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Drankier, Dinand; Roggenkamp, Martha M.

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CHAPTER XIV

THE REGULATION OF DECOMMISSIONING IN THE NETHERLANDS

From Removal to Re-Use

Dinand DRANKIER and Martha M. ROGGENKAMP*

1. INTRODUCTION

Decommissioning is traditionally the last step in the lifetime of an energy asset.¹ After the planning, construction and operation of the asset, decommissioning entails restoring an energy site to its original state or as close to that state as is desirable given the merits of the various options for dealing with the energy asset.² The term ‘decommissioning’, however, lacks a codified legal definition.³ Generally, the term is interpreted as encompassing the entire process dealing with the removal or re-use of an asset, the disposal of the removed asset or parts thereof and the restoration of the energy site.⁴ In terms of terminology,

* This chapter builds on the presentation of Roderick Verstegen, EBN (now Taqa), at the 29th European Energy Law Seminar in The Hague. The authors appreciate the feedback provided by him when preparing the chapter.

¹ Examples of energy assets include installations and structures such as oil and gas platforms, wind turbines, mining works other than offshore platforms, nuclear reactors, power plants, electricity cables and gas or oil pipelines.

² R.J. HEFFRON, ‘Energy Law for Decommissioning in the Energy Sector in the 21st Century’ (2018) 11 *The Journal of World Energy Law & Business* 189, p. 190.

³ B.A. HAMZAH, ‘International Rules on Decommissioning of Offshore Installations: Some Observations’ (2003) 27 *Marine Policy* 339, pp. 339–340. All relevant international legal instruments concerning decommissioning, including the United Nations Convention on the Law of the Sea, the International Maritime Organization Guidelines and Standards for the Removal of Offshore Installations and Structures on the Continental Shelf and in the Exclusive Economic Zone, and the OSPAR Convention for the Protection of the Marine Environment of the North-East Atlantic, do not mention the term *decommissioning*. Only OSPAR Decision 98/3 on the Disposal of Disused Offshore Installations mentions the term but does not define it.

⁴ HAMZAH (n 3), pp. 339–340; A.D.M. FORTE, ‘Legal Aspects of Decommissioning Offshore Structures’ in D.G. GORMAN ET AL, *Decommissioning Offshore Structures*, Springer-Verlag,

it is, moreover, important to note that instead of ‘decommissioning’ the terms ‘abandonment’ and ‘abandonment and removal’ are used in academic literature and by the industry.⁵ In more recent years, however, decommissioning has become the preferred term.

From a regulatory perspective, the rules in place for decommissioning differ per type of energy asset, per location and per jurisdiction. The focus of this chapter will be on the assets used for the production of hydrocarbons, such as platforms, wells, cables and pipelines, in the offshore areas of the Netherlands. This issue is currently highly topical. Given the fact that the oil and gas reservoirs located in the Netherlands are maturing, most of the hydrocarbon production assets are foreseen to reach the end of their economic lifetime in the upcoming two decades.⁶ Projections show that this may lead to the decommissioning of approximately 150 platforms, over 3,000 km of pipeline and more than 600 wells located on the Dutch Continental Shelf.⁷ Given the financial and environmental implications of decommissioning, these projections warrant a closer analysis of the Dutch legal framework for decommissioning offshore.⁸

This chapter will evolve in three steps. The first part will briefly elaborate on the international legal regime in place with regard to decommissioning. Subsequently, part two will elaborate on the Dutch legal regime for decommissioning. Finally, the last part of the chapter will briefly look at re-use as a form of decommissioning as this concept is gaining momentum in the Netherlands.

2. DECOMMISSIONING OFFSHORE

2.1. THE ROLE OF INTERNATIONAL LAW

Decommissioning installations offshore differs from the situation onshore as states have limited jurisdiction offshore.⁹ Offshore the extent to which

London, 1998, p. 126. OSPAR Decision 98/3 seems to take the same approach by explicitly mentioning re-use, recycling and final disposal as options for decommissioning.

⁵ HAMZAH (n 3), pp. 339–340; FORTE (n 4 above), p. 126; M.J.J. VAN BEUGE, ‘De Verwijdering van Energie-installaties (Deel 1): Offshore Installaties’ *Nederlands Tijdschrift voor Energierecht* 194, p. 194; J. PATERSON, ‘Decommissioning of Offshore Oil and Gas Installations’ in G. GORDON, J. PATERSON and E. ÜŞENMEZ, *Oil and Gas Law: Current Practice and Emerging Trends*, Dundee University Press, Dundee, 2011, p. 285.

⁶ EBN, *Netherlands Masterplan for Decommissioning and Re-use* (2016), p. 11.

⁷ Nexstep, *Offshore Re-use & Decommissioning Inventory* (2007 as updated in 2019).

⁸ It should be noted that in contrast to other North Sea states, the Netherlands will also be facing large-scale decommissioning onshore. The legal arrangements for onshore decommissioning fall outside the scope of this chapter.

