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DECOMMISSIONING DISPUTES – THE SUSTAINABILITY GAP

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ABSTRACT

The regulatory framework for oil and gas decommissioning forms the background against which decommissioning disputes take place. The growing role of sustainability considerations in the decommissioning process could lead to an increase in existing decommissioning disputes and to the development of new decommissioning sustainability disputes.

Keywords: Decommissioning; Sustainability; Disputes; International law; Offshore installations; Oil and gas industry

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1. INTRODUCTION

Decommissioning refers to the abandonment and making safe of oil and gas installations. It is the process of assessing options for the removal and safe disposal of installations at the end of their economic lifecycle. This includes the planning of and obtaining approval by government for the selected option and its eventual implementation.[1]

Sustainability is the use of methods, systems and materials that do not deplete resources or harm natural cycles. Decommissioning and sustainability overlap when a decision has to be made about how best to dispose of an oil and gas structure.[2] As there are no international laws specifically governing the decommissioning of onshore oil and gas installations,[3] this paper focuses primarily on offshore decommissioning.

The regulatory framework for oil and gas decommissioning can be found across various international and regional treaties, international guidelines and national legislation. This regulatory framework forms, in turn, the background against which various types of commercial decommissioning disputes take place. A review of the international and regional regulation of decommissioning shows that, arguably, sustainability is not properly considered in the regulation of decommissioning of offshore oil and gas assets. In particular, the international and regional regulation of decommissioning focuses, in the main, on complete removal of offshore installations, while neglecting

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* The authors are members of global law firm Squire Patton Boggs. The authors' views are their own and do not represent the views of Squire Patton Boggs or any of its clients.

1 Kaczelnik Altit, Osa Igiehon, 'Decommissioning of upstream oil and gas facilities' in Picton-Turbervill (ed), Oil and Gas: A Practical Handbook (Globe Law and Busi ness 2009), p.257

2 See Capobianco, Basile, Loia, Vona, 'Toward a Sustainable Decommissioning of Offshore Platforms in the Oil and Gas Industry: a PESTLE Analysis' (2021) 13 Sustainability 6266

3 See Wawryk, 'International Regulation of Decommissioning' in Pereira, Wawryk, Trischmann, Banet, Hall (eds), The Regulation of Decommissioning, Abandon ment and Reuse Initiatives in the Oil and Gas Industry: From Obligation to Opportunities (Wolters Kluwer 2020)

alternative methods of decommissioning such as partially removing installations or leaving them in situ.

With the international and regional framework for decommissioning remaining firmly based on complete removal of offshore installations, the current impact of sustainability on decommissioning disputes must not be overstated. Yet, it should also not be discounted. Sustainability considerations in the decommissioning process are growing. In certain instances, they have been supported by national legislation.[4] As commercial parties take States' regulatory efforts and tailor their commercial ventures around them in order to ensure compliance, a growth of sustainability considerations can spill over into decommissioning disputes. Sustainability considerations being introduced in the decommissioning process is also likely to give rise to new types of decommissioning disputes, as well as furnish new issues in disputes familiar to the decommissioning industry.

This paper begins by summarising the instruments applicable to the international and regional regulation of decommissioning (sections 2.1-2.2). It then addresses the role that sustainability plays within that regulatory framework (section 2.3) and considers the role that sustainability plays in relation to existing decommissioning disputes (section 3.1). Finally, it considers the potential growth in decommissioning sustainability disputes (section 3.2).

2. REGULATION OF DECOMMISSIONING AND SUSTAINABILITY

The international and regional decommissioning regulatory framework has developed over the past 60 years.[5] At the

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[4] See Banet, 'Creating Incentives and Enabling Energy System Integration' in Pereira, Wawryk, Trischmann, Banet, Hall (eds), The Regulation of Decommissioning, Abandonment and Reuse Initiatives in the Oil and Gas Industry: From Obligation to Opportunities (Wolters Kluwer 2020)

[5] See Wawryk, 'International Regulation of Decommissioning' in Pereira, Wawryk, Trischmann, Banet, Hall (eds), The Regulation of Decommissioning, Abandonment and Reuse Initiatives in the Oil and Gas Industry: From Obligation to Opportunities (Wolters Kluwer 2020).

international level, decommissioning has been addressed in a number of international agreements of wider scope; the current position of this international regulatory framework being one which strongly favours the complete removal of offshore installations. Indeed, despite the gradual introduction and evolution of sustainability considerations, this regulatory framework only provides for partial removal or leaving offshore installations in situ as a matter of exception.

At the regional level, the decommissioning process has been regulated in a more focused and stringent manner. While there is evidence of interest in changing this situation at the European level, regional regulation of decommissioning is still firmly based on complete removal of offshore installations.

The result is that, in the main, international and regional regulation of decommissioning does not require States to consider whether partially removing or leaving the installations in situ could be a more sustainable option. This position ignores evidence that, depending on the circumstances of a particular installation, partially removing or leaving offshore installations in situ can be a more sustainable form of decommissioning than complete removal.

In some instances, national legislation has sought to address this sustainability gap. The re-use and re-purpose of offshore installations, wells and pipelines has also been given substantial consideration, and has over time become increasingly relevant in a number of decommissioning projects.[6] Sustainability considerations in the form of re-use and re-purposing of offshore installations, wells and pipelines are likely to continue given the incentive to reduce costs, increase efficiency, and create synergies across sectors.[7] Much progress however still needs to be made to close the sustainability gap.

