

Appendix

Case studies on national legislation relevant to deep-sea mining

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1 Introduction

This appendix contains a series of country case studies on national deep-sea mining legislation. For the purpose of the case studies, deep-sea mining has been defined as means mineral exploration and or exploitation on or below the seabed at a depth of 200 metres or more. Each case study is set out in a separate chapter and follows a common order as follows:

- a) legislation on maritime zones;
- b) legislation on deep-sea mining in areas under national jurisdiction;
- c) legislation on deep-sea mining in the Area;
- d) environmental protection legislation of potential relevance to deep-sea mining;
- e) draft legislation/policy proposals relevant to deep-sea mining.

However in the case of countries where the seabed of the continental shelf or Exclusive Economic Zone (EEZ) is less than 200 metres deep, the case study for that country focuses only on legislation relating to deep-sea mining in the Area.

The countries and jurisdictions that are included in this Appendix are as follows:

- a) European Union (EU) Member States: France, Germany, Greece, Italy, the Netherlands, Portugal, Spain and the United Kingdom;
- b) EU Overseas Countries and Territories (OCTs): Greenland, New Caledonia and Dependencies, French Polynesia, French Southern and Antarctic Territories, Wallis and Futuna Islands, Mayotte, Saint Pierre and Miquelon, Aruba, Bonaire, Curaçao, Saba, Sint Eustatius, Sint Maarten, Anguilla, British Antarctic Territory, Bermuda, British Indian Ocean Territory, Cayman Islands, Falkland Islands, Montserrat, Pitcairn, Saint Helena and Dependencies, South Georgia and the South Sandwich Islands, Turks and Caicos Islands, British Virgin Islands;
- c) Third countries: Canada, China, Fiji, Japan, Papua New Guinea and the United States of America.

For ease of navigation this appendix is laid out in the alphabetical order of the respective countries and jurisdictions.

2 Canada

2.1 Legislation on maritime zones

Canada has claimed an exclusive economic zone (EEZ) and a continental shelf in legislation (although the continental shelf claim existed as a matter of law prior to the legislative assertion, consistent with international law). The 1996 *Oceans Act*, SC 1995 c 31, consolidated Canada's claims to its marine jurisdictional zones, including internal waters, the territorial sea, the contiguous zone, the EEZ and the continental shelf, all in terms consistent with the 1982 UN Convention on the Law of the Sea (UNCLOS).

The EEZ is claimed to a maximum of 200 nautical miles (nm) from the baselines from which the territorial sea is measured, or, where specified (as with maritime boundaries), to defined coordinates (section 13). Canada's sovereign rights over the area are defined in section 14 of the Act, in terms identical to the definition of EEZ jurisdiction found in article 56 of UNCLOS; these include, *inter alia* "sovereign rights ... for the purpose of exploring and exploiting, conserving and managing the natural resources, whether living or non-living, of the waters superjacent to the seabed and of the seabed and its subsoil."

In addition to assertion of the claim, the *Oceans Act* in section 15(1) makes it clear that the any rights in the area are held by the Crown in right of Canada (as opposed to any provincial Crown): "[A]ny rights of Canada in the seabed and subsoil of the exclusive economic zone of Canada and their resources are vested in Her Majesty in right of Canada."

Section 17(1)(a) of the *Oceans Act* defines Canada's continental shelf as extending (in the absence of any opposing claim) beyond the territorial sea "to the outer edge of the continental margin, determined in the manner under international law that results in the maximum extent of the continental shelf of Canada ..." or to at least 200 nm where the shelf does not extend beyond that distance (section 17(1)(b)). The intent of this section was to allow Canada to claim the maximum permissible under article 76 of UNCLOS, which was not referenced in detail due to the fact that Canada was not a party to UNCLOS at the time.

Canada subsequently ratified UNCLOS in 2003, and its claims to a continental shelf will conform to article 76. On December 6, 2013, Canada submitted to the Commission on the Limits of the Continental Shelf (CLCS) a *partial* claim to an extended continental shelf beyond 200 nm in the Atlantic Ocean,¹ extending well beyond 350 nm in some areas. Canada intends to make a further submission respecting the Arctic at a later date; on the Pacific coast it is expected that the claim will generally be limited to 200 nm.

The scope of jurisdiction is defined in section 18 in terms identical to article 77 of UNCLOS, claiming "sovereign rights over the continental shelf of Canada for the purpose of exploring it and exploiting the mineral and other non-living natural resources of the seabed and subsoil of the continental shelf". As with the EEZ, section 19 further asserts that any rights of Canada in the resources of the shelf vest with the Crown in right of Canada.

¹ Available online: http://www.un.org/Depts/los/clcs_new/submissions_files/can70_13/es_can_en.pdf.

2.2 Legislation on deep-sea mining in areas under national jurisdiction

Although it clearly has the jurisdiction to do so Canada has not established an integrated or specific legal regime for the management of deep-sea minerals exploration and exploitation in its EEZ or on its shelf (or indeed for non-oil and gas minerals exploration at all, regardless of depth). This does not mean, however, that the industry would be completely free of regulation, as the application of Canadian laws to these areas, including permitting requirements under some statutes of general application, would govern some aspects of the activity. Before considering the range of applicable legislative instruments, however, it is necessary to briefly outline elements of Canada's constitutional framework which are relevant to this examination.

2.2.1 Constitutional Issues

Offshore Jurisdiction

Jurisdiction over the offshore areas within the scope of this study (i.e. in the EEZ or shelf areas, in deep water, presumably seaward of the territorial sea), lies with the federal Government. A series of jurisdictional disputes between provinces (principally Newfoundland and Labrador, Nova Scotia and British Columbia) were, by the 1980s, determined in favour of the federal government (although provinces may retain jurisdiction over certain areas of internal waters and territorial sea, which are not within the scope of this study).² However, as a result of jurisdiction-sharing agreements with Newfoundland and Labrador and Nova Scotia, management of oil and gas exploration and development in defined offshore areas I the Atlantic adjacent to those provinces (out to the limits of the shelf) is delegated to two offshore Boards, operating under mirror federal and provincial legislation and with shared responsibilities.³ The jurisdiction of these Boards, however, is limited to oil and gas exploration and exploitation, and as such does not impact other forms of mineral exploration.

It should also be noted that the three Territories – Nunavut, Northwest Territories and Yukon – do not have provincial status, and in limited near-shore areas subject to agreements with the territorial governments and aboriginal groups there is an involvement of the Department of Indian Affairs and Northern Development in the planning and approval of offshore activities.

Onshore Mining

Mining generally falls within the legislative competence of the provinces under the *Constitution Act*, as a matter affecting “property and civil rights” within the province.⁴ As a result, there is no plenary legislation governing mining at a national level which could be extended into the offshore, and the federal government only exercises jurisdiction over impacts within its jurisdiction (such as impact on fisheries) or mining in lands under direct federal jurisdiction (Crown lands and the three territories). There are comprehensive regulations governing mining *within* the Territories as areas of federal jurisdiction (see eg. *Nunavut Mining Regulations*⁵).

2.2.2 Federal Authority over Deep-sea Mining Activities

As noted above, the fact that there is no specific federal legal regime governing deep-sea minerals exploration and exploitation does not mean that it could simply proceed as an unregulated activity. The federal government would assert both proprietary interests governing the grant of any tenurial rights to access such resources, and there are provisions for the general application of “federal laws” to the EEZ and shelf (especially physical operations on the shelf) which provide the basis for,

² See, eg.: *Reference re Newfoundland Continental Shelf*, [1984] 1 SCR 86, 1984 CanLII 132 (SCC); *Reference Re: Offshore Mineral Rights*, [1967] SCR 792, 1967 CanLII 71 (SCC).

³ The federal versions of the mirror legislation are: *Canada-Nova Scotia Offshore Petroleum Resources Accord Implementation Act*, S.C. 1988, c. 28; *Canada-Newfoundland Atlantic Accord Implementation Act*, SC 1987, c. 3. Descriptions of the Board mandates and activities are available online at: <http://www.cnsopb.ns.ca/> (Nova Scotia) and www.cnlopb.nl.ca (for Newfoundland and Labrador).

⁴ *Constitution Act* 1867, section 92.

⁵ SOR/2014-69

if not the specific content of, a legal regime for mineral exploration. Further, various permitting authorities which may be applicable to the activities in question, and which apply to the areas in question, must be considered. (There is also jurisdiction with respect to the application of environmental impact assessments to the industry – this is addressed separately below.)

Rights to Tenure and Access to Resources

As explained above, the *Oceans Act* vests any rights and interests of Canada in the seabed and subsoil of the continental shelf and EEZ, as well as the resources therein, in the federal Crown. This interest in the seabed cannot in a technical sense rise to the level of full “ownership” as understood in domestic law, as the rights granted under international law are limited, and not territorial in nature. However, the sovereign rights which do exist over the resources are sufficient for domestic law purposes to exclude all others from the activities which comprise exploration and exploitation (which the government has the “sovereign right” to control), and to empower the federal government to grant access by way of lease or otherwise.

In the case of oil and gas resources, this power is exercised by way a detailed exploration and leasing regime, in which progressive levels of exploration and production rights are obtained by licensing and discovery of commercial resources.⁶ No equivalent legislative scheme exists for offshore minerals, but the basic power to exclude private parties from the resources, and to grant rights to them, nonetheless still exists and could be exercised by the government through an agreement with the private parties involved. The *Federal Real Property and Federal Immovables Act*, SC 1991, c 50, establishes the federal power to make grants by way of concession, lease or licence to federal real property (section 5), and defines real property broadly to include any “interest” in land and areas outside of Canada (section 2).⁷

In sum, despite the lack of any integrated legislative regime for the granting of rights to minerals in offshore areas, the federal government would have the power to exclude any potential operator, or to grant the necessary rights by way of agreement.

Extension of Canadian Legislation

Two legislative provisions purport to extend the application of Canadian laws in a general way to the EEZ and continental shelf, subject to some limitations. First, the *Interpretation Act*, which sets rules for the interpretation of all Canadian legislation and regulations, provides as follows in section 8:

- 8(2)(2.1) Every enactment that applies in respect of exploring or exploiting, conserving or managing natural resources, whether living or nonliving, applies, in addition to its application to Canada, to the exclusive economic zone of Canada, unless a contrary intention is expressed in the enactment.
- (2.2) Every enactment that applies in respect of exploring or exploiting natural resources that are
 - (a) mineral or other non-living resources of the seabed or subsoil, or
 - (b) living organisms belonging to sedentary species ...applies, in addition to its application to Canada, to the continental shelf of Canada, unless a contrary intention is expressed in the enactment.