⁹ Jurisdiction consists of the right of a state to legislate and enforce this legislation within a territory or over particular subjects. Jurisdiction always needs to have an implicit or explicit basis. The most common forms of jurisdiction are territorial jurisdiction, where a state enjoys

states may regulate energy activities, such as the construction, operation and decommissioning of energy assets, depends on the maritime zone where the activity takes place. These maritime zones are determined by international law, in particular the law of the sea. For decommissioning in the North Sea, two maritime zones are of specific importance: the territorial sea and the continental shelf. These zones are governed by the United Nations Conventions on the Law of the Sea of 1958 and in particular, the Convention of the Territorial Sea and the Contiguous Zone and the Convention on the Continental Shelf, and its successor, the United Nations Convention on the Law of the Sea of 1982 (UNCLOS).¹⁰

Historically, the sea was considered international territory so that all nations were free to use it for seafaring trade.¹¹ This freedom has gradually been limited. To start with, coastal states claimed a territorial sea in order to protect themselves. Whereas the territorial sea originally was three nautical miles, it currently entails the water column, the seabed and subsoil up to 12 nautical miles (22.2 kilometers) from shore.¹² The territorial sea is considered to be part of the land territory and coastal states thus have full jurisdiction and, consequently, all national laws apply in this area.¹³ With the need and the available technique to develop offshore oil reservoirs, the 1958 Convention on the Continental Shelf identified the concept of a ‘continental shelf’. Geologically, a continental shelf is a relatively shallow submarine area adjacent to the coast. Under international law the continental shelf zone is limited to that part of the geological continental shelf that is located beyond the territorial sea and extends up to a maximum of 200 nautical miles (370.4 kilometers) from shore.¹⁴ In case of a continental shelf, coastal states may exercise *sovereign rights* for the purpose of exploring and exploiting natural resources.¹⁵ This entails that coastal states, in contrast to the territorial sea, only have a functional jurisdiction, i.e. jurisdiction that is limited to the regulation and enforcement of the exploration and exploitation of natural

jurisdiction over its territory, and treaty-based jurisdiction, where a state enjoys jurisdiction by virtue of an international treaty that allocates this jurisdiction to it.

¹⁰ This treaty entered into force in 1994 and is ratified by 168 countries, including the Netherlands. For an elaborate analysis of the international law of the sea, see D.R. ROTHWELL and T. STEPHENS, *The International Law of the Sea*, Hart Publishing, Oxford, 2016.

¹¹ HUGO GROTIUS, *Mare Liberum* (or *The Freedom of the Seas*), 1609.

¹² United Nations Convention on the Law of the Sea (UNCLOS), Montego Bay, 1982 (hereinafter UNCLOS), article 3.

¹³ UNCLOS, article 2.

¹⁴ UNCLOS, article 76(1); hereinafter the term *continental shelf* will be used to refer to the continental shelf as defined by UNCLOS, the geological phenomenon continental shelf will be referred to as *geological continental shelf*.

¹⁵ UNCLOS, articles 76 (1) and 77 and article 2(1) Convention on the Continental Shelf.

resources and thus to the construction and operation of any installations necessary for the execution of these activities.¹⁶ The North Sea is one continental shelf. In order to delimit the borders of the coastal states bordering the North Sea, several delimitation agreements have been concluded.¹⁷

UNCLOS also introduced a third zone: an exclusive economic zone (EEZ). The EEZ can extend up to 200 nautical miles from shore but also takes into account the waters superjacent to the seabed.¹⁸ By contrast to the continental shelf, an EEZ needs to be explicitly proclaimed by the coastal state. All North Sea states have proclaimed an EEZ.¹⁹ In their EEZs, they hold sovereign rights for the purpose of exploring, exploiting, conserving and managing natural resources, the production of energy from the water, currents and winds and other activities for the economic exploitation and exploration of the EEZ.²⁰ The latter can be of specific importance when designing potential re-use of installations for carbon dioxide injection and/or offshore hydrogen production.²¹

The above shows that the freedom of all nations to use the sea has progressively been reduced since the 1950s. This is partly due to technical developments and increasing energy demand. Therefore a balance needs to be struck between the right of coastal states to explore and exploit the sea/seabed and the rights of other users of the sea for shipping and navigation. As the use of fixed installations for exploiting energy resources has the most impact on other users of the sea, international law also provides further guidance on the use of such offshore assets. Apart from the need to establish safety zones around installations and installing permanent means for giving warning of their presence, international law also provides that offshore installations need to be removed if they are no longer in use. Below we will discuss the main provisions governing removal of installations as provided by UNCLOS and the International Maritime Organization, as well as the dumping provisions in the London Convention and the OSPAR Convention.

¹⁶ UNCLOS, articles 80 and 60.

¹⁷ See for these agreements C. REDGWELL, 'International Regulation of Energy Activities' in *Energy Law in Europe – National, EU and International Regulation*, 3rd edition, Oxford University Press, Oxford, 2016, p. 58.

¹⁸ UNCLOS, article 57.

¹⁹ The Netherlands proclaimed an EEZ by Act of 27 May 1999 establishing an Exclusive Economic Zone of the Kingdom (*Rijkswet van 27 mei 1999 tot instelling van een exclusieve economische zone van het Koninkrijk*), *staatsblad* 27 May 1999, number 281, which entered into force on 28 April 2000.

²⁰ UNCLOS, article 56(1)(a).

²¹ For a deeper analysis of whether carbon dioxide storage is an economic exploitation activity, see M. BRUS, 'Challenging Complexities of CCS in Public International Law' in M.M. ROGGENKAMP and E. WOERDMAN, *Legal Design of Carbon Capture and Storage: Developments in the Netherlands from an International and EU Perspective*, Intersentia, Antwerp, 2009. See also Chapter XX of this volume by M.M. ROGGENKAMP.