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[6] See Banet, 'Creating Incentives and Enabling Energy System Integration' in Pereira, Wawryk, Trischmann, Banet, Hall (eds), The Regulation of Decommissioning, Abandonment and Reuse Initiatives in the Oil and Gas Industry: From Obligation to Opportunities (Wolters Kluwer 2020)

[7] Ibid

2.1. International Regulation of Decommissioning

The international regulation of decommissioning has developed in a piecemeal fashion. Early agreements lacked any focus on sustainability considerations. Gradually, later agreements introduced general sustainability considerations providing that the impact on the marine environment of complete removal of offshore installations should be minimised. Finally, it was recognised that partial removal or leaving in situ of offshore installations may be appropriate as a matter of exception in certain narrow circumstances.

2.1.1. Convention on the Continental Shelf 1958

The first attempt at regulating decommissioning activities is found in the Convention on the Continental Shelf 1958 (the "Geneva Convention"). The cornerstone principle of the Geneva Convention is that "the coastal State exercises over the continental shelf sovereign rights for the purpose of exploring it and exploiting its natural resources".[8] Those sovereign rights included the entitlement "to construct and maintain or operate on the continental shelf installations and other devices necessary for its exploration and the exploitation of its natural resources, […]."[9]

As to how to dispose of those "installations and other devices", the Geneva Convention is silent. It states only that "any installations which are abandoned or disused must be entirely removed."[10] This absolute requirement of complete removal of offshore installations, as the first embodiment of regulation of decommissioning, did not incorporate sustainability considerations in the decommissioning process. The material consideration instead was navigational safety. Contracting States were simply required to remove offshore installations, without proper consideration of the environmental impact it may have. Equally, the Geneva Convention did not consider the possibility of alternative methods of decommissioning to complete removal.

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8 Convention on the Continental Shelf 1958, Article 2(1)
9 Ibid, Article 5(2)
10 Ibid, Article 5(5)

2.1.2. Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter 1972

Another early example of international decommissioning regulation was the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter 1972 (the "London Convention"). The London Convention includes in the definition of "dumping", the "deliberate disposal at sea of vessels, aircraft, platforms or other man-made structures at sea".[11] It provides that the dumping of: (i) certain wastes would be prohibited; (ii) other wastes would require a prior special permit; and (iii) all other wastes would require a prior general permit.[12] It also introduced a general consideration of sustainability in the decommissioning process:

> "Contracting Parties shall individually and collectively promote the effective control of all sources of pollution of the marine environment, and pledge themselves especially to take all practicable steps to prevent the pollution of the sea by the dumping of waste and other matter that is liable to create hazards to human health, to harm living resources and marine life, […]."[13]

Greater sustainability considerations in the decommissioning process were introduced in the London Convention when it was amended by the 1996 Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter 1972 (the "1996 Protocol"). The definition of "dumping" was expanded to include expressly "any abandonment or toppling at site of platforms or other man-made structures at sea, for the sole purpose of deliberate disposal".[14] The structure of the regime was amended; prohibiting the dumping of all wastes apart from that listed in its Annex 1, which would require a permit.[15]

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[11] Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter 1972, Article III(a)(ii)
[12] Ibid, Article IV
[13] Ibid, Article I
[14] 1996 Protocol to the Convention on the Prevention of Marine Pollution by Dum ping of Wastes and Other Matter 1972, Article 1.4.1.4
[15] Ibid, Articles 4.1.1 and 4.1.2

As to sustainability, the 1996 Protocol went further than the London Convention. It provides that "particular attention shall be paid to opportunities to avoid dumping in favour of environmentally preferable alternatives".[16] It also applies "a precautionary approach to environmental protection from dumping of wastes or other matter."[17] Despite these developments, the default position remained the complete removal of offshore installations.

2.1.3. United Nations Convention on the Law of the Sea 1982

The absolute requirement of complete removal of offshore installations found in Article 5(5) of the Geneva Convention was lessened with the entry into force of the United Nations Convention on the Law of the Sea 1982 ("UNCLOS"). In terms of sovereign rights of coastal States, UNCLOS remained consistent with the Geneva Convention. UNCLOS states that "in the exclusive economic zone, the coastal State shall have the exclusive right to construct and to authorize and regulate the construction, operation and use of: […]; (b) installations and structures for the purposes provided for in article 56 and other economic purposes; […]."[18]

In terms of obligations, however, UNCLOS took a more nuanced approach to decommissioning. UNCLOS provides that "any installations or structures which are abandoned or disused shall be removed to ensure safety of navigation, taking into account any generally accepted international standards established in this regard by the competent organization. Such removal shall also have due regard to fishing, the protection of the marine environment and the right and duties of other States."[19]

This approach was an early sign of sustainability considerations in the international regulation of decommissioning. While UNCLOS still favoured complete removal of offshore installations to ensure navigational safety, it also recognised the potentially harmful effect of decommissioning on the marine environment. The

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16 Ibid, Article 4.1.2
17 Ibid, Article 3.1
18 United Nations Convention on the Law of the Sea 1982, Article 60(1)
19 Ibid, Article 60(3)

incorporation of sustainability in UNCLOS is also evident from other provisions, which require that:

(i) "when States have reasonable grounds for believing that planned activities under their jurisdiction or control may cause substantial pollution of or significant and harmful changes to the marine environment, they shall, as far as practicable, assess the potential effects of such activities on the marine environment […]";[20] and
(ii) "Costal States shall adopt laws and regulations 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, pursuant to articles 60 and 80."[21]