The effect of these provisions is untested, and could raise questions as to their compatibility with international law, if domestic legislation that exceeded the relevant international jurisdiction were applied. Moreover, the only broad-based federal mining regulations which might form the basis for detailed regulation of the industry are by their terms limited to the Territories, and thus would not be open to extension under these subsections, and other acts of interest, such as the *Species at Risk*

⁶ See the Nova Scotia and Newfoundland , *supra* and, for other offshore areas, the *Canada Petroleum Resources Act*, RSC, 1985, c 36 (2nd Supp.).

⁷ For purposes of legislative interpretation, “Canada” includes the land mass, internal waters and territorial sea – the EEZ and shelf would be “outside Canada” but within Canadian jurisdiction. *Interpretation Act*, RSC 1985, c I-21, s 35(1).

Act, SC 2002, c 29 and, for some purposes, the *Canadian Environmental Protection Act 1999*, SC 1999, c 33 (CEPA 1999) explicitly limit their application to internal waters and the territorial sea.

The *Oceans Act* deals more directly with this issue in respect of continental shelf “installations,” which are broadly defined in section 2 to include any rig, ship, barge or other equipment used for the exploration and exploitation of seabed resources. Section 20(1) provides that all federal laws apply “on or under” such installations and in the surrounding 500 metre safety zones (even where a contrary intention is found in the Act), subject to the rights of other states in the area (section 20(2)).

For the operating equipment (whether rig, barge or ship) and immediate environs of any site, therefore, a wide range of Canadian criminal, social and tax legislation would clearly apply. The scope of this application has not, however, been explored in practice, in large part because the details of legislative application in the existing sectors of industrial activity – oil and gas – have been subject to specific legislation which sets out in greater detail how federal laws are applied. Also, as noted above, the absence of any general federal regulatory regime for mining limits the usefulness of the existing federal law as the basis for offshore regulation of the industry,⁸ although it does provide for the regulation of labour, safety and related matters.

Permitting Authorities

As stated above, the lack of a single regulatory regime governing deep-sea minerals does not necessarily exclude the potential application of a number of federal legislative regimes, in particular by way of permit requirements which must be met before activities associated with minerals exploration and exploitation could be commenced. It should be emphasized that the applicability of any specific requirement to a particular project or activity would depend on the facts of the situation, and in some cases on Ministerial determinations that a permit was required; but in some instances it seems clear that the permit power would be engaged, whereas in others it is equally clearly excluded.

Fisheries Act

Under the federal *Fisheries Act*, RSC 1985 c F-15, certain activities are prohibited, except where authorized (with conditions) by the Minister of Fisheries and Oceans. The prohibited activities which might occur in the course of minerals exploration and exploitation include the following:

Deposit of Deleterious Substances - Section 36 prohibits, except where authorized, the “deposit” of substances “deleterious to fish” in waters “frequented by fish”. A “deleterious substance” is broadly defined, and includes, *inter alia* any substance which “if added to any water, would degrade or alter ... the quality of that water so that it is rendered or is likely to be rendered deleterious to fish or fish habitat or to the use by man of fish that frequent that water” (section 34). It is likely that minerals exploration and exploitation would at times require the deposit of such substances.

Works or Undertakings Causing Serious Harm to Fish - Section 35(1) prohibits, except where authorized, the carrying on of “any work, undertaking or activity that results in serious harm to fish that are part of a commercial, recreational or Aboriginal fishery, or to fish that support such a fishery.” The application of this section (which was amended in 2012 so as to significantly narrow its scope) is dependent upon a judgment as to serious harm”, and on the presence of one of the designated fisheries. It does seem likely, however, that if mining activities are carried on in any area in which a fishery exists, the “serious harm” requirement would be met and the permit power engaged.

Navigation Protection Act

⁸ The mining regulations applicable to Yukon, Nunavut and Northwest Territories would *not* be applicable here – s 2 of the *Oceans Act* excludes territorial legislation from the definition of “federal laws”.

The *Navigation Protection Act*, RSC 1985 c N-22, section 3, provides that no one shall (in the absence of a permit), “construct, place, alter, repair, rebuild, remove or decommission a work in, on, over, under, through or across” certain navigable waters. However, recent amendments to the Act (2012) limit the effect of this requirement – only waters described in the Schedule to the Act are affected, and in ocean areas the Schedule limits the geographic application to waters between the high water mark and the outer limits of the territorial sea, which will exclude the areas considered in this report.

Other

In addition to the specific legislation considered above, a number of other laws of general application will apply to aspects of minerals exploration and exploitation, but are not directly targeted to the management of that industry, and are therefore not specifically considered here. For example: under the *Canada Shipping Act 2001*, SC 2001, c 26, vessels engaged in work on minerals projects will be subject to rules such as MARPOL and ballast water regulations; taxation and customs implications of operations offshore are subject to provisions in the *Income Tax Act* and other legislation; labour code provisions apply to regulated activities in the offshore (The *Oceans Act* includes a large number of consequential amendments respecting the application of Canadian legislation in maritime zones).

2.2.3 Potential Applicability of Provincial Laws

The *Oceans Act*, section 9(1) allows for the application of provincial laws to the offshore where the federal government so prescribes by regulation. However, this power to provide for application of provincial laws is likely to be limited to social welfare and related legislation, and section 9(2)(b) specifically precludes the application of any provincial law which “relates to mineral or other non-living natural resources.” Thus, provincial mining legislative regimes would not be available for application as a “ready-made” regulatory regime for minerals exploration and exploitation in the offshore.

2.3 Legislation on deep-sea mining in the Area

With the exception of the Antarctic legislation described below, there is no generally applicable Canadian legislation which regulates the activities of Canadian persons or entities conducting seabed mineral exploration and exploitation within the continental shelf jurisdiction of foreign states, or within the international seabed area (the ‘Area’) under the jurisdiction of the International Seabed Authority (ISA). It is a principle of Canadian law that legislation does not have extra-territorial prescriptive effect unless it is explicitly stated in the legislation (as with, eg. crimes against humanity and certain other international crimes).

The exception referred to above is the *Antarctic Environmental Protection Act*, SC 2003, c 20, which implements Canada’s obligations as a party to both the *Antarctic Treaty* and the 1991 Protocol on Environmental Protection to the Antarctic Treaty. Under the Act, which by section 2(1) applies to the Antarctic continent and associated islands and “all areas of the continental shelf that are adjacent to that continent or to those islands and that are south of 60° south latitude.” Within these areas the following prohibition applies:

11. No Canadian or Canadian vessel shall, in the Antarctic, conduct any activity relating to mineral resources, including the recovery or exploitation of, or the prospecting or exploration for, mineral resources. This does not prohibit scientific research conducted in accordance with a permit or under the written authorization of another Party to the Protocol.

Given the status of the Antarctic, this clear prohibition could apply both to areas within *claimed* national continental shelf jurisdiction (leaving aside whether those claims are legitimate) and unclaimed areas within the jurisdiction of the ISA.

2.4 Environmental protection legislation of potential relevance to deep-sea mining

Canadian Environmental Protection Act 1999

CEPA 1999 incorporates as Part VII Division 3 the legislative implementation of the 1972 *Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter* (London Convention). While CEPA 1999 includes broad prohibitions on the unauthorized disposal of waste at sea without a permit – applicable in various areas including the sea inside and outside Canadian jurisdiction – it will not have direct application to substances derived directly from seabed mining. Section 122(2)(k) provides for the following exclusion from the definition of “disposal”:

122 (2)(k) a discharge or storage directly arising from, or directly related to, the exploration for, exploitation of and associated off-shore processing of seabed mineral resources.

This exclusion, which exists in the London Convention, was presumably based on the assumption that such disposal is best regulated under the legislative regime governing the industry in question (which, in the case of Canada, does not exist).

2.4.1 Environmental Impact Assessment

The legislation governing environmental impact assessments is the *Canadian Environmental Assessment Act 2012*, SC 2012, c 19, s 52 (CEEA 2012). As explained below the Act has *potential* applicability to the exploration and exploitation of deep-sea minerals, but there is no mandatory requirement for conduct of an environmental impact assessment (EIA) – moreover, where an EIA is required, its scope may be quite limited.

The CEEA 2012 provides for environmental assessment of “designated projects,” defined in section 2 as one or more “physical activities” which: i) occur in Canada or on federal lands; ii) are designated by regulation or Ministerial order; and iii) are “linked” to a federal authority in the sense of requiring an authorization or permit from that authority. The “federal lands” criterion would be met by an offshore minerals project, as these areas are defined as including the EEZ and continental shelf (section 2). Likewise, the requirement for a “link” to a federal authority is most likely met by the need for a lease or similar authorization, or a permit under the *Fisheries Act* (see above).

The difficulty arises in determining whether the activities associated with offshore minerals exploration and exploitation will be considered designated “physical activities” subject to the Act. There are two ways in which physical activities can be designated: inclusion in the general regulations made under section 84(a), and by Ministerial order under section 14(2).

The *Regulations Designating Physical Activities*, SOR/2012-147, set out in the Schedule a number of activities which are designated for purposes of the definition of designated projects. The only offshore activities specifically designated relate to the exploration for and exploitation of oil and gas, including drilling, construction and decommissioning of rigs. The construction of “mines or mills” in wildlife areas is included, although the term “mine” is not defined. Section 16 of the Schedule designates the “construction, operation, decommissioning and abandonment” of certain mines, including: metal mines with ore production of over 3,000 tonnes/day; rare earth and gold mines (not

including placer mines) with production of over 600 tonnes/day; stone quarries and sand/gravel pits with production over 3,500,000 tonnes/year.

Applicability of the Regulations (and therefore the CEEA 2012) to offshore minerals activities is uncertain. The term “mine” is undefined, and may very well extend to, eg., dredging operations. If such activities are included, the Regulations are still only applicable to particular types of mining or defined output. Finally, there is no provision in the Regulations which would designate the crucial *exploration* activities – they are limited to construction, operation and decommissioning. The scope of application of these designated activities has not been tested in court, but it appears at least problematic to extend them to offshore minerals exploitation, and they clearly do not apply to exploration activities (outside wildlife areas).