2.2. REMOVAL OBLIGATIONS

2.2.1. *Law of the Sea*

Both the 1958 Convention on the Continental Shelf and UNCLOS provide that abandoned or disused installations need to be removed. However, there is an important distinction between both conventions, as article 5(5) of the 1958 Convention on the Continental Shelf explicitly stated that abandoned or disused installations should be *entirely* removed, whereas article 60(3) of UNCLOS tones down the obligation by stating 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 international organization. Such removal shall also have due regard to fishing, the protection of the marine environment and the rights and duties of other States. Appropriate publicity shall be given to the depth, position and dimensions of any installations or structures not entirely removed.²²

In other words, whereas the rules on removal are more relaxed and facilitate a partial removal, UNCLOS also identifies some general criteria – safety of navigation, marine environment and rights and duties of other states – that need to be taken into account in case of a removal. Apart from this, UNCLOS refers to ‘generally accepted international standards’ established by a competent international organisation. Such standards have been developed by the International Maritime Organization (IMO), which is a specialized agency of the United Nations and acts as the global standard-setting authority for the safety, security and environmental performance of international shipping.

2.2.2. *IMO Guidelines*

In 1989 the International Maritime Organization produced a set of non-binding guidelines and standards on the decommissioning of offshore installations and structures. Although these guidelines are non-binding, UNCLOS signatories have an obligation to take into consideration their content in accordance with article 60 of UNCLOS.

The IMO guidelines distinguish between three options, i.e. that an installation and/or structure needs to be entirely removed, partially removed or can remain in place. Installations and/or structures installed before 1 January 1998 need to be removed entirely if they are standing in less than 75 meters of water and weigh less than 4,000 tonnes, excluding deck and superstructure. For installations

²² UNCLOS, article 60(3).

and/or structures put in place after January 1 of 1998, the obligation to remove entirely applies if they are standing in less than 100 meters of water and weigh less than 4,000 tonnes.²³ Nevertheless, if such entire removal is not feasible or would involve extreme costs, or unacceptable risk to personnel or the marine environment, the coastal state may still opt for partial removal.²⁴ However, no exception applies to installations or structures located in or near selected routes for international navigation.²⁵

Heavier installations and structures positioned in deeper waters can be partially removed as long as the remaining parts will not cause unjustifiable interference with other uses of the sea. This entails that an unobstructed water column sufficient to ensure safety of navigation, but not less than 55 meters, should be provided above any partially removed installation or structure which does not project above the surface of the sea.²⁶

Last but not least, the guidelines provide for non-removal but only if the installation or structure will serve a new use and is not causing unjustifiable interference with other uses of the sea.²⁷ This option is becoming of increasing relevance as oil and gas fields are getting depleted and new uses of the sea and the seabed are being explored.

Except for those situations where complete removal is required, a decision to partially or not remove an abandoned or unused installation or structure should be based on a case-by-case assessment of the navigational and potential environmental effects, the feasibility as well as the costs and risks of removal and any justifications for leaving in place the infrastructure.²⁸

2.2.3. *Installations and Structures*

The removal obligations discussed above refer to abandoned and disused *installations* and *structures*. However, neither the Geneva Conventions and UNCLOS nor the IMO Guidelines define these terms. Given the explicit reference to safety of navigation and the fact that safety zones usually are established around platforms and not around subsea pipelines and cables, it is assumed that the term installations and structures refers to fixed objects arising above sea level such as oil and gas production platforms, but not to subsea cables and pipelines.²⁹ The removal obligations will therefore basically not apply to submarine pipelines

²³ IMO Guidelines, articles 3.1. and 3.2.

²⁴ IMO Guidelines, article 3.5.

²⁵ IMO Guidelines, article 3.7.

²⁶ IMO Guidelines, article 3.6.

²⁷ IMO Guidelines, articles 3.4. and 3.5.

²⁸ IMO Guidelines, article 2.1.

²⁹ M.M. Roggenkamp, 'Petroleum Pipelines in the North Sea: Question of Jurisdiction and Practical Solutions', *Journal of Energy and Natural Resources Law*, 1998, pp. 92–109.

and cables, although a distinction needs to be made between types of pipelines and cables, i.e. those which are part of the production installations, and others.

2.3. DUMPING

2.3.1. *London Convention*

Whereas the Law of the Sea Conventions and the IMO Guidelines govern the (partial or entire) removal of abandoned or disused installations and structures, they do not provide any further insight about the status of (parts of) the installations which *have not* been removed and how to deal with installations that *have* been removed. Are these activities allowed or are they to be considered as dumping? On the international level, the London Convention for the Prevention of Marine Pollution by Dumping of Wastes and Other Matters is the central legal instrument dealing with dumping.³⁰ In 1996 the London Convention was amended by the Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (London Protocol), which entered into force in 2006.³¹

The London Convention defines *dumping* as the deliberate disposal at sea of wastes, vessels, aircraft, platforms or other man-made structures.³² It distinguishes between wastes of which dumping is prohibited and waste of which dumping is possible pursuant to a special or general permit.³³ Since the entry into force of the London Protocol, authorised dumping is limited to materials listed in Annex I of the Protocol and subject to the award of a permit.³⁴ Vessels, platforms and other man-made structures are listed in Annex I and consequently dumping of these assets is subject to the award of a permit by the national competent authority.