2.1.4. International Maritime Organisation Guidelines and Standards for the Removal of Offshore Installations and Structures on the Continental Shelf and in the Exclusive Economic Zone 1989

The "accepted international standards established in this regard by the competent organization" referenced in Article 60(3) of UNCLOS took the form of the International Maritime Organisation Guidelines and Standards for the Removal of Offshore Installations and Structures on the Continental Shelf and in the Exclusive Economic Zone 1989 (the "IMO Guidelines"). The IMO Guidelines begin from the same starting point as previous international agreements dealing with the regulation of decommissioning, namely that "abandoned or disused offshore installations or structures on any continental shelf or in any exclusive economic zone are required to be removed". This obligation of removal is subject to an exception "where non-removal or partial removal is consistent with the following guidelines and standards."[22]

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[20] Ibid, Article 206
[21] Ibid, Article 208
[22] International Maritime Organisation Guidelines and Standards for the Removal of Offshore Installations and Structures on the Continental Shelf and in the Exclusive Economic Zone 1989, paragraph 1.1

The IMO Guidelines provide that "the decision to allow an offshore installation, structure, or parts thereof to remain on the sea-bed should be based, in particular, on a case-by-case evaluation, by the coastal State with jurisdiction over the installation or structure, of the following matters:

1. Any potential effect on the safety of surface or subsurface navigation, or of other uses of the sea;
2. The rate of deterioration of the material and its present and possible future effect on the marine environment;
3. The potential effect on the marine environment, including living resources;
4. The risk that the material will shift from its position at some future time;
5. The costs, technical feasibility, and risks of injury to personnel associated with removal of the installation or structure; and
6. The determination of a new use or other reasonable justification for allowing the installation or structure or parts thereof to remain on the sea-bed."[23]

The concept of a potential new use, instead of complete removal, for offshore installations or parts of them was an innovation brought about by the IMO Guidelines. Indeed, the IMO Guidelines expressly provide that "the coastal State may determine that the installation or structure may be left wholly or partially in place where:

> An existing installation or structure, […], or a part thereof, will serve a new use if permitted to remain wholly or partially in place on the sea-bed (such as enhancement of a living resource; […]."[24]

In addition, in cases where complete or partial removal is appropriate, the IMO Guidelines state that removal "should be performed in such a way as to cause no significant adverse effects upon navigation or the marine environment. […]. The means of removal or partial removal should not cause a significant adverse effect on living resources of the marine environment, especially

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[23] Ibid, paragraph 2.1
[24] Ibid, paragraph 3.4

threatened and endangered species."[25] This recognises that sustainability considerations may justify aderogation from complete removal of offshore installations at the end of their economic lifecycle.

When taken together, these two elements of the IMO Guidelines represent a significant advance in the role of sustainability considerations in the regulation of decommissioning of offshore installations. They recognise that, exceptionally, sustainability considerations may justify an alternative method of decommissioning to complete removal. Even when that is not the case, one must ensure that complete removal has a minimal impact on the marine environment. Yet, despite the progress, the default treatment of offshore installations at the end of their lifecycle, at least at the international level, remains complete removal. Alternative methods of decommissioning remain relegated to the role of an exception.

2.2. Regional Regulation of Decommissioning

Regional agreements incidentally addressing the regulation of decommissioning tend to incorporate a presumption in favour of complete removal. Indeed, while interest in incorporating sustainability considerations has manifested at the European level, it remains the case that regional regulation of decommissioning tends to be based on complete removal of offshore installations.

2.2.1. Convention for the Protection of the Marine Environment of the North-East Atlantic 1992 and Other Regional Agreements

The most well-known example of a regional agreement regulating decommissioning is the Convention for the Protection of the Marine Environment of the North-East Atlantic 1992 (the "OSPAR Convention"). The OSPAR Convention defines "dumping" as including "any deliberate disposal in the maritime area of […] offshore installations",[26] and provides that "the Contracting Parties shall take, individually and jointly, all possible

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[25] Ibid, paragraph 3.3

[26] Convention for the Protection of the Marine Environment of the North-East Atlantic 1992, Article 1(f)(ii)(2)

steps to prevent and eliminate pollution from offshore sources […], in particular as provided in Annex 3."[27]

Annex 3 establishes that "any dumping of wastes or other matter from offshore installations is prohibited",[28] and that "no disused offshore installation […] shall be dumped and no disused offshore installation shall be left wholly or partly in place in the maritime area without a permit issued by the competent authority of the relevant Contracting Party on a case-by-case basis."[29] The decommissioning obligations imposed by the OSPAR Convention are strict and leave little scope for alternative methods of decommissioning to complete removal.

The role of sustainability considerations in decommissioning in the framework of the OSPAR Convention was further curtailed by Decision 98/3 on the Disposal of Disused Offshore Installations of the Ministerial Meeting of the OSPAR Commission (the "OSPAR Decision"). The OSPAR Decision provides that "the dumping and the leaving wholly or partly in place, of disused offshore installations within the maritime area is prohibited."[30]

The only derogation from this absolute prohibition on alternative methods of decommissioning is the grant of a permit by a competent authority "for any other disused offshore installation to be dumped or left wholly or partly in place, when exceptional and unforeseen circumstances resulting from structural damage or deterioration, or from some other cause presenting equivalent difficulties, can be demonstrated."[31] The OSPAR Convention and the OSPAR Decision, therefore, establish a presumption that offshore installations coming to the end of their economic lifecycle will be completely removed.