If the Regulations are found not to apply to the relevant activities related to offshore minerals, the Minister of the Environment may designate any such activities as requiring assessment, by Order under section 14(2), “if, in the Minister’s opinion, either the carrying out of that physical activity may cause adverse environmental effects or public concerns related to those effects may warrant the designation.” This is a discretionary power, but the kinds of activities associated with seabed minerals exploration would certainly fall within the categories of potential adverse effects and public concern.

If an offshore seabed minerals project is considered to fall within the scope of the Regulations as a designated project, this does not mean that it will be subject to an environmental assessment – by section 10 the Canadian Environmental Assessment Agency (CEEA) will review the potential adverse effects and determine (within 45 days) whether the project will be subject to an assessment. If, however, the project is designated by Ministerial Order under section 14(2), it will be subject to an assessment.

Where an environmental assessment is required, for this category of projects it would be conducted by the CEEA (other agencies are responsible for nuclear and energy projects). The environmental assessment may be conducted fully through an Agency process, including an Environmental Impact Statement (EIS), and Environmental Assessment (EA) Report and Decision by the Minister. For larger, more potentially adverse projects a full review by an independent Panel may be ordered, leading to a Panel Report. Regardless of which process is followed, the results of the assessment are essentially recommendatory in nature and the final decisions are political – the Minister makes the determination whether there are significant environmental effects, and the federal Cabinet will decide whether they are justified.⁹

2.4.2 *Marine protected areas*

Marine protected areas (MPAs) or analogous protections are provided for under four legislative schemes:

- National Marine Conservation Areas (NMCAs) under the *Canada National Marine Conservation Areas Act*, SC 2002, c 18 (administered by Parks Canada);
- Marine Wildlife Areas under the *Canada Wildlife Act*, RSC 1985, c W-9 (administered by the Canadian Wildlife Service);
- Migratory Bird Sanctuaries under the *Migratory Birds Convention Act* SC 1994, c 22 (administered by the Canadian Wildlife Service);
- Marine Protected Areas (MPAs) under the *Oceans Act*, administered by the Department of Fisheries and Oceans.

⁹ A schematic representation of the assessment process is available online at: http://www.ceaa-acee.gc.ca/Content/B/0/5/B053F859-4895-45A9-8A3A-E74CBE58912A/EA_processes-Processus_EE.pdf.

The most significant provisions for deep-sea application will be the MPA provisions of the *Oceans Act*, and it is the only form of protection to date applied in areas potentially subject to the activities under consideration here.

NMCAs

NMCAs, which are managed by the national parks service, may be established for the “purpose of protecting and conserving representative marine areas” (section 4 NMCA Act). Section 5(1) limits their application to internal waters, territorial sea and the EEZ, so that shelf areas cannot be included. While NMCAs are mandated to include areas of sustainable use and development, mining activities are simply prohibited (section 13), consistent with the strong conservation purposes of the legislation.

Marine Wildlife Areas

Under the *Canadian Wildlife Act*, section 4.1(1), the federal government may “may establish protected marine areas in any area of the sea that forms part of the internal waters of Canada, the territorial sea of Canada or the exclusive economic zone...”. The Minister is empowered to “carry out measures for the conservation of wildlife in those areas,” (section 4.1(2)), and under section 12 the Minister may make regulations “for the conservation of wildlife” in these areas. The Regulations in force for terrestrial Wildlife Areas, the *Wildlife Area Regulations*, CRC c 1609, provide in section 3(1)(k) that no one shall “carry on any commercial or industrial activity” in a wildlife area unless they are doing so under a permit or authorization. However, no Marine Wildlife Areas are currently designated under the Regulations, although land-based areas with marine adjuncts are included. The first candidate Marine Wildlife Area, around the Scott Islands in British Columbia, would designate areas in reasonably close proximity to the islands (which are bird breeding areas).

Migratory Bird Sanctuaries

The *Migratory Birds Convention Act* and the *Migratory Bird Sanctuary Regulations*, CRC c 1036 provide for the creation of migratory bird sanctuaries to protect Convention-designated migratory species. The sanctuaries can be created in marine areas, and prohibit the hunting of birds and disturbance of nests. The regulations do not directly provide for prohibition of specific industrial activities, and to date sanctuaries in marine areas have been closely associated with terrestrial areas.

MPAs

While the NMCA and Marine Wildlife Areas (and to a lesser degree migratory bird sanctuaries) could potentially apply to areas of interest to deep-sea minerals exploration (out to 200 nautical miles), their sectoral limitations and the fact that in practice they have not been applied to areas further offshore means that the most relevant protected area provisions will be those found in the *Oceans Act* dealing with MPAs, which encompasses a much broader range of potential purposes.

The *Oceans Act* in section 35 provides for the designation of MPAs (out to the limit of the EEZ) for the conservation and protection of: i) “commercial and non-commercial fishery resources, including marine mammals, and their habitats”; ii) “endangered or threatened marine species, and their habitats”; iii) unique habitats generally; iv) areas of “high biodiversity or biological productivity”; and v) “any other marine resource or habitat as is necessary to fulfil the mandate of the Minister.” The very broad set of purposes in section 35 is implemented via a process that includes the selection and assessment of “Areas of Interest” (AOIs), extensive consultation and the eventual promulgation of regulations on the recommendation of the Minister of Fisheries and Oceans. The regulations designate the MPA and prescribe the particular management measures applicable to that MPA. This approach means that there is no generic set of management measures, and allows for tailoring

the degree of protection to the interests and areas being protected. Emergency orders under section 36 allow the Minister to exercise any of their powers under section 35 without regulations, but only for up to 90 days.

The MPA provisions of the *Oceans Act* clearly provide a means to regulate or completely prohibit seabed minerals exploration and exploitation for purposes of conserving and protecting any of the resources or habitats described in section 35, and this is confirmed by consideration of the regulations in places for the three MPAs designated to date in areas further offshore in deep water. The Sable Gully MPA, designated in 2004, protects a large undersea canyon with high biodiversity and unique habitat 200 km off the coast of Nova Scotia in waters of 2,000 metres depth and more. The *Gully Marine Protected Area Regulations*, SOR/2004-112, include the following prohibitions:

4. Subject to sections 8 to 10 [note – *the exceptions in ss 8-10 do not include minerals exploration or exploitation*], no person shall
 - (a) disturb, damage or destroy in the Gully Marine Protected Area, or remove from it, any living marine organism or any part of its habitat;
 - (b) disturb, damage or destroy in the Gully Marine Protected Area, or remove from it, any part of the seabed, including the subsoil to a depth of 15 m of the seabed; or
 - (c) carry out any activity — including depositing, discharging or dumping any substance, or causing any substance to be deposited, discharged or dumped — in the Gully Marine Protected Area or in the vicinity of that Area that is likely to result in the disturbance, damage, destruction or removal of anything referred to in paragraph (a) or (b).

The broad prohibitions in section 4 (especially the “any activities” provision) would clearly prevent the carrying out of work associated with the exploration and exploitation of seabed minerals. A second offshore MPA designated in 2008, the Bowie Seamount MPA approximately 180 km off the coast of British Columbia, includes a complex of three undersea volcanos and ranges in depth from 3,000 metres to 20 metres. The *Bowie Seamount Marine Protected Area Regulations*, SOR/2008-124, section 3, applies the same prohibitions as section 4 of the Gully Regulations. The third relevant MPA is the Endeavour Hydrothermal Vents MPA, at 2,250 metres depth 250 km off British Columbia – the *Endeavour Hydrothermal Vents Marine Protected Area Regulations*, SOR/2003-87, also provide for similar prohibitions on seabed activity as the Gully Regulations (but without the general, “any activity” prohibition of subsection 4(c), and with an added exemption for any authorized activities under legislation.)

Summary

The MPA provisions of the *Oceans Act* are the most relevant protected area legislative instruments with respect to prospective minerals exploration and exploitation. The limitations of this mechanism lie in the lengthy and discretionary process for designation, as reflected by the small number of offshore MPAs currently in place. It does, however, provide a potentially effective means for regulating the industry in vulnerable areas requiring special protection, at least out to the 200 nm limit. For continental shelf areas beyond 200 nm, as noted above the *Oceans Act* MPA jurisdiction is limited to the EEZ – this is consistent with the provisions of UNCLOS, in that article 77 does not extend coastal state jurisdiction to include conservation or environmental protection generally. Article 77 would not on its face permit the imposition of MPAs as defined in the *Oceans Act*.

2.5 Draft legislation/policy proposals relevant to deep-sea mining

It is understand that there are currently no plans to introduce legislation on deep-sea mining.

List of relevant legislation

1. Antarctic Environmental Protection Act: <http://laws-lois.justice.gc.ca/PDF/A-11.44.pdf>
2. Canada Petroleum Resources Act: <http://laws-lois.justice.gc.ca/PDF/C-8.5.pdf>
3. Canada-Newfoundland Atlantic Accord Implementation Act: <http://laws-lois.justice.gc.ca/PDF/C-7.5.pdf>
4. Canada-Nova Scotia Offshore Petroleum Resources Accord Implementation Act: <http://laws-lois.justice.gc.ca/PDF/C-7.8.pdf>
5. Canada Shipping Act: <http://laws-lois.justice.gc.ca/PDF/C-10.15.pdf>
6. Canada Wildlife Act: <http://laws-lois.justice.gc.ca/PDF/W-9.pdf>
7. Wildlife Area Regulations: <http://laws-lois.justice.gc.ca/PDF/C.R.C., c. 1609.pdf>
8. Canadian Environmental Assessment Act 2012: <http://laws-lois.justice.gc.ca/PDF/C-15.21.pdf>
9. Regulations Designating Physical Activities: <http://laws-lois.justice.gc.ca/PDF/SOR-2012-147.pdf>
10. Constitution Act 1867: http://laws-lois.justice.gc.ca/PDF/CONST_E.pdf
11. Federal Real Property and Federal Immovables Act: <http://laws-lois.justice.gc.ca/PDF/F-8.4.pdf>
12. Fisheries Act: <http://laws-lois.justice.gc.ca/PDF/F-14.pdf>
13. Interpretation Act: <http://laws-lois.justice.gc.ca/PDF/I-21.pdf>
14. Migratory Birds Convention Act: <http://laws-lois.justice.gc.ca/PDF/M-7.01.pdf>
15. Migratory Bird Sanctuary Regulations: <http://laws-lois.justice.gc.ca/PDF/C.R.C., c. 1036.pdf>
16. National Marine Conservation Areas Act: <http://laws-lois.justice.gc.ca/PDF/C-7.3.pdf>
17. Navigation Protection Act: <http://laws-lois.justice.gc.ca/PDF/N-22.pdf>
18. Nunavut Mining Regulations: <http://laws-lois.justice.gc.ca/PDF/SOR-2014-69.pdf>
19. Oceans Act: <http://laws-lois.justice.gc.ca/PDF/O-2.4.pdf>
20. Gully Marine Protected Area Regulations: <http://laws-lois.justice.gc.ca/PDF/SOR-2004-112.pdf>
21. Bowie Seamount Marine Protected Area Regulations: <http://laws-lois.justice.gc.ca/PDF/SOR-2008-124.pdf>
22. Endeavour Hydrothermal Vents Marine Protected Area Regulations: <http://laws-lois.justice.gc.ca/eng/regulations/SOR-2003-87/index.html>