2.3.2. *OSPAR Convention*

As regards the North Sea area, dumping is also governed by the OSPAR Convention for the Protection of the Marine Environment of the North-East Atlantic of 1992. The OSPAR Convention is ratified by 15 states, including all North Sea states and the European Union, and entered into force in 1998. Its primary aim is to protect the maritime environment in the North-East Atlantic,

³⁰ Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, London, 1972 (hereinafter: London Convention).

³¹ 1996 Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, London, 1996 (hereinafter: London Protocol), article 23.

³² London Convention, article III(1)(a).

³³ London Convention, article IV(1).

³⁴ London Protocol, article 4 and Annex I.

which includes the North Sea. Given the potential environmentally disturbing effects emanating from abandoning disused installations or structures, the Convention also provides rules on the removal and dumping of abandoned and/or disused installations and pipelines, whereby *dumping* is defined as the deliberate disposal in the maritime area of, inter alia, offshore installations and pipelines.³⁵ Article 5 of Annex III of the Convention stipulates that:

No disused offshore installation or disused offshore pipeline 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. The Contracting Parties shall ensure that their authorities, when granting such permits, shall implement the relevant applicable decisions, recommendations and all other agreements adopted under the Convention.³⁶

Decisions regarding dumping are taken on the basis of a case-by-case approach and require a marine environmental quality assessment. The placement of disused offshore installations or pipelines in the North-East Atlantic for other purposes than those for which they were designed and constructed is also only possible after authorization by the competent authority of the contracting party.³⁷ If remains of an installation or pipeline remain in situ or are placed elsewhere, contracting parties need to take appropriate measures to prevent or eliminate pollution caused by accidents.

Whereas Annex III of OSPAR requires a permit to dump or leave in place a disused installation or pipeline, contracting parties also need to take into account OSPAR Decision 98/3 on the Disposal of Disused Offshore Installations. This binding Decision goes a step further than the Convention as it in principle prohibits the dumping or the leaving in place of disused offshore installations³⁸ and limits the exceptions for which a permit can be awarded. A permit is only possible for 1) all or part of the footings of a steel installation weighing more than 10,000 tonnes in air, placed in the maritime area before 9 February 1999, 2) a gravity-based or floating concrete installation or a concrete installation constituting a concrete anchor base, 3) any other disused offshore installation, when exceptional and unforeseen circumstances resulting from structural damage or deterioration, or from some other cause presenting equivalent difficulties, can be demonstrated.³⁹ Since the OSPAR decisions

³⁵ Convention for the Protection of the Marine Environment in the North-East Atlantic, Paris, 1992 (Hereinafter OSPAR Convention), article 1(f)(ii)(2).

³⁶ OSPAR Convention, Annex III, article 5(1).

³⁷ OSPAR Convention, Annex III, articles 8 and 10(d).

³⁸ OSPAR Decision 98/3 on the Disposal of Disused Offshore Installations, Sintra, 22–23 July 1998 (hereinafter OSPAR Decision 98/3), point 2.

³⁹ OSPAR Decision 98/3, point 3 and Annex I.

only apply to offshore installations, the more general rules of Annex III of the OSPAR Convention remain in place for disused submarine pipelines.

2.4. THE NORTH SEA

The seabed of the North Sea qualifies as a continental shelf. The delimitation of the shelf between the states bordering the North Sea is based on a number of bilateral agreements.⁴⁰ As all North Sea states also are party to UNCLOS, the above rules on offshore decommissioning of installations and structures apply to them. However, in practice the extent to which disused installations and structures will be removed may differ, as the continental shelves of the Netherlands and Denmark have relatively shallow waters and the continental shelves of the United Kingdom and Norway are situated much deeper. As oil and gas production in the North Sea area started in the early 1970s, the question of decommissioning is now becoming more and more relevant. Experience with decommissioning is gradually being developed. The assessments involve not only an assessment of complete or partial removal but also of the extent to which the removal obligations apply to disused pipelines and cables, and more recently, the question whether or not the installations and pipelines can be re-used. So far these assessments are solely based on provisions of international law as EU law only relates to exploration and production of offshore hydrocarbons and offshore safety. A common approach with regard to decommissioning and re-use is missing.

3. OFFSHORE DECOMMISSIONING IN THE NETHERLANDS

3.1. INTRODUCTION

The discovery of the Groningen (onshore) gas field in 1959, amongst others, led to an increased interest in exploration activities offshore. The discovery of the first offshore gas field in 1970 (Block L 10) was followed by several other, relatively small, gas fields and the construction of three main gas transportation systems: NGT or Noordgastransport (from L10 to Uithuizen), WGT or Westgastransport (from K10 to Den Helder) and NOGAT (F15 also to Den Helder), which also is connected to the Danish continental shelf. Oil discoveries have been less. After the find of the first offshore oil field in 1980 (block Q1) only a few other smaller oil fields were found in that area.

⁴⁰ See n 17 above.