Other regional agreements containing regulatory provisions applicable to decommissioning of offshore installations include

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27 Ibid, Article 5
28 Ibid, Annex 3, Article 3(1)
29 Ibid, Annex 3, Article 5(1)
30 Decision 98/3 on the Disposal of Disused Offshore Installations of the Ministerial Meeting of the OSPAR Commission, Article 2
31 Ibid, Article 3(c)

the Barcelona Convention for the Mediterranean,[32] the Kuwait Convention for the Middle East,[33] the Noumea Convention for the Pacific,[34] and the Helsinki Convention for the Baltic.[35] They provide for a focused and stringent approach to decommissioning similar to that adopted in the OSPAR Convention. By limiting wholesale the availability of alternative methods of decommissioning such as leaving end-of-life offshore installations in situ or only partially removing them, it is arguable that sustainability considerations have taken a back seat in the decommissioning process.

2.2.2. EU Directive 2013/30/EU on Safety of Offshore Oil and Gas Operations

A separate and further example of regional regulation of decommissioning which bears mentioning is the EU Directive 2013/30/EU of the European Parliament and of the Council on Safety of Offshore Oil and Gas Operations (the "Offshore Directive"). While its purpose is to establish "minimum requirements for preventing major accidents in offshore oil and gas operations and limiting the consequences of such accidents",[36] the Offshore Directive defines "offshore oil and gas operations" as "all activities associated with an installation or connected infrastructure, including design, planning, construction, operation and decommissioning thereof […]".[37] It also states that "an offshore regime needs to apply both to operations carried out on

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[32] Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean 1976, and its Protocols for: (i) the Prevention of Pollution in the Mediterranean Sea by Dumping from Ships and Aircraft; and (ii) the Protection of the Mediterranean Sea against Pollution Resulting from Exploration and Exploitation of the Continental Shelf and the Seabed and its Subsoil.

[33] Kuwait Regional Convention for Co-operation on the Protection of the Marine Environment from Pollution 1978, and its 1989 Offshore Protocol Concerning Marine Pollution Resulting from Exploration and Exploitation of the Continental Shelf, whose Article XIII(1)(b) does permit partial removal in the interests of safety of navigation and fishing.

[34] Convention for the Protection of the Natural Resources and Environment of the South Pacific Region 1986

[35] Convention on the Protection of the Marine Environment of the Baltic Sea Area 1992

[36] Directive 2013/30/EU of the European Parliament and of the Council of 12 June 2013 on Safety of Offshore Oil and Gas Operations and amending Directive 2004/35/EC, Article 1(1)

[37] Ibid, Article 2(3)

fixed installations and to those on mobile installations, and to the lifecycle of exploration and production activities from design to decommissioning to permanent abandonment."[38]

The Offshore Directive sets out general principles of risk management applicable to the decommissioning of offshore installations. This includes the responsibility of operators "to ensure that measures are taken to prevent major accidents", limiting "consequences for human health and for the environment" and ensuring that decommissioning is "carried out on the basis of systematic risk management".[39] It also requires that, in granting licences to conduct activities (including decommissioning), Member States consider "the risk, the hazards and any other relevant information […] including, where appropriate, the cost of degradation of the marine environment" and "the available information relating to the safety and environmental performance of the applicant".[40]

More specifically to decommissioning, the Offshore Directive requires that, "where modifications are to be made to a production installation that entail a material change, or it is intended to dismantle a fixed production installation, the operator shall prepare an amended report on major hazards".[41] That amended report must include "a description of major hazard risks associated with the decommissioning of the installation to workers and the environment",[42] and Member States must "ensure that the planned modifications are not brought into use nor any dismantlement commenced until the competent authority has accepted the amended report on major hazards for the production installation."[43]

The Offshore Directive represents a helpful advancement in the regulation of offshore oil and gas extraction and production, including related decommissioning activities. It does not, however, contain provisions as to the specifics of decommissioning, such as when complete removal, partial removal of an installation or

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38 Ibid, Recital 24
39 Ibid, Articles 3(1), 3(3) and 3(4)
40 Ibid, Articles 4(1) and 4(2)
41 Ibid, Article 12(5)
42 Ibid, Annex 1, paragraph 6(4)(b)
43 Ibid, Article 12(6)

leaving it in situ may be appropriate. Therefore, the situation at the regional level, in that regard, remains that provided for by the OSPAR Convention and OSPAR Decision and other similar regional agreements.[44]

2.3. Sustainable Decommissioning

The result of this web of international and regional agreements regulating decommissioning activities is that the IMO Guidelines provide the international standard for decommissioning:

> "Therefore, outside the north-east Atlantic, where the OSPAR Convention rules apply, the prevailing international standard is that set out in the IMO Guidelines which, in some circumstances and subject to the Dumping protocols, would allow an installation to be left wholly or partially in place."[45]

However, even the IMO Guidelines are arguably outdated. They take the complete removal of offshore installations as the starting point for decommissioning; only considering giving them a new use as a matter of exception. As partially removing or leaving an offshore installation in situ is considered an exception, which is made subject to the obtaining of a permit, commercial parties involved in decommissioning may not consider it as a viable alternative:

> "[T]he existing legal frameworks generally overlook the possibility of finding suitable alternatives to decommissioning; more specifically, they largely disregard the possibility of leaving infrastructures in place or dismantling them only partially, and re-habilitating them as new sites of marine life. The agreements that are currently in place do not take into account new empirical evidence concerning the impact of decommissioning on the environment and therefore do not

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[44] For a comprehensive review of regional regulation of decommissioning, see Trevisa nut, 'Decommissioning of Offshore Installations: a Fragmented and Ineffective International Regulatory Framework' in Banet (ed), The Law of the Seabed: Access, Uses, and Protection of Seabed Resources (Brill Nijhoff 2020), pp.445-451.