3 China

3.1 Legislation on maritime zones

The People's Republic of China (PRC or China) signed UNCLOS in December 1982 and ratified it in June 1996. In order to implement UNCLOS at the domestic level, China enacted two basic ocean laws, i.e., the 1992 Law on the Territorial Sea and the Contiguous Zone and the 1998 Law on the Exclusive Economic Zone and the Continental Shelf. Based on these two basic laws, China has established maritime zones under its national jurisdiction such as the internal waters, the territorial sea of 12 nautical miles from the baselines, EEZ of 200 nm from the baselines and the continental shelf. According to Article 2 of the Territorial Sea Law, China's territorial sea is a belt of maritime area adjacent to the land territory and the internal waters of China and its land territory includes its mainland and offshore islands, Taiwan and all islands appertaining thereto including the Diaoyu Islands, the Penghu Islands, the Dongsha (Pratas) Islands, the Xisha (Paracel) Islands, the Zhongsha Islands and the Nansha (Spratly) Islands, as well as all the other islands that belong to China. In addition, the internal waters of China are those waters which lie on the landward side of the baseline of China's territorial sea. China decides to utilize the straight baseline system to measure its baselines and in 1996 publicised part of its baselines to measure its maritime zones along its mainland coast, circling Hainan Island and the Paracel Islands. In September 2012, China declared its straight baselines for the Diaoyu Islands, which is a group of islands being disputed with Japan.

The EEZ of China is defined as the area beyond and adjacent to China's territorial sea, extending to 200 nautical miles from the baselines from which the breadth of the territorial sea is measured, while its continental shelf comprises the sea-bed and subsoil of the submarine areas that extend beyond its territorial sea throughout the natural prolongation of its land territory to the outer edge of the continental margin, or to a distance of 200 nautical miles from the baselines from which the breadth of the territorial sea is measured where the outer edge of the continental margin does not extend up to that distance.

In addition to the maritime zones defined under UNCLOS, China also claims "the other sea areas under China's jurisdiction". While it is not clear where such sea areas are located, it is generally believed that this term usually refers to the sea areas within the U-shaped line (nine-dash line) in the South China Sea which was publicised by the then Government of the Republic of China in 1948 and the PRC has inherited this historic right.

In China's legislation process, only the National People's Congress (NPC), which is equivalent to Parliament, and/or its Standing Committee enjoys the competence in enacting national laws. The State Council and its ministries may have the power to make administrative regulations and rules. Chinese legislation on marine areas is relatively complete.

In the 1980s and early 1990s China passed various important regulations concerning vessel-source pollution, land-based pollution, pollution from offshore oil and gas exploration and exploitation, dumping of wastes at sea, management of maritime navigational warnings, and investigation and settlement of maritime traffic incidents. The Standing Committee of the Sixth National People's Congress passed the Maritime Traffic Safety Law of People's Republic of China, which became in effect on 1 January 1984, and provides legal support for China's maritime transportation. In 25 February 1992, China promulgated the Law of the People's Republic of China on the Territorial Sea and the Contiguous Zone, specially regulating issues of jurisdiction in territorial waters and

contiguous zone. It has established a legal system of internal waters, territorial sea and contiguous zone, and is a law of great historical significance to maritime legislation.

Since the 14th National Congress of CCP, China's maritime policy has been continuously improved. Former Chinese President Jiang Zemin has repeatedly made important instructions on revitalizing maritime industry, economic prosperity and proper management and use of the ocean, coastal economic revitalization and so on. In 1995 he gave several speeches to emphasize the importance of ocean. In the National Economic and Social Development Ninth Five-Year Program and 10-Year Vision Outline passed in March 1996, the ocean for the first time was positioned as a long-term development strategy of China.

Also in 1996, on 15 May, Chinese government ratified UNCLOS, which became in effect for China on 6 July. In accordance with the LOSC, China passed the Law on the Exclusive Economic Zone and the Continental Shelf of the People's Republic of China on 26 June 1998. This law illustrates China's attitude on ocean issues mainly based on modern concept of maritime territory, maritime defense, maritime rights, and lay a foundation for basic system to the law of the sea. After the ratification of UNCLOS, some of the provisions in the early regulations became out-of-date and needed new replacement. The Regulations on the Management of the Prevention and Control of Vessel-Source Pollution against the Marine Environment, which was adopted in September 2009 and came into effect on 1 March 2010, replaced the similar regulations of 1983.

When Hu Jintao came to power, the government paid more attention to the development of ocean programs under the concept of scientific development proposed by Hu. The government published several documents such as the National Ocean Program Development Plan. The National Marine Economic Development Plan, issued by the Chinese government in May 2003, brought forward a plan of developing China into a maritime power. Related legislations in the period of Hu include: the amended Marine Environment Protection Law of the People's Republic of China, which adds regulations on eco management of the ocean; Law of the People's Republic of China on the Administration of the Use of Sea Areas passed on 27 October 2001 and became in effect on 1 January 2002; The Decision of the Standing Committee of the National People's Congress on Amending the Fishery Law of the People's Republic of China, which made some adjustments to the Fishery Law. There are also legislations on marine ecosystem protection such as the Regulations on the Prevention and Control of Vessel-induced Pollution to the Marine Environment, the 2006 Regulations on the Prevention and Control of Marine Environmental Pollution and Damages Caused by Marine Engineering Construction Projects, and Island Protection Law of the People's Republic of China, etc. These legislations have further enriched China's marine legal system.

Besides, the Chinese government gives policy instructions on ocean legislation in the annual China Ocean Development Report. For example, the 2010 China Ocean Development Report, consisting of five parts, have a macro environment approach to China's marine program development, maritime law and maritime rights and interests, marine economy and marine technology, marine ecological environment protection and resource development, ocean policy and marine management.

According to UNCLOS, coastal states who claim extensive continental shelf beyond 200 nautical miles should submit relevant scientific materials to the CLCS. In 1999, China submitted its Preliminary Information on its claimed extended continental shelf in the East China Sea to reserve its rights to make a formal submission in a later time. On 14 December 2012, Chinese delegation officially submitted to the CLCS its Submission of the outer limit of extensive continental shelf beyond 200 nautical miles within some parts of the East China Sea. As China claims, its continental shelf in the East China Sea naturally extends to the Okinawa Trough, which is beyond 200 nautical miles measured from the Chinese baselines.

In the South China Sea, Vietnam made two submissions --- one individual and the other jointly with Malaysia. China lodged its objection to the CLCS, stating that "China has indispensable sovereignty over the islands in the South China Sea and the adjacent waters, and enjoys sovereign rights and jurisdiction over the relevant waters as well as the seabed and subsoil thereof" and requested the Commission not to consider the submissions either rendered by Vietnam or jointly made by Malaysia and Vietnam.

3.2 Legislation on deep-sea mining in areas under national jurisdiction

Currently, there is no specific legislation in place to regulate deep-sea mining within areas under national jurisdiction. In practice, deep-sea mining within areas under national jurisdiction is regulated on the basis of legislation governing land-based mining in accordance with the Mineral Resources Law of the People's Republic of China (amended in 1996). In 1994, the State Council passed the Administrative Regulations for the Implementation of the Mineral Resources Law. Article 4 of the Regulations provides that the exploration and exploitation of the mineral resources within the territory of the People's Republic of China and other sea areas under its jurisdiction must comply with the Mineral Resources Law of the People's Republic of China and these Regulations.

Law of the People's Republic of China on the Administration of the Use of Sea Areas provides the regulation in details on the administration of the use of sea areas including the procedures on how to apply for use, the period of use and the approving process. Article 25 of that Law provides the various lengths of period for the use of sea areas and the maximum period for salt production and mineral exploitation is 30 years.

Marine environmental protection is generally governed by the Marine Environment Protection Law of the People's Republic of China (amended 1999 and 2014). Article 46 of it provides general requirements on seabed mining: in building coastal construction projects, effective measures must be taken to protect wild animals and plants and their living environment as well as marine aquatic resources under State and local special protection. It is strictly prohibited to mine sand and gravel along the shore. In conducting coastal opencast mining or shore-based well drilling to exploit seabed mineral resources, effective measures must be taken to prevent pollution to the marine environment.

Articles 13 and 16 of the Mineral Resources Law provides the competent agencies who are responsible for authorizing deep-sea mining: the department in charge of examination and approval of mineral reserves under the State Council or departments in charge of examination and approval of mineral reserves of provinces, autonomous regions and municipalities directly under the Central Government shall be responsible for the examination and approval of the prospecting reports to be used for mining construction design and shall, within the prescribed time limit, give official replies to the units that submitted the reports. Unless it is approved, a prospecting report may not be used as the basis for mining construction design.

Article 16 provides that anyone who wishes to mine the following mineral resources shall be subject to examination and approval by the department in charge of geology and mineral resources under the State Council, which shall also issue a mining license:

- (1) those within the mining areas embraced in State plans or within the mining areas which are of great value to the national economy;
- (2) those outside the areas mentioned in the preceding sub-paragraph, and where the minable mineral reserves are at least of a large quantity;

- (3) specified minerals of which protective mining is prescribed by the State;
- (4) those in the territorial seas and other sea areas under China's jurisdiction; and
- (5) other mineral resources as prescribed by the State Council.

The competent departments authorized by the State Council may conduct examination of and grant approval to mining of such specified minerals as oil, natural gas, radioactive minerals and issue mining licenses.

The mining of mineral resources that are not covered by the provisions of paragraphs 1 and 2 and the mineable reserves of which are of medium quantity shall be subject to examination and approval by the departments in charge of geology and mineral resources under the people's governments of provinces, autonomous regions and municipalities directly under the Central Government, which shall issue mining licenses.