In 2019 the oil and gas infrastructure on the Dutch Continental Shelf consists of some 600 wells at a depth of 2,000–4,000 meters, 156 platforms (of which 151 are steel jackets and monopiles, two are steel gravity-based structures and two are concrete gravity-based structures), and about 3,000 kilometers of pipelines. The first offshore decommissioning started around the 1990s and is expected to peak around 2023. Total decommissioning costs offshore are estimated at approximately €5 billion.⁴¹

3.2. EXPLORATION AND PRODUCTION OF HYDROCARBONS

The use of the sea and the seabed requires a specific authorization, depending on the activity involved. For the purpose of this chapter, we need to distinguish between the exploration, production and storage of hydrocarbons, which are governed by the Mining Act and other (non-energy) activities requiring a permit on the basis of the Water Act (*Waterwet*).⁴²

3.2.1. Licensing Regime

The exploration and production of hydrocarbons are governed by the Mining Act (*Mijnbouwwet*).⁴³ This Act has applied since 2003 and replaces, amongst others, the Continental Shelf Mining Act of 1965 (CS Mining Act). It governs exploration and production of minerals (including oil and gas) onshore and offshore as long as these minerals are located at a depth of at least 100 meters.⁴⁴ The Act is supplemented by secondary legislation, i.e. a Royal Decree (*Mijnbouwbesluit*) and a Ministerial Decree (*Mijnbouwregeling*).

The Mining Act provides for a licensing regime based on the principles of the EU Hydrocarbons Licensing Directive (Directive 94/22/EC). Whereas

⁴¹ See draft explanatory note to a Bill amending the Mining Act (p. 1), <https://www.internetconsultatie.nl/mijnbouwwerken>. According to R. Versteegen at the 29th European Energy Law Seminar at The Hague in 2019, decommissioning costs in 2015 amounted to €0.1 billion in 2015 and are expected to amount to €5 billion.

⁴² Act of 29 January 2009, regarding regulation concerning the management and use of water systems (*Wet van 29 januari 2009, houdende regels met betrekking tot het beheer en gebruik van Watersystemen*), *Staatsblad* 29 January 2009, number 107 (hereinafter Water Act). Please note that since 24 June 2015 a special regime has applied for the development of wind energy offshore, see *Wet van 24 juni 2015, houdende regels omtrent windenergie op zee (Wet windenergie op zee)*, *Staatsblad* 30 June 2015, 261.

⁴³ Act of 31 October 2002, regarding regulations concerning the exploration for and the production of minerals and concerning mining related activities (*Wet van 31 oktober 2002, houdende regels met betrekking tot het onderzoek naar en het winnen van delfstoffen en met betrekking tot met de mijnbouw verwante activiteiten*), *Staatsblad* 14 November 2002, number 542 (hereinafter Mining Act). The Mining Act uses the term minerals (*delfstoffen*) to delimitate its working sphere.

⁴⁴ Mining Act, article 2(1)–(2).

the CS Mining Act provided for an exclusive exploration and production license, the new Mining Act also introduced a separate storage license.⁴⁵ Since the Environmental Management Act does not apply on the Dutch Continental Shelf, the Mining Act also provides for a separate environmental permit.⁴⁶ Surprisingly the Mining Act does not provide for a license for offshore pipelines and cables. However, article 94 of the Mining Decree requires a permit for the construction of offshore cables and pipelines, i.e. cables and pipelines connecting two mining installations or a mining installation and another installation for, respectively, the transport of electricity or electronic signals, or the transport of substances.⁴⁷ Although its legal basis is unclear, this permit governs the construction of pipelines and cables between mining installations and/or the shore but only as far as necessary to ensure its technical integrity and to limit the risk of damage. Consequently, it does not govern the exploitation of these pipelines or provide any rules with regard to its owners and/or applicants.

Exploration and production of hydrocarbons require two separate licenses. An exploration license is usually awarded following a process of competitive bidding and if an ‘economically exploitable quantity of hydrocarbons’ has been discovered, the holder of the exploration license will usually be awarded a production license. A prerequisite for the award of both licenses is that the applicant is technically and financially capable to carry out the proposed activities.⁴⁸ Licenses are usually awarded to a consortium of several oil companies.⁴⁹ By contrast to other North Sea states, the Dutch competent authority (Minister of Economic Affairs and Climate) is not involved in establishing the consortium or in drafting the Joint Operating Agreement.

3.2.2. *State Participation*

Since the development of the Groningen field the Dutch state has always participated in hydrocarbons production. In order to stimulate exploration, state participation applies to exploration activities since 2000. In practice the state participates via a limited liability company called BV Energie Beheer Nederland or EBN. The shares in EBN are held by the Dutch state, represented by the Ministry of Economic Affairs and Climate. EBN is, however, not a licensee but a non-operating partner on the basis of an Agreement of Cooperation. Depending on the year in which a license was awarded its participating share can vary from

⁴⁵ Mining Act, article 6 for the exploration and production of minerals and article 25 for the storage of substances.

⁴⁶ Mining Act, article 40.

⁴⁷ Mining Decree, article 94.

⁴⁸ It goes beyond the scope of this chapter to elaborate on the Mining Act’s licensing system. For an analysis, see M.M. ROGGENKAMP, ‘Energy Law in the Netherlands’ in M.M. ROGGENKAMP ET AL, *Energy Law in Europe*, Oxford University Press, Oxford, 2016.

⁴⁹ Mining Act, article 22.