[45] O'Hara, 'The legal and regulatory framework governing offshore decommissioning', (2015) Construction Law Journal 31(3), 122-138, 125

> sufficiently address new frontiers for making the final stage of platforms' life more sustainable."[46]

This is where the international and regional regulation of decommissioning is arguably lacking in terms of sustainability considerations. In certain circumstances, decommissioning, when it involves complete removal of an offshore installation, can have a negative effect on the marine environment. Partial removal of offshore installations or leaving them in situ can provide significant value to the marine environment. Indeed, programmes known as 'Rigs-to-Reefs', which aim to turn end-of-life offshore installations into artificial reefs, provide a possible alternative; creating a habitat for marine life in a way which complete removal is not able to do.[47]

Rigs-to-Reefs programmes began and have been widely adopted in most US coastal States, and have also developed in Brunei and Malaysia.[48] In the United States, the National Fishing Enhancement Act of 1984 acknowledged the environmental and economic benefits of developing artificial reefs.[49] A National Artificial Reef Plan was designed "to promote and facilitate responsible and effective artificial reef use based on the best scientific information available".[50] This plan recognises that "properly constructed, and strategically sited artificial reefs can enhance fish habitat, provide more access to quality fishing grounds, benefit fishermen and the economies of shore communities, increase total fish biomass within a given area, and

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[46] Giacché, 'Promoting a regulatory toolkit to assess the decommissioning of offshore energy infrastructures in the circular economy', (2020/2021) International Trade Law Department Luiss Guido Carli University, p.26

[47] For the need for an evidence-based comparison of different decommissioning strategies, see Lemasson, Knights, Thompson et al., 'Evidence for the effects of decommissioning man-made structures on marine ecosystems globally: a systematic map protocol', (2021) Environmental Evidence 10(4)

[48] Twomey, 'Artificial Reefs', CCOP/EPPM Workshop on End of Concession & Decommissioning, 12-14 June 2012

[49] National Fishing Enhancement Act of 1984 (Public Law 98-623, Title II – Artificial Reefs), 33 U.S.C. §2101 et seq.

[50] United States Department of Commerce – National Oceanic and Atmospheric Administration, 'National Artificial Reef Plan (as Amended): Guidelines for siting, construction, development, and assessment of artificial reefs', 2007, p.1

provide managers with another option for conservation and management of fishery resources."[51]

There has been some resistance to the development of Rigs-to-Reefs programmes. Despite evidence that "a well-designed and efficiently implemented [Rigs-to-Reefs] program for California would likely result in direct and indirect benefits that far exceed the costs",[52] implementation of the California Marine Resources Legacy Act, which "was passed to create opportunities for alternative decommissioning strategies […] has not been realized due to the hurdles pertaining to liability, public perception, and financial considerations."[53] Similarly, although research has concluded that "decommissioned platforms in the North Sea might be used effectively as artificial reefs",[54] the OSPAR Commission has blocked the development of Rigs-to Reefs programmes in the region.[55] Thus, assessments for decommissioning options tend to understate potential ecological and social benefits of alternatives to complete removal of offshore installations, which has led to calls for comparative assessments based on a net environmental benefit analysis.[56] Arguably, this lack of widespread acceptance of Rigs-to-Reefs programmes at the international and regional level is a consequence of the insufficiency in terms of sustainability considerations within the regulatory framework for decommissioning.

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51 Ibid, pp.1-2

52 Callahan, Jackson, 'Rigs to Reefs: Exploring the Future of California's Offshore Oil and Gas Platforms', UC San Diego: Center for Marine Biodiversity and Conservation, 2014, p.1

53 Gonzales, Hazelwood, Sparks, 'Overview of Rigs to Reefs: Legislation in California and the Gulf of Mexico', (2020) LSU Journal of Energy Law and Resources 8(2), 359-365, 362

54 Svellingen, Jørgensen, Løkkeborg, 'Rigs-to-Reefs in the North Sea: hydroacoustic quantification of fish in the vicinity of a "semi-cold" platform', (2002) ICES Jour nal of Marine Science 59, 281-287, 287

55 Jørgensen, 'OSPAR's exclusion of rigs-to-reefs in the North Sea', (2012) Ocean & Coastal Management 58, 57-61

56 Nicolette, Nelson, Rockel, Rockel, Testoff, Johnson, Williamson, Todd, 'A frame work for a net environmental benefit analysis based comparative assessment of decommissioning options for anthropogenic subsea structures: A North Sea case study', (2023) Frontiers in Marine Science 9:1020334

3. SUSTAINABILITY AND DECOMMISSIONING DISPUTES

Sustainability has become more important in the decommissioning process. Banet, for example, highlights a number of studies that have been conducted to identify possible options for re-purposing or re-using offshore oil and gas infrastructure. This includes as aquaculture hubs, weather stations, housing, hotels and diving resorts. It also includes carbon capture and storage ("CCUS") projects, and hydrogen production and transport.[57] Re-use and re-purpose of offshore oil and gas infrastructure has also been supported by national legislation. For example, in July 2019, the United Kingdom Department for Business, Energy & Industrial Strategy released a consultation paper proposing to give the UK Secretary of State a discretionary power to relieve former oil and gas owners and operators from decommissioning liability in respect of assets which have been transferred to a CCUS project.[58] Organisations and consultancies, such as Decom North Sea and Lumina, have also worked on tools that can assist companies and authorities make decisions on whether oil and gas installations and facilities can be reused.[59] Undoubtedly, with the incentive to decrease costs, increase efficiency and create cross-industry synergies, sustainability considerations will increase over time.

