practice of the State parties for the interpretation of those conventions when they cumulatively meet all the above-mentioned requirements. Yet, even in case they are adopted by unanimous vote or by consensus, they do not seem to reflect a common agreement of the parties on the interpretation of their respective treaties. Their hortatory wording seems to preclude the possibility for them to be perceived as authoritative subsequent practice on the interpretation of the agreements.¹³⁹ The possibility for them to qualify as subsequent practice would also be diminished if we accept that there needs to be

an explicit expression of the agreement of the States in the text of such decisions.

However, that does not preclude their potential to provide normative guidance in the interpretation of their respective agreements and, by extension, to the relevant obligation to conduct an EIA under UNCLOS. These decisions could still fall within the wider 'family' of relevant practice,¹⁴⁰ in the sense that they can guide States to adopt a certain conduct and therefore initiate the process of subsequent practice development. Additionally, these decisions can be used as supplementary means of interpretation according to Article 32 VCLT.¹⁴¹ In using such other practice one needs to remain cautious of the fact that the view of some States does not make international law.¹⁴² Therefore, under Article 32 VCLT much less interpretative value shall be attributed to such 'other' subsequent practice.

The recent draft conclusions of the ILC on the issue of subsequent agreements and subsequent practice in relation to the interpretation of treaties have touched upon the particular role of COP decisions and the output of other expert treaty bodies.¹⁴³ With regard to non-binding decisions adopted within the framework of a COP, draft conclusion 11(3) recognizes that they embody 'a subsequent agreement or subsequent practice under article 31, paragraph 4, in so far as it expresses agreement in substance between the parties regarding the interpretation of a treaty, regardless of the form and the procedure by which the decision was adopted, including by consensus'.¹⁴⁴ Against the reasoning of the *Whaling of the Antarctic* judgment, which seems to have put much emphasis on the mode of adoption of COP decisions (requiring consensus of States),¹⁴⁵ this draft conclusion seems to stress that it is not only the form and the procedure by which a COP decision is adopted that has to be ascertained for it to qualify as subsequent practice for the purposes of interpretation. A resolution of purely recommendatory nature is not considered as subsequent practice, even if it is adopted by consensus.¹⁴⁶ It must also express agreement among the parties regarding the interpretation of the treaty. However, the conclusion does not clarify whether such agreement among the States can be implied or whether there is a need for an explicit statement of such agreement.

¹³³ *Certain Expenses of the United Nations* (Advisory Opinion) [1962] ICJ Rep 151.

¹³⁴ *Legal Consequences of the Construction of the Wall in the Occupied Palestinian Territory* (Advisory Opinion) [2004] ICJ Rep 136.

¹³⁵ J Arato, 'Treaty Interpretation and Constitutional Transformation: Informal Change in International Organizations' (2013) 38 *Yale Journal of International Law* 289, 318–327.

¹³⁶ J Arato, 'Subsequent Practice in the Whaling Case, and What the ICJ Implies about Treaty Interpretation in International Organizations', *EJIL:Talk!* (31 March 2014).

¹³⁷ *Whaling in the Antarctic* (n 68) para 83.

¹³⁸ *ibid*.

¹³⁹ With regard to the recommendatory nature of resolutions, in *Whaling in the Antarctic* (n 68) para 83, the ICJ declared that the relevant resolutions and guidelines of the IWC that had been approved by consensus just called upon parties to take into consideration whether research objectives can be achieved by using non-lethal research methods, but they did not establish a binding prohibition of such methods.

¹⁴⁰ L Boisson de Chazournes, 'Subsequent Practice, Practices, and Family-resemblance: Towards Embedding Subsequent Practice in its Operative Milieu – A Multi-actor Perspective' in G Nolte (ed), *Treaties and Subsequent Practice* (Oxford University Press 2013) 53.

¹⁴¹ ILC 'Report of the International Law Commission, Sixty-fifth Session (6 May–7 June and 8 July–9 August 2013)' UN Doc A/68/10 (2013) 31, which addresses such practice as 'other subsequent practice as a supplementary means of interpretation under article 32 consists of conduct by one or more parties in the application of the treaty, after its conclusion'.

¹⁴² *ibid* 41.

¹⁴³ ILC (n 141) draft conclusions 11 and 13.

¹⁴⁴ *ibid* draft conclusion 11(3).

¹⁴⁵ *Whaling in the Antarctic* (n 68) para 46.

¹⁴⁶ M Fitzmaurice, 'The Whaling Convention and Thorny Issues of Interpretation' in M Fitzmaurice and D Tamada (eds), *Whaling in the Antarctic: The Significance and the Implications of the ICJ Judgment* (Brill 2016) 53, 115.