40 per cent to 50 per cent. However, as of the 2003 Mining Act their share is set at 40 per cent.⁵⁰ When participating in exploration and/or production, EBN will pay its share of 40 per cent or 50 per cent of the activities and receive an equal part of the profit. It should be noted that in practice EBN also participates in offshore pipeline companies (e.g. WGT and NOGAT) with a share varying between 40 per cent and 50 per cent, either on a contractual basis or as a shareholder.

3.2.3. *Mining Installations*

The Mining Act makes a distinction between so-called *mining works* and *mining installations*. Whereas the former term denotes all works necessary for the exploration, production and storage of minerals, the term installation applies to all equipment that needs to be anchored on or is situated above surface waters. All offshore oil and gas installations necessary for the exploration and production of hydrocarbons thus qualify as mining installations, including accommodation platforms for offshore workers.⁵¹ The holder of an exploration and/or production license is entitled to construct and operate mining installations as long as it takes into account all safety and labor provisions and the earlier-mentioned environmental permits. Pipelines and cables between mining installations and between mining installations and facilities onshore do not fall qualify as a mining installation.

3.3. DECOMMISSIONING

The distinction that is made in international law between installations and pipelines and cables can also be found in the Dutch Mining Act. Below we will first discuss the rules governing the removal of mining installations and then we will examine the situation with regard to disused offshore pipelines and cables.

3.3.1. *Mining Installations*

The Dutch Continental Shelf consists of shallow waters with depths of less than 50–60 meters. In addition, the offshore reservoirs are relatively small. Consequently, Dutch offshore platforms are also rather small and lightweight. Approximately 50 per cent of all platforms on the continental shelf weigh less than 1,500 tonnes and 75 per cent weigh less than 2,500 tonnes.⁵² According to UNCLOS and the IMO Guidelines all platforms should be totally removed.

⁵⁰ Chapter 5.2.1 and 5.2.2 Mining Act.

⁵¹ Mining Act, article 1 (m)–(n).

⁵² EBN, *Focus on Dutch Oil & Gas* (2015), p. 42.

The Mining Act acknowledges this principle and requires a complete removal of disused mining installations as well as materials near the facility.⁵³ The term *disused* is not defined in the Act, but it appears from the explanatory memorandum of the Act that the removal provision aims at assuring that installations that no longer are in use for, inter alia, the exploration or production of minerals, should be removed.⁵⁴ The term *disused* can thus be interpreted as referring to a situation where a platform is no longer used for a mining activity. The removal obligation is not limited to the platform itself but pertains to the wells, since they are part of the mining installation.⁵⁵ Wells that are permanently abandoned need to be sealed by using cement or an equivalent alternative and the casing needs to be removed down to six meters below the seabed.⁵⁶

The removal obligation rests with the operator in case of a joint venture or with the last license holder in case of a single license holder.⁵⁷ When the license has lapsed, the obligation rests with the last operator or license holder.⁵⁸ The fact that the removal obligation always rests on one party, either the single license holder or the operator, streamlines communication, since the Ministry will only have to interact with one interlocutor on the issue of decommissioning. Given the significant costs involved in the removal of installations, there is always a risk that the operator or licensees are no longer willing or capable to pay for the removal costs once production has ceased. In order to prevent such situation, the Minister may require some sort of financial security such as a bank guarantee or any equivalent from the operator or licensee to cover the future decommissioning costs. It is up to the Minister to decide when such financial guarantee is needed, the kind of guarantee and the amount of the financial security.⁵⁹ To date, however, the Minister has not made use of this instrument.⁶⁰ Given the participation of EBN and tax allowances it is estimated that tax payers carry 73 per cent of the total cost of decommissioning.

The removal of a mining installation is subject to a removal plan.⁶¹ The removal plan specifies: 1) the way in which the mining installation will be removed as well as any scrap metal and other material in its vicinity; 2) the way the mining installation and related materials will be transported after they have been removed; 3) the final destination of the installation, all related materials and the waste from the platform; and 4) a timeline within which these activities will

⁵³ Mining Act, article 44(1).

⁵⁴ *Kamerstukken II* 29 September 1998, 26219, nr. 3, p. 26.

⁵⁵ Mining Decree, article 2.

⁵⁶ Mining Regulation, article 8.5.3.2.

⁵⁷ Mining Act, articles 44(5) and 41(4).

⁵⁸ *Ibid.*

⁵⁹ Mining Act, articles 47(2) and 46(3).

⁶⁰ Changes to the regime as suggested in a draft Bill amending the Mining Act. See: <https://www.internetconsultatie.nl/mijnbouwwerken>.

⁶¹ Mining Decree, article 60(1).

be performed.⁶² A removal plan has to be submitted for approval to the Minister eight weeks prior to the planned removal date.⁶³ By contrast to decommissioning onshore, where a removal plan needs to be submitted within one year after production has ceased,⁶⁴ the Mining Act does not provide such detailed guidance for decommissioning offshore as it merely states that the Minister may set a time limit for decommissioning.⁶⁵ According to the explanatory memorandum of the Act this provision is meant as a means to force unwilling operators into fulfilling their removal obligation, but also as a mechanism to allow for a postponement of the removal obligation in case a mining installation continues to be used as a part of the offshore gas transport infrastructure.⁶⁶