The growth of sustainability considerations can spill over into decommissioning disputes. Decommissioning is already a fertile

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[57] See Banet, 'Creating Incentives and Enabling Energy System Integration' in Pereira, Wawryk, Trischmann, Banet, Hall (eds), The Regulation of Decommi ssioning, Abandonment and Reuse Initiatives in the Oil and Gas Industry: From Obligation to Opportunities (Wolters Kluwer 2020)

[58] UK Department for Business, Energy & Industrial Strategy, Re-Use of Oil and Gas Assets for Carbon Capture and Usage and Storage Projects, 22 July 2019

[59] See Banet, 'Creating Incentives and Enabling Energy System Integration' in Pereira, Wawryk, Trischmann, Banet, Hall (eds), The Regulation of Decommi ssioning, Abandonment and Reuse Initiatives in the Oil and Gas Industry: From Obligation to Opportunities (Wolters Kluwer 2020). See also Decom North Sea, Zero Waste Scotland, ABB Consulting, 'Offshore Oil and Gas Decommissioning Platform Removal Methods, Inventory Characterisation and Re-use Solutions Report and Recommendations' (2015); and Lumina, 'From Controversy to Consensus: California's Offshore Oil Platforms', https://lumina.com/case-studies /energy-and-power/a-win-win-solution-for-californias-offshore-oil-rigs/ accessed 13 September 2022.

ground for disputes. Decommissioning does not present any potential for profit. When a particular offshore installation reaches the end of its economic lifecycle, the question becomes one of obligation and liability, and the allocation of related costs. The potential for opposing interests, the complexity of the installations being handled, and the overall large financial amounts at stake, attracts a host of disputes.[60] It is therefore unsurprising that sustainability considerations can have an impact on such disputes.

3.1. Impact of Sustainability on Existing Decommissioning Disputes

Who is liable for the costs of decommissioning? The answer can typically be found in (a) the relevant national law, which implements the applicable international and regional regulatory framework, and (b) the parties' private contractual arrangements. Where this is unclear, decommissioning liability disputes arise. Such disputes also arise in situations where new regulation retroactively imposes prospective decommissioning obligations. Disputes, for example, have arisen in Thailand, Indonesia and the Philippines, where decommissioning obligations have sought to be imposed through new laws that arguably apply retroactively in circumstances where existing contractual arrangements do not contain express decommissioning obligations.[61]

A good example of this comes from one unpublished ICC Award. In that case, the production sharing contract ("PSC") did not contain express decommissioning obligations. A dispute arose as to who was to pay for future decommissioning costs after the field had been handed back to the National Oil Company. Was it the oil and gas co-venturers relinquishing their interest over

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[60] See Holland, Davar, 'Decommissioning: Scope for Disputes' in Pereira, Wawryk, Trischmann, Banet, Hall (eds), The Regulation of Decommissioning, Abandon ment and Reuse Initiatives in the Oil and Gas Industry: From Obligation to Opportunities (Wolters Kluwer 2020)

[61] Sanderson, 'Decommissioning disputes: who pays when the oil dries up?' (Global Arbitration Review, 17 December 2019) https://globalarbitrationreview.com /article/decommissioning-disputes-who-pays-when-the-oil-dries accessed 9 Sep tember 2022; Tanakasempipat, 'Thai energy ministry sets March target to resolve Chevron dispute' (Reuters, 8 October 2019), https://www.reuters.com/article/us-thailand-chevron-idUSKBN1WN1IZ accessed 9 September 2022

producing assets, or was it the owner of the assets at the time the wells were fully utilised and needed to be decommissioned? In that instance, the Tribunal found against the host State. With no express contractual or legal obligation found in the PSC, the Tribunal held that the host State could not rely on generic national laws that did not provide for specific decommissioning obligations. It also could not rely on the principle of 'good oilfield practice'. This principle, it was held, could only set out the way an existing obligation needed to be carried out. It could not impose new obligations.

Disputes also arise in jurisdictions with developed decommissioning regimes. A good example is the UK. The obligations and potential liabilities under the UK Petroleum Act 1998 ("PA") as amended by the Energy Act 2008 are extensive. Pursuant to Section 29 of the PA, the UK Secretary of State may "by written notice require– (a) the person to whom the notice is given […] to submit to the Secretary of State a programme setting out the measures proposed to be taken in connection with the abandonment of an offshore installation […] (an "abandonment programme")."[62] This Section 29 notice informs a party involved in the operation of an offshore installation that they may be subject to a decommissioning liability.

A Section 29 notice can be served on a wide variety of participants. This includes "the person having the management of the installation or of its main structure",[63] "a person […] who is a party to a joint operating agreement",[64] "a person […] who owns any interest in the installation",[65] and "a person [who] has the right to exploit or explore mineral resources in any area, to unload, store or recover gas in any area […], or to explore any area with a view to, or in connection with, the exercise of [such] right[s]."[66] Given the wide range of parties that can be served with a Section 29 notice, challenges by recipient of those notices have been raised. Similarly, disputes as to the interpretation of the legislation have arisen.