On this issue, it should be recalled that ITLOS has referred to the subsequent practice of parties to UNCLOS, without explaining whether such practice established actual agreement regarding the interpretation of the Convention.¹⁴⁷

4.2.2 | The relevance of the obligation to cooperate in shaping due diligence

Furthermore, the ICJ in *Whaling in the Antarctic* came to another important conclusion on the normative value of decisions by treaty, which are not legally binding and do not enjoy the support of all parties. The Court deduced from Article VIII of the Whaling Convention an obligation of parties to cooperate with the Whaling Commission and the Scientific Committee.¹⁴⁸ In particular, the ICJ interpreted the Whaling Convention as creating an obligation of States to pay 'due regard' to the decisions of those treaty bodies even in the case they had not consented to their content.¹⁴⁹ Such an obligation to take into account non-binding resolutions is a rather weak obligation of conduct, because it is not well defined and allows States wide discretion to proceed with their planned activities.¹⁵⁰ Still, the finding of the Court with regard to the duty to cooperate enhances the obligations of States, in the sense that they cannot simply ignore guidelines issued by specialized treaty bodies.¹⁵¹ Such an interpretation of the obligation of States to cooperate with treaty bodies under agreements they are parties to imposes a procedural type of duty to demonstrate that they have given due consideration to those recommendations and offer appropriate justification when they choose to diverge from them.¹⁵²

The standard of due diligence further accentuates the duty of States to take into account the relevant scientific and technological developments. Considering the above, it seems that parties to environmental agreements, whose institutional machinery develops further scientific data, are under a duty to bear those findings in mind during decision making. Yet, the role of scientific reports is not restricted to providing relevant data. Recent studies have focused on identifying specific mitigation measures to limit the impact of noise created by offshore installations, and have accordingly provided recommendations on the use of new technologies.¹⁵³ In that sense, scientific reports may suggest the choice of certain conservation measures. The discretion of States in taking all necessary measures could be restricted if scientific evidence suggested that specific measures are indispensable to avoid environmental harm by

offshore energy activities.¹⁵⁴ In such cases, these non-binding instruments could shape and strengthen the standard of due diligence.

4.3 | Non-binding instruments as best available techniques and best environmental practices

Another legal mechanism which enables non-binding instruments to inform the due diligence standard are the concepts of BAT and BEP. In the words of the ICJ, the standard of due diligence in preventing environmental harm requires that these measures be 'in accordance with applicable international agreements and in keeping, where relevant, with the guidelines and recommendations of international technical bodies'.¹⁵⁵ In *Pulp Mills*, Uruguay, aiming to prove that it complied with its obligation of due diligence, argued that the technology involved was the most appropriate to prevent pollution, because it was state-of-the-art waste cleansing equipment, which had been perceived by both the United States and the European Union as the best available technology.¹⁵⁶ The Court accepted that there was no evidence to support Argentina's claim that Uruguay had not complied with the BAT.¹⁵⁷ In the *MOX Plant* case, the United Kingdom also relied on international standards set out in treaties and resolutions by the IMO and the International Atomic Energy Agency.¹⁵⁸

In a similar way, the ITLOS Deep Seabed Chamber stressed that the standard of due diligence further encompasses the duty of States to act in accordance with BEP.¹⁵⁹ This obligation can also be found as stemming from Article 194(1) UNCLOS, which prescribes that States need to use 'best practicable means'. The link between the standard of due diligence and BEP builds another important bridge with non-binding environmental instruments. Arguably, the same should apply with regard to BAT.¹⁶⁰ UNCLOS does not refer to those concepts explicitly but for instance in the regional context of the Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR), the term 'best available techniques' means 'the latest stage of development (state of the art) of processes, of facilities or of methods of operation which indicate the practical suitability of a particular measure for limiting discharges, emissions and waste'.¹⁶¹ The OSPAR Convention also provides a definition for 'best environmental practice' as 'the application of the most appropriate combination of environmental control measures and

¹⁴⁷ *M/V Saiga (No 2) (Saint Vincent and the Grenadines v Guinea)* (Judgment) [1999] ITLOS Rep 10 paras 155 and 156; see ILC (n 141) 39.

¹⁴⁸ *Whaling in the Antarctic* (n 68) para 137.

¹⁴⁹ *Ibid.*

¹⁵⁰ Fitzmaurice (n 146) 132–133.

¹⁵¹ M Young and S Riosco Sullivan, 'Evolution through the Duty to Cooperate: Implications of the Whaling Case at the International Court of Justice' (2015) 16 Melbourne Journal of International Law 1, 28.