Measures for the administration of the mining of mineral resources not covered by the provisions of paragraphs 1, 2 and 3 shall be formulated by the standing committees of the people's congresses of provinces, autonomous regions and municipalities directly under the Central Government according to law.

Where examination and approval are conducted and mining licenses are issued under the provisions of paragraph 3 and paragraph 4, the departments in charge of geology and mineral resources under the people's governments of provinces, autonomous regions and municipalities directly under the Central Government shall collect the cases and submit them to the department in charge of geology and mineral resources under the State Council for the record.

The standards for large and medium quantities of mineral reserves shall be formulated by the department in charge of examination and approval of mineral reserves under the State Council.

In 2012 and 2013, the State Council published two important documents: the National Marine Economy Development during the “12th Five-Year Plan” Period and the National Marine Programs Development during the “12th Five-Year Plan” Period, in which, a goal has been set forth to improve the marine legal system including the promulgation of implementing regulations for the Law on the Administration of the Use of Sea Areas, the Marine Environment Protection Law, Mineral Resources Law, Island Protection Law, Fisheries Law, and Marne Traffic Safety Law. The documents also aim to strengthen maritime law enforcement and its supervision, to strengthen the guidance for local marine legislation, to support reform and innovative activities in coastal areas, and to build standard system of marine ecosystem and environment protection.

In 1994, the Chinese government adopted the *China Agenda 21* based on the spirit of the United Nations Conference on Environment and Development in 1992. The *Agenda* focuses on sustainable development and protection of marine resources, and rule of law for ocean activities and improvement of the oceanic environment protection mechanism. Following the *China Agenda 21*, the State Oceanic Administration adopted the *Ocean Agenda 21* which covers various areas of marine sustainable development including marine industries, coastal management, islands, marine science and technology, natural disaster prevention and mitigation, marine living resources, and marine environmental protection.

3.3 Legislation on deep-sea mining in the Area

Currently, there is no legislation in China governing deep-sea mining in the Area, but the Chinese government has become focusing on legislation in this field, and the program of legislation has been put on the agenda of the Chinese legislature.

3.4 Environmental protection legislation of potential relevance to deep-sea mining

Currently, China's marine environmental law can be divided into two parts: legislation on environmental issues, and legislation on marine resources issues. Environmental legislation focuses on the prevention and management of marine environment pollution, while resources legislation focuses on the exploration and exploitation of marine resources. China has established a relative complete legal system on marine environment protection, which includes the Regulations on the Prevention and Control of Pollution Damages to the Marine Environment by Coastal Engineering Construction Projects, Regulations on the Prevention and Control of Pollution Damages to the Marine Environment by Offshore Engineering Construction Projects. And so is the legal system of marine resources legislation, which includes Fisheries Law, Law on the Administration of the Use of Sea Areas, Law on the Protection of Wildlife. Other legislations are the Provisions on the Administration of the Protection and Utilization of Uninhabitable Islands and the Provisions on the Administration of the Right to Use Sea Areas.

There are still defects of China's legal system on ocean issues. For example, they focus more on preventing and managing pollution than protection of resources, more on exploring and exploiting marine resources than sustainable use of marine resources. Besides, there lacks coordination from one law to another, and there are areas still not covered by the existing marine legal system.

At present, legislations on the environment relating to deep-sea mining with areas under Chinese jurisdiction are mainly the Law of the People's Republic of China on Environmental Impact Assessment and the Marine Environment Protection Law; however, there are no specific rules regulating environment impact assessment in deep-sea mining. The 'Marine oil (gas) field development project environmental impact assessment management scheme', which was implemented from July 1993, gives further regulations on marine oil (gas) field development project, but still, it only gives more detail instructions on the management process, not the scope of environment impact assessment.

In 2009, the Chinese government issued the Regulations on Environmental Impact Assessment of Planning, and Article 8 of the Regulations provides that "An environmental impact assessment of planning shall include the analysis, forecast and assessment of the following items: 1. the possible overall impact on the ecological system of the relevant regions, basins and sea areas as a result of the execution of planning; 2. the possible long-term impact on the environment and human health as a result of the execution of planning; and 3. the relationship between the economic & social benefits and the environmental benefits, and the relationship between the present interests and the long-term interests from the execution of planning".

To sum up, there are no specific legislations in China regulating environment impact assessment in deep-sea mining under national jurisdiction. China needs to build such a legal system which fully and clearly regulates the scope of EIA in deep-sea mining.

Since 1980s, China has successively promulgated the Law of the People's Republic of China on the Territorial Sea and the Contiguous Zone, Law on the Exclusive Economic Zone and the Continental Shelf of the People's Republic of China, Marine Environment Protection Law of the People's Republic of China, Law of the People's Republic of China on the Administration of the Use of Sea Areas, Fisheries Law of the People's Republic of China, Law of the People's Republic of China on Ports, Maritime Traffic Safety Law of the People's Republic of China, Maritime Law of the People's Republic of China, Mineral Resources Law of the People's Republic of China, Property

Law of the People's Republic of China. All the legislations govern exploring and exploiting of marine resources, environmental protection, traffic at sea, marine scientific research order, etc.

The 1994 Regulations on Nature Reserves are general legal guidelines for the management of marine nature reserves in China. The term "nature reserve is defined as an area designated by law for special protection and management such as natural areas concentrated with representative ecosystems, precious and endangered fauna and flora, or localities of natural relics with special significance on land, or in inland waters or sea areas. Any establishment of nature reserves in China's territory or other sea areas within China's jurisdiction should comply with these Regulations.

The 1995 Measures on the Management of Marine Nature Reserves, which was adopted by the State Oceanic Administration, is the most important law specifically on the management of marine nature reserves. It sets out the guiding principle of "conservation first, appropriate exploitation and sustainable development". The marine nature reserves are divided into two categories: national and local. The marine nature reserves at the national level should be those which have great national and international importance and have great scientific and protective values. Their establishment is subject to the approval of the State Council. A marine nature reserve may be divided into core zone, buffer zone and experimental zone in accordance with the natural environment, natural resource conditions, and requisite level of protection.

Article 23 of the Marine Environment Protection Law provides that "For any area having special geographic conditions, ecosystem, living or non-living resources and where the marine development and exploitation have special needs, a marine special reserve may be established, so that a special management may be ensured by adopting effective conservation measures and scientific development modes".

The competent government department in charge of the management of marine nature reserves is the State Oceanic Administration.

3.5 Draft legislation/policy proposals relevant to deep-sea mining

In 2014, the draft Law on Exploring and Exploiting Resources in Deep-seabed Area, drafted by the NPC Environmental and Resources Protection Committee, has been included in the Legislative Plan of the 12th National People's Congress Standing Committee. During the first session of the 12th National People's Congress held in March 2013, 31 people's representatives (equivalent to Member of Parliament) proposed a motion on the legislation of ocean resources exploration and exploitation. Delegates proposed in the motion that, the deep ocean resources in the international seabed area has strategic significance to states, but China has no relevant domestic legislation, they advised to develop an ocean resources exploration and exploitation law, not only actively fulfilling China's treaty obligations, but also safeguarding national interests.

The Report of the 18th Congress of the Communist Party of China (CPC) states that "We should enhance our capacity for exploiting marine resources, develop the marine economy, protect the marine ecological environment, resolutely safeguard China's maritime rights and interests, and build China into a maritime power". From the Report of 18th CPC Congress and the reform program of the new administration, we can see that the Chinese government attaches great importance to building China into a maritime power and implementing marine development strategy. Exploring and exploiting of marine resources is the foundation to support maritime strategy and maritime economy. China has realised the urgency to adopt the deep-seabed mining law as most of the

industrialized countries in the world have already enacted domestic legislation on deep-seabed mining. There is also a tendency that whether the State Sponsor has domestic legislation in this field will become a condition for that State's future activities in the Area, which will make China's enactment of the deep ocean exploration and development law face more pressing pressure. Hence China needs the legislation on deep ocean exploration and exploitation, which provides legal protection for the involvement of China in exploration and exploitation of mineral resources in the Area.

List of relevant legislation

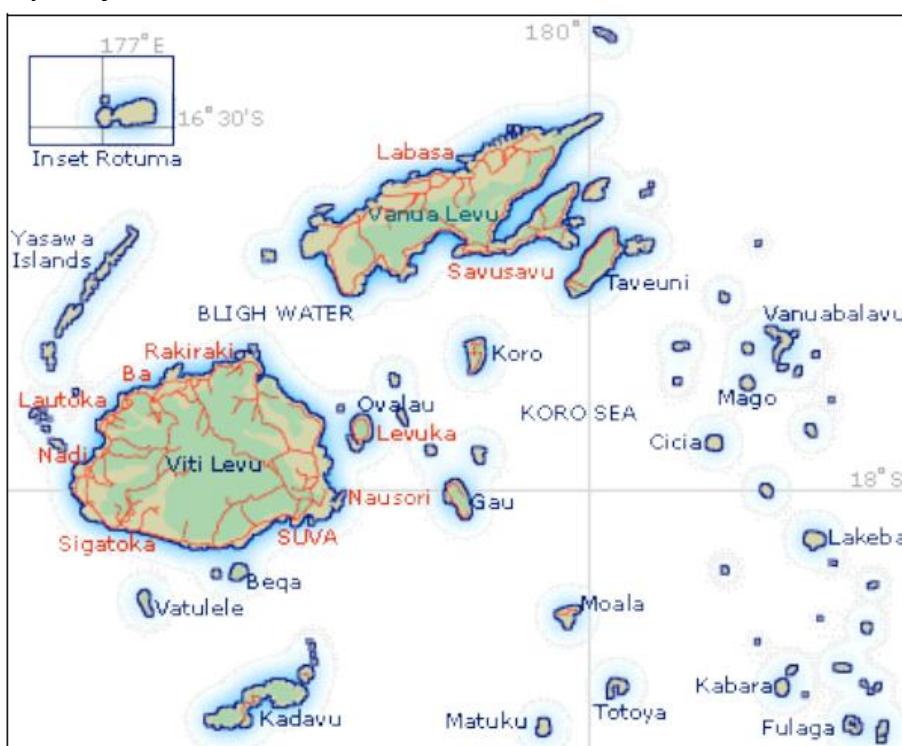
- A. Laws
 - 1. Environmental Protection Law, 1989
 - 2. Law on Environmental Impact Assessment, 2002
 - 3. Law of on the Administration of the Use of Sea Areas, 2001
 - 4. Marine Environment Protection Law, 1982 (amended 1999 and 2014)
 - 5. Mineral Resources Law, 1986 (amended 1996)
 - 6. Law on the Renewable Energy Resources, 2005
 - 7. Law on the Prevention and Control of Environmental Pollution by Solid Waste, 1995 (amended 2004)
 - 8. Law on the Prevention and Control of Water Pollution, 1984 (amended 1996)
 - 9. Law on the Prevention and Control of Atmospheric Pollution, 1987 (amended 1995, 2000)
 - 10. Law on Water and Soil Conservation, 1991 (amended 2010)
 - 11. Land Administration Law, 1986 (amended 1998, 2004)
 - 12. Law on the Protection of Wildlife, 2004
 - 13. Frontier Health and Quarantine Law, 1987 (amended 2007)
- B. Regulations
 - 14. Regulations on the Prevention of Pollution Damage to the Marine Environment by Land-based Pollutants, 1990
 - 15. Regulations on the Management of Prevention and Control of Vessel-induced Marine Pollution, 2009
 - 16. Regulations on Environmental Impact Assessment of Planning, 2009
 - 17. Regulations on Control over Dumping of Wastes at Sea, 1985
 - 18. Regulations on Nature Reserves, 1994
 - 19. Regulations on the Administration of Environmental Protection in the Exploration and Development of Offshore Petroleum, 1983
 - 20. Regulations Concerning Prevention of Pollution Damage to the Marine Environment by Coastal Construction Projects, 1990
 - 21. Regulations Concerning Prevention of Pollution Damage to the Marine Environment by Marine Construction Projects, 2006
 - 22. Regulations on the Exploitation of Offshore Petroleum Resources in Cooperation with Foreign Enterprises, 1982
 - 23. Regulations on the Protection of Underwater Relics, 1989
- C. Government Rules
 - 24. Implementing Measures on the Administration of Environmental Protection in the Exploration and Development of Offshore Petroleum, 1990
 - 25. Implementing Measures on the Administration of Control over Dumping of Wastes at Sea, 1990
 - 26. Measures on the Management of Marine Nature Reserve, 1995