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62 Petroleum Act 1998, section 29(1)
63 Ibid, section 30(1)(a)
64 Ibid, section 30(1)(c)
65 Ibid, section 30(1)(d)
66 Ibid, sections 30(1)(b) and 30(5)

The English Commercial Court Case of Apache UK Investment v Esso Exploration and Production UK provides a useful example.[67] In that case, a special purpose vehicle was sold. That vehicle owned licences in fields in the North Sea. Prior to the sale, the vehicle had been served with Section 29 notices.

As part of the sale, the buyer agreed to provide security sufficient to cover the decommissioning expenditure that the seller may become liable for. A dispute arose as to whether security had to cover new installations installed after the sale, or whether it needed only to cover the installations present at the time the Section 29 notices were served. The Commercial Court held that a Section 29 notice could only be issued in respect of offshore installations. It could not be issued for entire fields. Further, the powers relating to offshore installations were limited to installations that are or have been maintained or are intended to be established. As the new installations were not "intended to be established" at the time the Section 29 notices were served on the seller, the Section 29 notices did not relate to those post-sale installations. The seller was not liable for their decommissioning, and therefore not required to furnish security in relation to them.

Decommissioning disputes can often be high-stakes, all-or-nothing disputes; one side having to pay for the entire removal of the installation. On the one hand, if the regulatory framework governing decommissioning provided greater scope for the partial removal of installations or leaving them in situ, these disputes could be of lower value. With less at risk, disputes could be avoided. Indeed, both the host State and investors have an interest in reducing the overall decommissioning costs to maximise their respective profits from production. This financial incentive could align the parties to work closely together when seeking to identify sustainable alternatives to complete removal, further reducing the potential for end-of-life decommissioning liability disputes. On the other hand, creating additional options for how to conduct decommissioning of offshore installations would undoubtedly create more uncertainty.

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[67] Apache UK Investment v Esso Exploration and Production UK [2021] EWHC 1283 (Comm)

The uncertainty that sustainability considerations may raise can for example be observed when looking at disputes relating to decommissioning programmes. Where a decommissioning programme must be submitted, a State will have a right to review that programme. If appropriate, a State can require amendments before accepting the decommissioning programme. For example, the PA provides that "the Secretary of State may either approve or reject a programme submitted to him under section 29",[68] and that "if he approves a programme, the Secretary of State may approve it with or without modifications and either subject to conditions or unconditionally."[69] The PA gives wide discretion to the Secretary of State as to the modifications and conditions which may be imposed on any approval of a programme, including those "intended (whether by means of the timing of the measures proposed, the inclusion of provision for collaboration with other persons, or otherwise) to reduce the total cost of carrying out the programme",[70] or "requiring the persons who submitted the programme to […] make available to the Secretary of State […] a review of the programme and its implementation."[71] The PA also includes wide-ranging provisions relating to amendments, revisions and conditions to which decommissioning programmes are subject.[72]

Those affected by a decision of the Secretary of State relating to a decommissioning programme could challenge that decision. With sustainability considerations introducing the option of partial removal or leaving offshore installations in situ, wider scope for disagreement arises. What is, for example, the appropriate approach to decommissioning? States and investors, or even co-venturers, can have entirely differing views. One party may seek to maximise their profits from production to ensure it meets a require return on investment. This could lead to decommissioning programmes incorporating unfounded sustainability considerations in support of partial removal or leaving in situ. Similarly, it would not be surprising if States, or prior owners who could be on the hook for any unmet decommissioning obligations,

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68 Petroleum Act 1998, section 32(1)
69 Ibid, section 32(2)
70 Ibid, section 32(2A)(a)
71 Ibid, section 32(2A)(b)
72 Ibid, sections 34, 34A

sought to impose decommissioning programmes be based on complete removal, whether that be the optimal option, or not.

Disputes relating to the provision of security for decommissioning activities are equally impacted by sustainability considerations. The law of the relevant State may require that participants put aside sufficient funds to secure the future costs of decommissioning an offshore installation. Contractual mechanisms between the various participants in a given project will also typically govern the provision and calculation of security for future decommissioning. This includes by way of decommissioning security agreements.

Decommissioning security agreements have been developed to deal with extensive and potentially far-reaching decommissioning liabilities. Such agreements can include numerous participants. Under the UK standard form decommissioning security agreement, for example, this can include: (a) first tier participants, composed of co-venturers under a joint operating agreement; (b) second tier participants, composed of those at risk of being caught by the decommissioning regulatory regime, such as oil and gas companies who sold their interest in the field, often many years ago; (c) third tier participants, composed of those who are not parties to the decommissioning security agreement but can, by agreement, enforce its terms; and (d) the relevant regulatory body.

As to the security itself, decommissioning security agreements typically require co-venturers to furnish security each year. This security is to cover their respective share of "net costs" less "net value". Net costs are the best estimated costs of performing all decommissioning activities multiplied by a risk factor. Net value is the expected production receipts from the field, and the amount of security that the co-venturer has already provided. Net costs and net value are assessed on a net present value basis. When the net present value of costs exceeds the net present value of net value, security is required to cover the difference. The intention is that, if a party falls into financial difficulty, there is sufficient security to cover that party's share of the decommissioning costs.