¹⁵² *Ibid.*

¹⁵³ Papanicolopulu (n 79) 253.

¹⁵⁴ ILA Study Group on Due Diligence in International Law, 'Second Report' (July 2016) 7.

¹⁵⁵ *Pulp Mills* (n 25) para 190.

¹⁵⁶ *Ibid* para 220.

¹⁵⁷ *Ibid* paras 224–228.

¹⁵⁸ P Birnie, A Boyle and C Redgwell, *International Law & the Environment* (3rd edn, Oxford University Press 2009) 149–150.

¹⁵⁹ *Responsibilities and Obligations of States* (n 18) para 136.

¹⁶⁰ Tanaka (n 69) 163.

¹⁶¹ Convention for the Protection of the Marine Environment of the North-East Atlantic (adopted 22 September 1992, entered into force 25 March 1998) 2354 UNTS 67 (OSPAR) Appendix I, para 2.

strategies'.¹⁶² Even though these definitions are provided by a regional agreement, the fact that the obligation to follow BEP and BAT is found in the majority of regional instruments related to offshore energy activities could mean that the obligation has acquired the status of international rule for the purpose of Article 208(3) UNCLOS.¹⁶³ Despite the various critiques on the malleable character of non-binding environmental standards,¹⁶⁴ the obligation to apply BEP and BAT enables the standard of due diligence to evolve as technology develops over time.¹⁶⁵ It seems that it would be difficult for a State to claim compliance with the due diligence standard in case it has failed to apply BAT and BEP. Even if one denies their normative role in shaping the content of the due diligence standard, they remain important proof that States have taken all necessary and appropriate measures to prevent marine environmental harm.

In view of the different legal mechanisms which justify considering non-binding instruments by treaty bodies for the purpose of defining due diligence, the normative value attached to resolutions not supported by all States does not pose a threat to the sovereignty of those parties that did not acquiesce to their content, but allows for a more nuanced and sophisticated understanding of sovereignty.¹⁶⁶ Those States have consented to be bound by an environmental agreement, which is expected to evolve following scientific and technological developments. By becoming parties to such agreements, they have consented to self-restrain their sovereign regulatory discretion in the light of such future normative developments. Particularly, they have undertaken to delegate certain decision-making power to specialized treaty bodies. Depending on their institutional source and the form and procedure by which they are adopted, these legally non-binding pronouncements may become relevant as interpretative guidance or standard of proof that a State has exercised due diligence. Therefore, even if those resolutions are not legally binding, they can be legally relevant, and States might have an obligation to take them into account in their decision-making process. This restriction does not necessarily impair sovereignty. It rather reinforces the concept of sovereignty, because it is a self-imposed restriction. The example of Odysseus in Homer's *Odyssey* illustrates how self-restriction is in fact an expression of sovereignty. According to Homer, Odysseus decided to tie himself to the mast of his ship when it approached the legendary Sirens. His decision to restrain himself allowed him to listen to the song of the Sirens while at the same time safeguarding that he would not be hypnotized and jump into the sea to his death. Similarly, it is the consent of States, grounded in their sovereignty, that makes the obligations binding upon them and gives competence to the institutional machinery under treaties to adopt decisions to further elaborate the content of

the obligations. If States do not wish to be in any way influenced by these subsequent developments, they maintain the sovereign right to opt out or withdraw from the treaty.

4.4 | The role of industry standards

From an international law perspective, perhaps the most problematic category of non-binding instruments for defining due diligence are those produced by the offshore energy industry. States have an obligation to exercise due diligence in adopting laws and regulations to prevent, control or minimize pollution from offshore energy activities. Nonetheless, the standard of due diligence allows States wide discretion in complying with their duty to regulate offshore energy production. In this context, many domestic regulatory regimes do not prescribe specific technical and technological requirements for the operation of offshore energy production activities, but instead they adopt a goal-based or performance-based approach.¹⁶⁷ Goal- or performance-based regulation sets the goals or performance objectives to be achieved and allows companies to identify the appropriate means to reach them.¹⁶⁸ The underlying idea is that States are unlikely to constantly keep up to date with the latest technology and cannot take advantage of the developments as effectively as the private sector.¹⁶⁹ This regulatory approach enables the offshore industry to have a strong say in developing its own operational standards.¹⁷⁰ Particularly, global oil and gas industry associations, such as the International Association of Oil and Gas Producers (OGP) and the International Petroleum Industry Environmental Conservation Association (IPIECA) have been instrumental in the development of good practices to assist the industry and improve its environmental performance.¹⁷¹ With regard to marine renewables, specialized professional associations, such as the International Electrotechnical Commission, have also contributed by drafting standards of conduct and technical specifications tailored to the different types of marine renewable energy generation.¹⁷² These forums serve also as a principal corridor of communication between the industry and international organizations.