3.3.2. *Decommissioning Pipelines and Cables*

Similarly to UNCLOS and the IMO Guidelines, the Mining Act does not contain a removal obligation for disused pipelines and cables but leaves it to the discretion of the Minister whether or not to require a complete or partial removal.⁶⁷ However, a distinction needs to be made between types of pipelines and cables. Those which are part of the mining installation need to be removed in conjunction with the installation. The extent to which other disused pipelines and cables need to be removed, will be based on an assessment of the costs and benefits of removal, especially in relation to the freedom of navigation and the environmental consequences caused by removal and non-removal respectively. Pipelines constructed after 2016 have to be removed, unless the assessment shows that the social costs of removal do not outweigh the social benefits.⁶⁸ In case of removal, the obligation lies with the pipeline or cable manager (*beheerder*) or the last pipeline or cable manager.⁶⁹ In contrast to the provisions pertaining to mining installations, the Minister cannot set a deadline for removal of a pipeline or cable.

However, so far disused pipelines usually are left in place as long as they are 'clean and safe'.⁷⁰ In that case, the pipeline or cable manager has to inform the Minister of its intention.⁷¹ The Minister can instruct the manager on how to leave the pipeline or cable behind. In addition he can oblige the pipeline

⁶² Mining Decree, article 61(2).

⁶³ Mining Decree, article 60(2).

⁶⁴ Mining Decree, article 39(1).

⁶⁵ Mining Act, article 44(4).

⁶⁶ *Kamerstukken II* 29 September 1998, 26219, nr. 3, p. 27.

⁶⁷ Mining Act, article 45(1).

⁶⁸ Beleidsnote Noorzee 2016–2012, p. 49. See: <https://www.rijksoverheid.nl/documenten/beleidsnota-s/2015/12/14/beleidsnota-noordzee-2016-2021>.

⁶⁹ *Kamerstukken II* 29 September 1998, 26219, nr. 3, pp. 27–28.

⁷⁰ This is especially the case since pipelines and cables are usually located under the seafloor rather than on the seafloor.

⁷¹ Mining Decree, article 104(1).

manager to periodically check the pipeline and stipulate remedial actions.⁷² In practice, this may be difficult to enforce as there is no guarantee that the pipeline manager will still exist in future. In this regard it may be relevant that the Minister, as in case of mining installations, may request a financial guarantee from the pipeline or cable manager to cover the costs of removal.⁷³

3.4. CURRENT PRACTICE

Since the 1990s around 1.000 production locations have been abandoned and this has resulted in the decommissioning of 717 wells, 7 subsea facilities and 31 surface installations (top sides), of which 14 have been re-used.⁷⁴ In addition, about 39 pipelines have been removed but also more than 10 pipelines have been abandoned but not been removed. In the coming years more reservoirs will be depleted and wells as well installations be abandoned. In addition, other energy activities of the North Sea are being investigated. This has led to a new focus on the potential re-use of installations and pipelines. By re-using these facilities a decision on removal can be postponed.

4. RE-USE AS A NEW PARADIGM

4.1. INTRODUCTION

Installations can be re-used for several reasons and purposes, which vary from re-using (parts of) the installations as an artificial reef, re-using installations, wells and reservoirs for the permanent storage of carbon dioxide or re-using platforms for ‘power-to-x’ technologies, which involve the conversion of offshore-produced electricity into alternative energy carriers such as hydrogen and ammonia. Although the IMO Guidelines and the OSPAR Convention facilitate a re-use of installations, their focus was primarily usage as artificial reefs.⁷⁵ Only in more recent times, have other re-use options than merely rigs-to-reefs been considered as a viable alternative. Consequently, the Minister of Economic Affairs and Climate is preparing an amendment to the Mining Act to promote the re-use of offshore assets.⁷⁶ When considering re-use of installations,

⁷² Mining Decree, article 104(2)–(3).

⁷³ Mining Act, article 48.

⁷⁴ Figures provided by Nexstep October 2019. See also: <https://www.nexstep.nl/re-use/past-projects/>.

⁷⁵ IMO Guidelines, article 3.4.1. even explicitly mentions the enhancement of living resources as a potential re-use option.

⁷⁶ A draft Bill to amend the Mining Act and enable, inter alia, the re-use of installations has been published for consultation during spring 2019. See: *Kamerstukken II*, 13 December 2017 (*Duurzame ontwikkeling en beleid*), 30196, nr. G, p.2.

two prime issues need to be addressed. First, does the intended re-use involve the entire installation and how is the new use of the installation regulated? Secondly, what does any re-use mean for any decommissioning in the long term?

4.2. LEGAL ISSUES

Although the IMO Guidelines and OSPAR Decision 98/3 explicitly allow for the re-use of offshore platforms, the OSPAR Decision 98/3 prohibits leaving installations in place unless these installations have found a new purpose regulated by the national authorities. When considering the earlier mentioned re-use options, it is important to identify whether these alternatives are being regulated. So far, this is only the case for the permanent storage of carbon dioxide offshore. Following the need to transpose Directive 2009/31/EC on the geological storage of carbon dioxide into national law, the Mining Act has been amended and chapter 3 of the Mining Act now provides for a licensing regime for carbon storage. Although a hydrocarbons production license and a carbon storage license are two different licenses, both licenses (and installations) fall under the scope of the Mining Act. However, when (part of) a disused installation is transformed into an artificial reef or used for converting electricity into another gas than natural gas, the installation can no longer be considered as a 'mining installation' and thus falls outside the scope of the Mining Act. It therefore needs to be assessed whether these activities and installations can be governed by another legal or regulatory framework.