The calculation of decommissioning security is inherently uncertain. It is not uncommon for actual decommissioning costs to vary significantly from the amount estimated. With the increasing role of sustainability in decommissioning, and the possibility for alternative decommissioning options, there will be a

greater number of variables, and uncertain assumptions, which could impact decommissioning security calculations. Participants in a given offshore installation could seek to reduce the decommissioning security burden by arguing that lower security is required given the potential for the installation to be only partially removed or left in situ. States, seeking to ensure that tax-payers are not burdened by decommissioning costs in event of insolvency, are likely to demand sufficient security to cover complete removal of the installation, should it become necessary, whether or not partial removal or leaving in situ is more likely. Similarly, smaller participants looking to keep funds available to invest in the project may have divergent interests to larger participants, or participants who sold their interest but remain potentially liable, as to whether decommissioning security ought to be based on partial removal or leaving in situ, or even if these options are a plausible future course of action. In such circumstances, an increase in decommissioning security disputes would be unsurprising.

Sustainability considerations will also have an impact in the organisation of the decommissioning process, and the various stages at which services will be required. Given the complexity of the activities being undertaken, any decommissioning project is likely to include multiple contractors. Each may argue that the other is responsible in case of unforeseen circumstances. The contractual arrangements between operators and contractors will govern the risk allocation. This will determine what constitutes a variation of the scope of works. Who is required to bear those cost. Whether a force majeure clause is applicable, and further who is liable for delays in the completion of the decommissioning process, the potential additional overheads, and the charter rates payable as a result.

As sustainable methods of decommissioning gain in recognition, decommissioning project disputes could reduce. Offshore installations which would previously require complete removal may be only partially removed or left in situ. This could provide a less complex project, or one with lower risks. It may be easier to calculate the costs of such a project, and limit the total number of contractors, and vessels involved. It could also free up bottlenecks that may exist in the industry, such as with specialist ports.

3.2. Decommissioning Sustainability Disputes and the Future

Decommissioning sustainability disputes can be expected to develop and grow as alternative, potentially more sustainable, methods of decommissioning grow in recognition. One example of such disputes are challenges to decommissioning programmes brought by NGOs and similar groups. As explained above, once an offshore installation is at or nearing the end of its economic lifecycle, a decommissioning programme will be submitted to the relevant regulatory body. That body will either approve, reject or subject it to conditions.

In the United Kingdom, these challenges would be brought under the PA, which provides that:

> "if any person is aggrieved by any of the acts of the Secretary of State mentioned in subsection (2) and desires to question its validity on the ground that it was not within the powers of the Secretary of State or that the relevant procedural requirements had not been complied with, he may within 42 days of the day on which the act was done make an application to the court under this section."[73]

The PA clarifies that such a challenge can be brought against, among other things, "the approval of a programme under section 32", "the rejection of a programme under section 32" or "a determination under section 34" that a revision to a programme should or should not be made.[74] A court may quash any of those decisions if it "is satisfied that the act in question was not within the powers of the Secretary of State or that the applicant has been substantially prejudiced by a failure to comply with the relevant procedural requirements."[75]

There is a clear potential for challenges brought under section 42 of the Petroleum Act, and other equivalent legislation in other jurisdictions, to start finding their way into court as alternative methods of decommissioning become more common. An NGO or similar group could, for example, challenge a regulatory

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[73] Petroleum Act 1998, section 42(1)
[74] Ibid, section 42(2)
[75] Ibid, section 42(3)

authority's decision to approve a decommissioning programme providing for complete removal of an offshore installation, arguing that partially removing or leaving it *in situ* would be more appropriate in that specific case, or vice versa. Such NGOs may also use media campaigns to place pressure on governments and oil and gas companies to adopt their preferred method of decommissioning, as was seen in the Brent Spar incident of 1995.

The current impact of sustainability on existing decommissioning disputes, and its potential to give rise to new types of decommissioning disputes, is, however, not to be overstated. While the international regulatory framework for decommissioning has evolved to allow for partial removal and leaving offshore installations *in situ* as a matter of exception, the default position remains complete removal. International decommissioning regulation is also subject to regional regulation. That regulation has reinforced the presumption in favour of complete removal. Many national legislations also do not expressly require re-use alternatives to be assessed as part of the decommissioning process, and even where they do, they arguably do not go far enough.[76]

While further regulation at the international level, providing that partial removal of offshore installations or leaving them *in situ* are equal alternatives to complete removal, would help bridge the sustainability gap, this is unlikely to happen in the near future. There is evidence at the European level, in the form of the Offshore Directive, of a growing desire to ensure that decommissioning activities are conducted sustainably. However, such further international regulation of decommissioning seems to remain a distant concept. Despite this, efforts to reduce the costs of decommissioning have and will continue to have positive impacts on the sustainability of decommissioning activities. As they do, the impact of sustainability on existing and future types of decommissioning disputes will grow.

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[76] See Banet, 'Creating Incentives and Enabling Energy System Integration' in Pereira, Wawryk, Trischmann, Banet, Hall (eds), The Regulation of Decommi ssioning, Abandonment and Reuse Initiatives in the Oil and Gas Industry: From Obligation to Opportunities (Wolters Kluwer 2020)

4. CONCLUSION

The international regulatory framework for decommissioning takes the starting point that any offshore installation must be completely removed when it reaches the end of its economic lifecycle. Over time, that framework has also come to accept that, as a matter of exception, offshore installations may, in narrow circumstances, be partially removed or left *in situ*. This recognition has since been curtailed at the regional level, but there is evidence of interest at the European and national levels in potentially more sustainable methods of decommissioning.

As sustainability considerations find their way into decommissioning regulation and the decommissioning process, they can spill over into the decommissioning disputes of those parties, creating wider scope for disputes. They are also likely to give rise to new types of decommissioning disputes. Nonetheless, as the international regulatory position remains that, broadly, offshore installations should be completely removed, the current impact of sustainability considerations on existing and future decommissioning disputes must not be overstated.