4 Fiji

4.1 Legislation on maritime zones

Fiji is an independent sovereign Republic located at 18°00'S Latitude and 175°00'E Longitude (Figure 1). Fiji was ceded to Britain on 10 October 1874 and was administered as a colony of Great Britain until its gained independence on 10 October 1970. From 1970 until 1987 Fiji was an independent state with the Queen as Head of State, a Governor General as her representative, an elected House of Representatives and an appointed Senate. Since the abrogation of the 1970 Constitution in 1987, Fiji has been a Republic with the President of Fiji as its Head of State.

Figure 1 Map of Fiji Islands



Source: Fiji Government website.

During the period of formal dependency, the British administration was responsible for all aspects of government. Applicable laws of the Imperial government were extended to Fiji. The Fiji legal system has been influenced by the colonial administration. Laws are generally sourced from the constitution, statutes and legislation, the common law including pre-1975 English common law, and Fijian customary law.¹⁰ Fijian customary law is particularly important in determining access, benefit sharing arrangements, and control and enforcement activities in near shore areas.

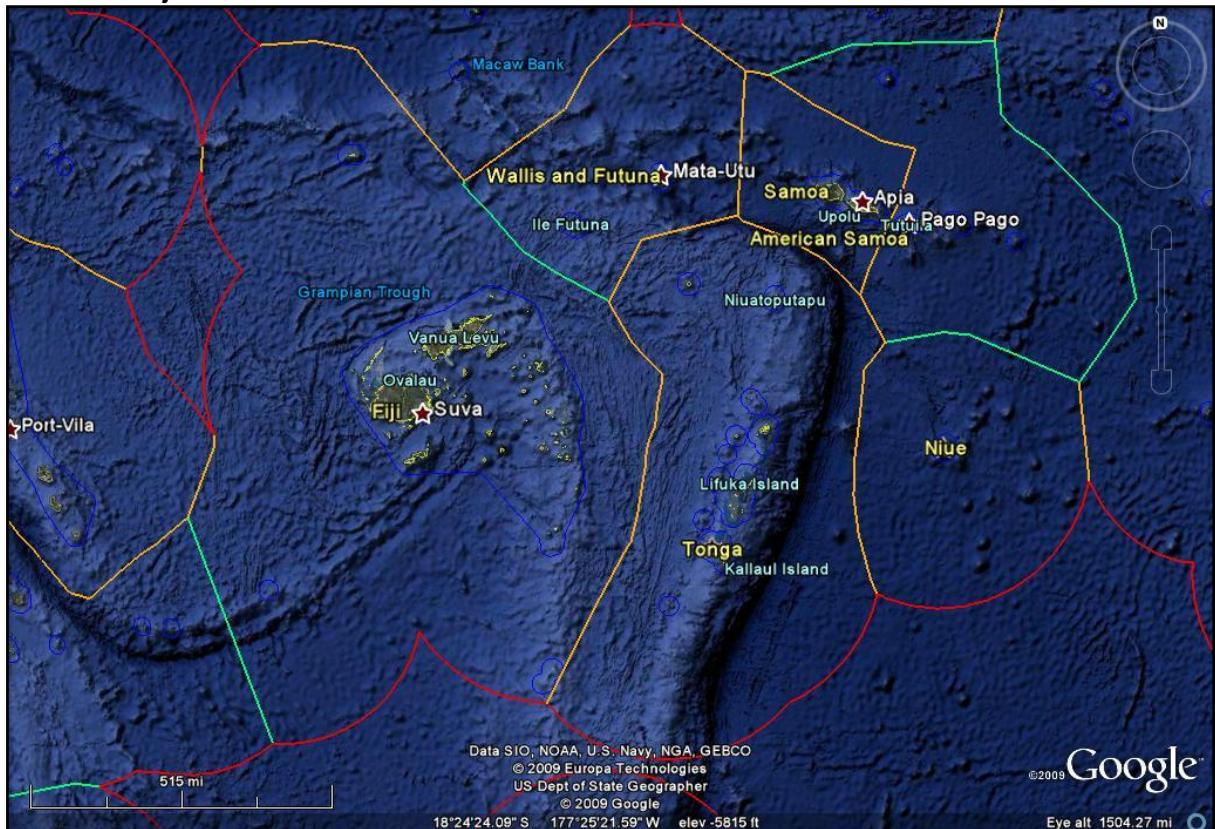
As a British colony, British laws relating to territorial waters applied coastal sovereignty over a belt of sea measured three nautical miles from the shore. This position was agreed by countries of the

¹⁰ For further information, see Paterson, D. & Zorn, S. A. 1993. Fiji. In: Ntumy, M. A. (Ed). 1993. South Pacific Islands Legal Systems. University of Hawaii Press, Honolulu: 26 – 74. Also see Corrin-Care, J., Newton, T. & Paterson, D. 1999. Introduction to South Pacific Law. Cavendish Publishing Ltd, London: 284-289. Note that since independence in 1970 Fiji has had four constitutions.

British Empire at the 1923 Imperial Conference.¹¹ New maritime spaces were claimed post independence in the late 1970s.¹²

After independence, Fiji enacted legislation declaring its baselines and claiming maritime spaces.¹³ Fiji has declared archipelagic baselines over its main islands and normal baselines for Ceva-i-Ra Island.¹⁴ The claim for maritime spaces, in particular, archipelagic waters, territorial sea and the EEZ, was made once there was broad agreement on maritime baselines and spaces during the Third United Nations Conference on the Law of the Sea and years before the adoption of the text of UNCLOS. Given the negotiation of the text by consensus, the breadth of the maritime spaces claimed and the respective rights and responsibilities are consistent with that permitted under UNCLOS. Figure 2 shows the indicative outer limits of Fiji's EEZ and also identifies the archipelagic baselines (blue line) drawn around the main group of islands.

Figure 2 Location of Fiji and its indicative EEZ outer limits



The *Marine Spaces Act Cap. 158A* is the principal legislation governing Fiji's marine spaces. It came into force in 1978. Part II of the *Marine Spaces Act* contains Fiji's marine zones claims and the powers of the Minister responsible for Foreign Affairs in the making of regulations.

Fiji has drawn archipelagic baselines around the main group of islands and the Rotuma archipelago to the North West of the main group of islands. Normal baselines are drawn around Ceva-i-Ra Island to the South West of the main group. The Act claims internal waters, archipelagic waters, territorial sea, and the EEZ. This legislation has been deposited with the United Nations.¹⁵

¹¹ Churchill, A. V. & Lowe, R. 1999. *The Law of the Sea*. Third edn. Manchester Uni. Press.

¹² Section 7, *Territorial Waters Jurisdiction Act 1878* (Britain). See also Lord Stowell in *The Anna* (1805) 5 Ch Rob 573, 165 ER 809.

¹³ *Continental Shelf Act Cap. 149 No. 9 of 1970*, *Marine Spaces Act Cap. 158A No. 18 of 1977*.

¹⁴ *Marine Spaces Act*, *Marine Spaces (Declaration) Order April 1978*, *Marine Spaces (Amendment) Act No. 15 of 1978*, *Marine Spaces (Archipelagic Baselines and Exclusive Economic Zone) Order 1981 Legal Notice 117*. These Orders are published in the *Law of the Sea Bulletin* No. 66 of 2008 at pp. 66 – 70. Note also that these Orders have been amended in 2012 and the amendment is discussed below.

¹⁵ See <https://www.un.org/depts/los/LEGISLATIONANDTREATIES/STATEFILES/FJI.htm>

In 2012 Fiji revised its reference system from the World Geodetic System 1972 datum to the International Terrestrial Reference System 2005 Geodetic datum, and also declared revised coordinates for the Rotuma and its dependencies archipelago, the Fiji archipelago, and Ceva-i-Ra Island.¹⁶ These declarations are yet to be deposited with the United Nations.

In addition to the *Marine Spaces Act*, the *Continental Shelf Act Cap. 149* provides for Fiji's continental shelf. The "continental shelf" is defined as: "the seabed and subsoil of those submarine areas adjacent to the coasts of the islands of Fiji, but beyond the territorial limits of Fiji, to a depth of two hundred metres below the surface of the sea, or, beyond that limit, to where the depth of the superjacent waters admits of exploitation of the natural resources of those areas".¹⁷ Natural resources includes the mineral and other natural non-living resources of the seabed and subsoil.