The issue of re-using an installation or part of it as an artificial reef has been discussed for several decades. Will such re-use promote biodiversity or should it be considered as some sort of waste and thus be prohibited? The OSPAR Guidelines on Artificial Reefs in relation to Living Marine resources of 2012 provide clear guidance on the issue, as they state that 'no materials should be used for the construction of artificial reefs which constitute wastes or other matter whose disposal at sea is otherwise prohibited.'⁷⁷ However, these guidelines are non-binding and still leave some room for re-using a disused platform as an artificial reef. In order to enable such a re-use on the Dutch Continental Shelf and to circumvent the situation that a disused mining installation has to be entirely removed, it would be necessary to find another legal basis. The only alternative would be a permit under the Water Act, since this Act regulates all activities taking place in onshore and offshore waters unless these activities are governed by specific sectoral laws such as the Mining Act. Does the Water Act permit the re-use of a disused installation as an artificial reef? A permit under

⁷⁷ OSPAR Guidelines on Artificial Reefs in relation to Living Marine Resources, Bonn, 2012 (hereinafter OSPAR Guidelines on Artificial Reefs), point 13.

the Water Act also requires a new use and an assessment whether the artificial reef can be considered as an installation. To the extent that an artificial reef is an installation, a water permit can be awarded on the basis of article 6.13 of the Water Decree. Such a permit can be awarded under certain conditions, such as the need to compensate for any negative environmental impact and, if necessary, cease the permitted activity.⁷⁸ In theory, the permit could also include a removal obligation and the possibility to require a financial guarantee.⁷⁹ Whether it is feasible to remove an artificial reef remains to be seen.

Like artificial reefs, the re-use of installations for the production of hydrogen and/or ammonia is not governed by the Mining Act.⁸⁰ This means that the installations needed for these activities have to be permitted under the Water Act. By contrast to artificial reefs, the situation is rather straightforward, as these installations still can be considered as an installation and therefore a water permit can be awarded for the installation in place, although for another purpose than originally intended.⁸¹ The same may apply to offshore pipelines which no longer will be used to transport hydrocarbons. A pipeline transporting hydrogen or any other chemical substance from an offshore installation to shore will not qualify as a pipeline under the Mining Decree and will thus need a permit on the basis of the Water Decree. As a consequence, not only does a new permit need to be applied for but in addition the re-used installations and pipelines would no longer be subject to the operational rules of the Mining Act and/or Mining Decree. However, at the moment the Water Act does not provide for such operational and safety rules. This could thus result in a regulatory gap, which needs to be addressed.

Re-use of installations can serve many purposes and the extent to which it is feasible is not only a matter of analyzing the economic, legal and technical challenges. However, with regard to the issue of decommissioning it will merely postpone the decision to decommission the installation, as a re-used installation may also become disused, maybe except for a re-use as an artificial reef. In order to deal with such postponed disuse, the parties involved and the legislator are confronted with several issues. Is the original licensee exempted from all decommissioning obligations if an installation is re-used or is the original licensee still responsible for some of the decommissioning obligations? Is it sufficient to include a decommissioning obligation in the new water permit or should the Water Act be amended so as to address the decommissioning obligations?

⁷⁸ Water Act, article 6.20(1).

⁷⁹ Water Act, article 6.20(1).

⁸⁰ An interesting observation in this respect is that the production of molecules in ‘power-to-x’ activities is not covered by the Mining Act, but that the storage of molecules in the subsoil *would* be covered by the Mining Act. This is the case since the Mining Act regulates all subsoil storage of substances.

⁸¹ Water Decree, article 6.13(1)(c).

4.3. A NEW APPROACH REQUIRED?

The current regulatory framework for offshore energy activities does not provide any standardized and streamlined procedure for re-using mining installations. Although the Water Act could facilitate re-use for other purposes than those provided for by the Mining Act, the provisions in the Water Act are limited and provide for a rather ad hoc solution. Given the fact that it is envisaged that many other energy activities will be developed offshore and these activities require a stable regulatory framework instead of ad hoc decisions, it could be argued that the entire legal framework should be amended so that the construction and exploitation of offshore installations are governed by one single Act instead of several independent but related sectoral laws.

5. CONCLUSIONS

Decommissioning of oil and gas installations on the Dutch Continental Shelf is based on the main principle of international law that disused installations in shallow waters need to be entirely removed. Although some experience has been gained with the removal of disused installations and pipelines, large-scale decommissioning is expected around 2023. Given new technologies and climate-change mitigation concerns, several re-use options are emerging, which may result in the award of new permits for other uses of existing installations and an extension of some decommissioning strategies. Despite the advantages of re-using installations, this option should not be used as a loophole to circumvent existing removal obligations. Although the current legal framework does not seem to prohibit the re-use of installations and pipelines, all three re-use options briefly discussed in this chapter suffer from ambiguities, uncertainties and barriers in the regulatory framework that may hinder their offshore operationalization. To facilitate re-use and the emerging new energy activities offshore, a thorough revision of the current legal framework governing decommissioning and offshore permitting is necessary. This should be done for the Dutch Continental Shelf but preferably for the entire North Sea area.