Unsurprisingly, UNCLOS does not make any reference to standards which are produced by private actors. That could *prima facie* mean that standards produced by the offshore energy industry are not legally relevant in defining the standard of due diligence. According to UNCLOS, international standards need to be generally accepted by States for them to influence the content of their duty

¹⁶² *ibid* Appendix I, para 6.

¹⁶³ Harrison (n 55) 225.

¹⁶⁴ Plakokefalos (n 24) 42–43; D Bodansky, 'Deconstructing the Precautionary Principle' in D Caron and H Scheiber (eds), *Bringing New Law to Ocean Waters* (Martinus Nijhoff 2004) 381, 391.

¹⁶⁵ Birnie et al (n 158) 148.

¹⁶⁶ Young and Riaseco Sullivan (n 151) 29.

¹⁶⁷ B Baker, 'Offshore Oil and Gas Regulation in the Arctic: Room for Harmonization?' (2012) 4 Yearbook of Polar Law 475, 481–484.

¹⁶⁸ *ibid*; C Pelaudieix, 'Governance of Arctic Offshore Oil & Gas Activities: Multilevel Governance & Legal Pluralism at Stake' (2015) Arctic Yearbook 1, 10.

¹⁶⁹ J Norton Moore, 'Comments on the Unfinished Business of UNCLOS III' in M Nordquist et al (n 117) 359, 360.

¹⁷⁰ H Jessen, 'Sustainable Energy Generation from the Oceans' in M Kotzur et al (n 131) 76, 79; N Hasson, 'Deepwater Offshore Oil Exploration Regulation: The Need for a Global Environmental Regulation Regime' (2013) 4 Washington and Lee Journal of Energy, Climate, and the Environment 277, 287.

¹⁷¹ See <<http://www.ipieca.org/>> and <<https://www.iogp.org>>.

¹⁷² Bonfanti and Romanin Jacur (n 15) 636.

to regulate. However, States that opt for the goal-based regulation seem to endorse the standards produced by the offshore energy industry, so long as they can reach the goals set by the domestic regulators. It is questionable whether that means that States delegate regulatory authority to those private actors.

Moreover, it is rather debatable that the generalized practice by the offshore energy industry reflects implicit State practice.¹⁷³ Therefore, the general acceptance of self-regulatory standards by the industry, even if private practice is found to be consistent around the world, would not necessarily alter the non-binding nature of private standards. Much less, these standards cannot be considered as informing the international obligations of States. It is also unlikely that private environmental standards can be considered as international standards for the rule of reference in Article 208(3) UNCLOS simply because they are referred to in guidelines produced by intergovernmental organizations. As was noted, IMO guidelines contain explicit references to standards for the prevention of pollution created by the offshore industry.¹⁷⁴ The endorsement of such standards in guidelines of the organization could possibly render them binding for parties to the IMO. However, that does not necessarily mean that they also acquire the status of international standards to be incorporated in UNCLOS through its rules of reference. Even if one accepts that particular IMO guidelines have become binding on all parties to UNCLOS as international standards under Article 208(3), the mere reference therein to the standards of the offshore industry cannot grant the latter the same generally binding nature. That is primarily because these standards are developed by industry, which cannot be considered as 'competent international organization' within the meaning of Article 208.¹⁷⁵

Still, the input of the offshore energy industry in adopting international standards and best practices for the environmental regulation of offshore energy production seems indispensable.¹⁷⁶ Guidelines and technical standards can operate as models in adapting the existing legal framework to new circumstances.¹⁷⁷ Co-regulation as a means for interaction between international environmental law and private standards could perhaps generate solutions for the environmental problems related to offshore energy production. This is confirmed by international initiatives for cooperation between States, international organizations and representatives of the industry. For example, the Global Marine Environmental Protection Initiative launched by the Group of 20 is an important development for the promotion and sharing of best industry environmental practices.¹⁷⁸ It is an outstanding

example of public-private cooperation that brings together the expertise of States, international organizations (the IMO, the IEA and the Organization of the Petroleum Exporting Countries), associations of domestic regulators (the European Union Offshore Oil and Gas Authorities Group, the International Regulators' Forum) and professional associations (OGP, IPIECA). The initiative aims to 'share best practices to protect the marine environment, to prevent accidents related to offshore exploration and development, as well as marine transportation, and to deal with their consequences'.¹⁷⁹ Nonetheless, despite the importance of such initiatives in sharing best practices, private environmental standards can only be incorporated by reference and become internationally binding if they are met with general acceptance by States. Such State practice, for instance, could be reflected in the consistent incorporation of private environmental standards in State contracts with operators of offshore energy activities.¹⁸⁰