On 20 April 2009 Fiji made a partial submission to the CLCS in accordance with Article 76, paragraph 8, of UNCLOS. On 30 April 2012, Fiji submitted a revision to its partial submission. The partial submission relates to the delineation of the outer limits of the continental shelf in the region of the Lau-Colville and Tonga-Kermadec Complex (see Figure 3).

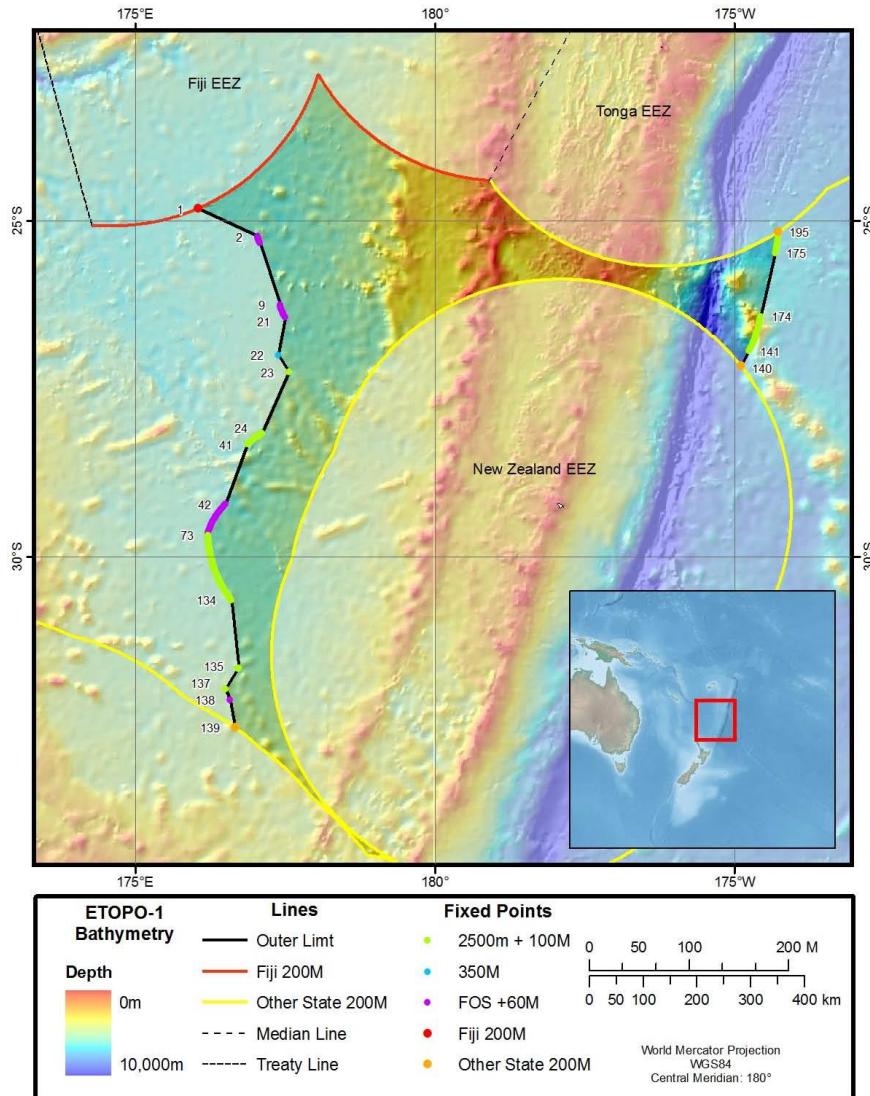
Furthermore, preliminary joint extended continental shelf submissions have been made by Fiji and the Solomon Islands, and Fiji, Solomon Islands and Vanuatu (Figure 4).¹⁸

¹⁶ *Marine Spaces (Territorial Seas)(Rotuma and its Dependencies)(Amendment) Order 2012 L.N. No. 82*, and *Marine Spaces (Archipelagic Baselines and Exclusive Economic Zone)(Amendment) Order 2012 L.N. No. 83*.

¹⁷ Section 2, *Continental Shelf Act*.

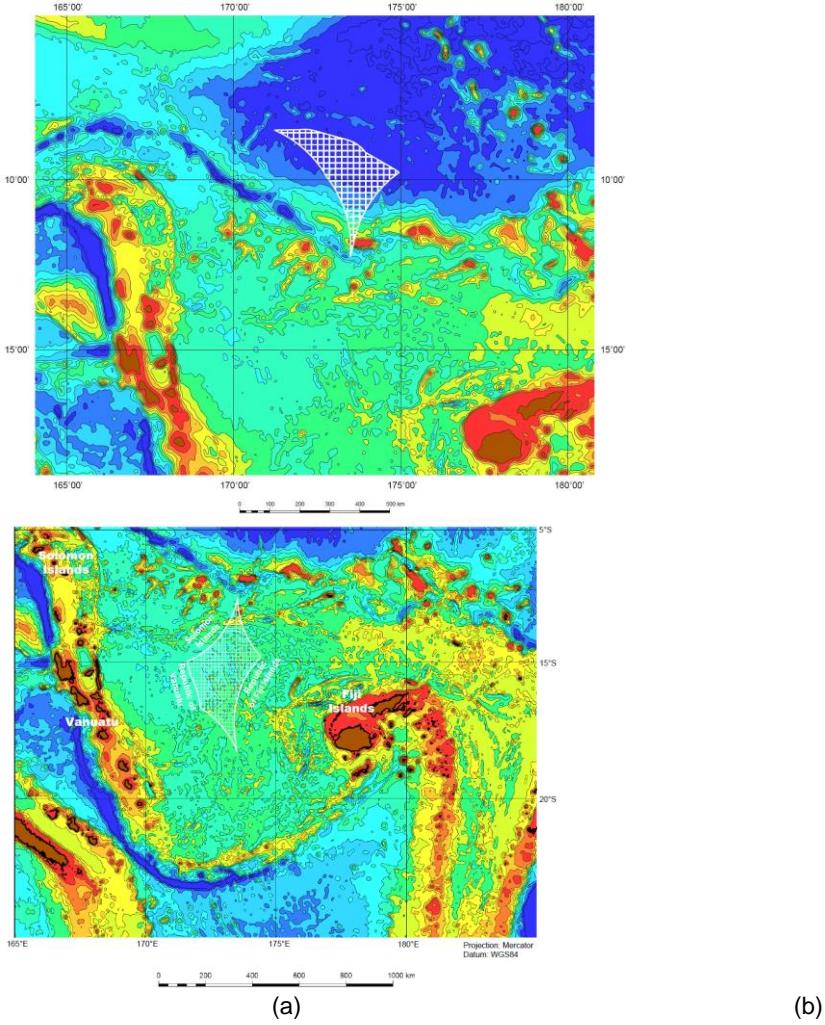
¹⁸ For information see: http://www.un.org/depts/los/clcs_new/submissions_files/preliminary/fji_2009_preliminaryinfo.pdf; http://www.un.org/depts/los/clcs_new/submissions_files/preliminary/fji_slb_2009_preliminaryinfo.pdf; http://www.un.org/depts/los/clcs_new/submissions_files/preliminary/fji_slb_2009_figure.pdf; http://www.un.org/depts/los/clcs_new/submissions_files/preliminary/fji_slb_vut_2009_preliminaryinfo.pdf

Figure 3 Outer Limits of the Continental Shelf claimed by Fiji



Source: Fiji revised submission in 2012 to the Commission on the Limits of the Continental Shelf – UNDOALOS CLCS website.

Figure 4 Maps showing preliminary submissions of Fiji and the Solomon Islands for the Charlotte Bank region (a) and Fiji, Solomon Islands and Vanuatu (b)



Sources: UNDOALOS CLCS website

There are two maritime delimitation agreements which Fiji is party to that have been deposited with the United Nations. Both have been made with France on behalf of Wallis and Futuna, and New Caledonia.¹⁹ Maritime delimitation agreements are being negotiated with Tuvalu and the Solomon Islands. Given certain complexities, negotiations with Vanuatu and Tonga are anticipated in the near future.

4.2 Legislation on deep-sea mining in areas under national jurisdiction

Mining in Fiji is governed by the *Mining Act Cap. 146* enacted in 1965 during the period of British dependency.²⁰ The *Mining Act* repealed the earlier mining ordinance and provides better provisions for prospecting and the mining of precious metals and other minerals. Given the interests at the time of enactment, the legislation is focussed on the prospecting and mining of terrestrial minerals and aggregates.

(a) Minerals are defined broadly to include the following minerals:

¹⁹ [Agreement between the Government of the Republic of France and the Government of Fiji relating to the delimitation of their economic zone \(with annex and maps\)](#), 19 January 1983 (entry into force: 21 August 1984; registration #: 27963; registration date: 7 March 1991); and [Codicil modifying the Agreement of 19 January 1983 between the Government of the French Republic and the Government of Fiji relating to the delimitation of their economic zone](#), 8 November 1990 (entry into force: 8 November 1990; registration #: 27963; registration date: 7 March 1991).

²⁰ Ordinance No. 25 of 1965 and amendments have been made by *Ordinances No. 7 of 1966, 37 of 1966, Order 7th October, 1970, Act No. 14 of 1975, 13 of 1977, and the Mining (Amendment) Decree 2010*.