5 | CONCLUSIONS

The concept of due diligence holds a special significance as a standard for the duty of States to regulate offshore energy production. The vagueness of the due diligence standard in the context of the obligation to prevent pollution from offshore energy production activities has been criticized for moderating the normative guidance regarding the required standard of care. Yet, it is that same feature which equips it with the required flexibility to adapt to new environmental circumstances and different levels of risk.¹⁸¹ Due to its variable and evolutionary nature, due diligence can operate as an important integrative mechanism beyond the rules of treaty interpretation. The various environmental agreements that have implications for offshore energy production activities could provide the parameters for further elucidation of the standard of due diligence.¹⁸² These obligations of States enhance the due diligence standard by attaching more precise normative substance to it.

Environmental agreements include a wealth of benchmarks for States to determine what is the standard of care that needs to be exercised to prevent or minimize such marine environmental harm. Take for example the unqualified prohibition of 'taking' of certain protected species (migratory species under Annex I of the CMS Convention) or restriction of certain activities in protected areas (designated under the CBD, or wetlands listed under the Ramsar Convention). These more precise obligations call into question the breadth of discretion enjoyed by States in complying with their duty to regulate offshore energy activities. The normative layers accumulated in the obligations to protect and preserve the marine environment under UNCLOS illustrate how interactions through interpretation may have a normative impact on the implementation of the rules of the Convention with regards to offshore energy activities. Through incorporation of 'external'

¹⁷³Oxman (n 85) 153.

¹⁷⁴IMO (n 112) para 5.

¹⁷⁵Bonfanti and Romanin Jacur (n 15) 637.

¹⁷⁶S Trevisanut, 'Is There Something Wrong with the Increasing Role of Private Actors? The Case of the Offshore Energy Industry' in C Ryngaert et al (eds), *What's Wrong with International Law? Liber Amicorum Alfred H.A. Soons* (Brill 2015) 63, 73; Norton Moore (n 169) 361.

¹⁷⁷M Karavias, 'Interactions between International Law and Private Fisheries Certification' (2018) 7 *Transnational Environmental Law* 165, 176–177.

¹⁷⁸See <<http://www.g20gmep.org/about/about-the-gmep-initiative/>>.

¹⁷⁹*ibid.*

¹⁸⁰Bonfanti and Romanin Jacur (n 15) 637–638.

¹⁸¹Birnie et al (n 158) 149; Gavouneli (n 3) 87.

¹⁸²Gavouneli (n 3) 76, 87.

standards found in relevant norms of international environmental law, the general obligations under UNCLOS get shaped.¹⁸³ Still, the importance of adopting more sophisticated rules on the environmental regulation of offshore energy production activities cannot be overstated, bearing in mind the technical expertise the regulation of such activities require.¹⁸⁴

In addition, non-binding instruments have the potential to strengthen the level of due diligence that is required by States in implementing their duty to protect and preserve the marine environment. Due diligence calls for States to keep abreast with 'current specifications and standards'.¹⁸⁵ Specifically, non-binding instruments have the advantage of being easily adaptable to the rapid scientific and technological developments in the offshore energy sector. Primarily as interpretative guidance, they can be influential in restraining the wide discretion that States enjoy in choosing measures to protect the marine environment. Of course, the normative impact of non-binding instruments largely depends on their institutional source and the form and procedure by which they are adopted. These standards can act as a benchmark against which to determine whether the relevant international obligations have been met, as they can provide normative guidance and substantiate existing binding obligations. Even when non-binding instruments cannot be considered as influencing environmental obligations through defining the due diligence standard, compliance with their content may

be referred to as proof that States have been diligent. Therefore, the best outcome in identifying international standards for the environmental regulation of offshore energy production can be achieved through the interaction between binding and non-binding international instruments.¹⁸⁶

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¹⁸³M Gavouneli, 'Protection Standards for the Marine Environment: Updating Part XII of the Law of the Sea Convention?' (2017) <<https://ssrn.com/abstract=3073263>> 10; Matz-Lück and van Doorn (n 11) 194.

¹⁸⁴Frank (n 16) 24.

¹⁸⁵J Kulesza, *Due Diligence in International Law* (Brill 2016) 259.

¹⁸⁶LA Duvic-Paoli, *The Prevention Principle in International Environmental Law* (Cambridge University Press 2018) 233.