- (b) "precious metals" which shall include gold, silver, platinum, palladium, iridium, osmium, or ores containing them, and all other substances of a similar nature;
- (c) "precious stones" which shall include amber, amethyst, beryl, cat's-eye, chrysolite, diamond, emerald, garnet, opal, ruby, sapphire, turquoise, and all other stones of a similar nature;
- (d) "earthy minerals" which shall include asbestos, ball-clay, barytes, bauxite, bentonite, china-clay, fuller's earth, graphite, gypsum, marble, mica, nitrates, phosphates, pipeclay, potash, salt, slate, soda, sulphur, talc and all other substances of a similar nature;
- (e) "radioactive minerals" which shall include minerals either raw or treated (including residues and tailings) which contain by weight at least 0.05 per cent of uranium or thorium or any combination thereof, including but not limited to:
 - a. (i) monazite sand and other ores containing thorium; and
 - b. (ii) carnotite, pitch blende and other ores containing uranium;
- (f) "coal" which shall include coal in all its varieties land all other substances of a similar nature;
- (g) "metalliferous minerals" which shall include aluminium, antimony, arsenic, bismuth, cadmium, chromium, cobalt, copper, iron, lead, manganese, mercury, molybdenum, nickel, tin, tungsten, vanadium, zinc, and all ores containing them, and all other minerals and mineral substances of whatsoever description but excluding only the minerals and mineral substances included in paragraphs (a), (b), (c), (d) and (e),

but shall not include clay, gravel, sand, stone or other common mineral substances, and for the purpose of avoiding doubt the Minister may from time to time by notice in the Gazette declare any mineral substance to be included in or excluded from this definition;

Requirements for prospecting are distinguished from mining in Part II of the Act. To "prospect" means to search for minerals and includes such working as may be prescribed to enable the prospector to test and assess the mineral bearing qualities of any land. Land is defined broadly to include water and land covered by water.²¹ In contrast, a "mining tenement" means any lease, licence, right, permit, title, easement or privilege, other than a prospector's right, relating to prospecting and mining, lawfully granted or acquired under the provisions of the Act and includes the specific parcel of land the subject of such lease, licence, right, permit, title, easement or privilege. The Director of Mineral Resources, subject to the provisions of the Act and any general or special directions of the Minister, may grant, *inter alia*, prospector's rights, prospecting licences, special prospecting licences, permits to mine, mining leases, special mining leases, and special site rights.²²

In relation to prospecting on the seabed within maritime areas under national jurisdiction, the grant of special prospecting licences is pertinent. Section 30(1) of the Act empowers the Director, subject to the approval of the Minister, to exercise some discretion in granting special prospecting licences upon such terms and conditions, whether in accordance with the provisions of this Act or not, as the Minister thinks fit. The provisions of the Act applicable to a prospecting licence also apply to all special prospecting licences.²³ The only caveat attached to section 30(1) relates to the size of the area in which a special prospecting licence is granted but this may not be particularly relevant to the exploration and exploitation of the seabed given the 2010 amendment discussed below.²⁴

Given that the Act extends the conditions and rights attached to prospecting licences to special prospecting licences, the rights of the holder of a prospecting (or special prospecting) licence is contained in section 27. In summary, the holder of a prospecting (or special prospecting) licence

²¹ Section 2, *Mining Act*.

²² Section 18(1), *Mining Act*.

²³ See section 26 Grant of Prospecting Licence and section 27 Rights under Prospecting Licence, *Mining Act*.

²⁴ The caveat is that unless there are unusual circumstances which warrant it, a special prospecting licence shall not be granted in respect of any area which is less than 1,300 ha in extent.

shall have the exclusive right to prospect for the mineral or minerals specified in his licence on the land the subject of his licence, and for such purposes may :

- (a) enter upon such land with his servants and agents and thereon exercise all or any of the rights conferred upon the holder of a prospector's right by the provisions of this Act;
- (b) on and over any unimproved land the subject of his licence, erect and maintain such machinery and plant and construct such passageways, as may be necessary.

Where all conditions of a prospecting (or special prospecting) licence have been fulfilled the holder may, upon payment of the prescribed fees - (a) apply for extension of such licence at any time before such licence expires or within seven days thereafter; (b) mark out any reduced area or areas within the land the subject of such licence if applying for an extension of such licence in respect of such reduced area or areas only; (c) mark out and apply for the grant of any other mining tenement or tenements over the whole or any part of the land the subject of his licence.²⁵

The amendment to the *Mining Act* in 2010 provides specific legislative provisions for the regulation of mining in the seabed and subsoil within Fiji's marine zones, in particular, the internal waters, archipelagic waters, territorial sea and EEZ. The amendment enables the granting of special prospecting licences over the seabed and the graticulation of the earth's surface or the delineation of a grid system to delineate blocks on the seabed. The amendment first broadens the definition of "land" to include water and land covered by water, and,

- (a) any interest in land;
- (b) inland waters including the bed of any river, stream, estuary, lake or swamp;
- (c) the foreshore, being that area between the mean high water spring level of the sea and the mean low water spring level of the sea;
- (d) the seabed and deep-seabed and subsoil of the area between the mean low water spring level of the sea and the outer boundary or boundaries of the exclusive economic zone within the meaning of the Marine Spaces Act.

This extended definition of "land" only applies to special prospecting licences.²⁶

Secondly the 2010 amendment divides the surface of the earth into particular sections bounded by a) portions of two meridians of longitude that are separated by six minutes of longitude from each other and each separated by six minutes, or any multiple of six minutes, of longitude from the meridian of Greenwich; and b) portions of two parallels of latitude that are separated by six minutes of latitude from each other and are each separated by six minutes, or any multiple of six minutes, of latitude from the equator.

After reviewing the *Mining Act* and its amendments, it is evident that the rudimentary framework for the regulation of prospecting and mining may not be adequate to address seabed exploration and exploitation activities. Contemporary provisions including in regulations are required to supplement this framework. In the absence of such supplementary provisions, related laws such as the *Environment Management Act 2005* apply *albeit* generally.

The primary institution responsible for mineral resources in Fiji is the Department of Mineral Resources of the Ministry of Lands and Mineral Resources. Key decision makers in the consideration of prospecting and mining applications and the granting of rights or licences are the Director of Mineral Resources and the Minister of Mineral Resources.

²⁵ Section 27(2), *Mining Act*.

²⁶ Section 17A(2), *Mining Act*.

There are several government institutions that have a secondary role in the consideration of seabed exploration and exploitation activities including:

- Ministry for Foreign Affairs;
- Ministry for Public Enterprise;
- Ministry responsible for the Environment;
- Ministry responsible for Fisheries;
- Ministry of iTaukei Affairs;
- Maritime Safety Authority of Fiji;
- Fiji Islands Revenue and Customs Authority;
- Biosecurity Authority of Fiji; and
- Investment Fiji.

4.3 Legislation on deep-sea mining in the Area

In 2013, the President of Fiji enacted the *International Seabed Mineral Management Decree* (see Annex D).²⁷ The ISMM Decree governs Fiji's engagement in seabed mineral activities in the Area and also establishes the institutional framework in support of such engagement. The objectives of the ISMM Decree are to:

- a) enable Fiji to act as a Sponsoring State for the purposes of engaging in Seabed Mineral Activities;
- b) empower Fiji to engage in Seabed Mineral Activities through either a body corporate established under this Decree or by way of sponsorship of a Sponsored Party;
- c) establish a clear and stable legal operating environment for Sponsored Parties or parties engaged by the Authority to undertake Seabed Mineral Activities in the Area;
- d) ensure that Seabed Mineral Activities are carried out under Fiji's effective control and in a manner that is consistent with the Rules of the ISA and Fiji's responsibilities under the UN Convention on the Law of the Sea and other applicable requirements of international law; and
- e) implement measures to maximise the benefits of Seabed Mineral Activities for present and future generations.²⁸

There are four key institutions identified: the Fiji International Seabed Authority (FISA), the Fiji International Seabed Minerals Working Group (FISMWG), the Fiji Seabed Mineral Resources Corporation (FSMRC) and the High Court of Fiji. While the FISA, FISMWG and FSMRC are new creations, the existing High Court of Fiji's jurisdiction is widened to include the judicial review of administrative decisions, determinations and actions under the ISMM Decree, and the conduct of proceedings to establish liability and to provide recourse for prompt and adequate compensation in the event of unlawful damage caused by Seabed Mineral Activities.²⁹

Of the new institutions created under the ISMM Decree, the most prominent is the FISA.³⁰ The objectives of the FISA are four-fold: (a) provide a stable, transparent and accountable process for the sponsorship and supervision of Seabed Mineral Activities; (b) ensure the protection and preservation of the marine environment; (c) ensure compliance by Sponsored Parties or other parties engaged in Seabed Mineral Activities with relevant rules and internationally agreed standards; and (d) ensure that the conduct of Seabed Mineral Activities maximises benefits to Fiji.³¹ The functions of the FISA are robust and are intended to address Fiji's rights and responsibilities under the 1982 United Nations Convention on the Law of the Sea.

²⁷ Decree No. 21 of 2013, hereafter "ISMM Decree".

²⁸ Section 3(1), *ISMM Decree 2013*.

²⁹ Section 20, *ISMM Decree 2013*.

³⁰ The establishment, composition, objectives, functions, and powers of the FISA is contained in sections 6, 7, 8, 9, and 10 respectively.

³¹ Section 8(1), *ISMM Decree 2013*.

Section 9 of the ISMM Decree states:

- (1) The functions of the Authority shall be to—
 - (a) facilitate—
 - (i) the application of a body corporate or Sponsored Party to the ISA for a contract to conduct exploration or exploitation activities; and
 - (ii) Fiji's and its Sponsored Parties' understanding of and compliance with relevant international laws, standards and rules;
 - (a) monitor, implement and secure compliance of Sponsored Parties and other parties engaged in Seabed Mineral Activities with the Rules of the ISA;
 - (c) undertake any advisory, supervisory or enforcement activities in relation to Seabed Mineral Activities or the protection of the marine environment, in the event this is required in addition to the ISA's work in order for Fiji to meet its obligations under the UN Convention of the Law of the Sea, whether as a State enterprise or as a Sponsoring State;
 - (d) require and review relevant reports and information provided by Sponsored Parties or other parties engaged in Seabed Mineral Activities;
 - (e) maintain appropriate records, pertaining to Seabed Mineral Activities conducted by those Parties specified in (d);
 - (f) ensure that contractual arrangements are fair for parties undertaking or proposing to undertake Seabed Mineral Activities in the Area for which a contract has been granted;
 - (g) ensure that Seabed Mineral Activities are carried out in a manner that is consistent with the Rules of the ISA and Fiji's responsibilities under the UN Convention on the Law of the Sea, and any other applicable requirement of international law;
 - (h) facilitate any applications to the ISA relating to Seabed Mineral Activities;
 - (i) set terms and conditions of any licences granted by the Authority to other parties engaged in Seabed Mineral Activities; and
 - (j) negotiate fees, royalties and taxes in respect of Seabed Mineral Activities on a case by case basis with Sponsored Parties and other parties engaged in Seabed Mineral Activities.
- (2) The Authority shall be responsible for the administration of Fiji's sponsorship responsibilities in accordance with the UN Convention on the Law of the Sea.

.....

In light of its objectives and functions, the FISA's powers include the processing of applications for exploration and exploitation in the Area, the prevention, reduction and control of pollution and other hazards, and the formulation of rules, regulations and procedures for (i) the conduct of exploration and exploitation in the Area, and (ii) the protection and preservation of the natural resources of the Area and the prevention of damage to the flora and fauna of the marine environment.³²

The Fiji International Seabed Minerals Working Group is established to provide technical and policy advice and recommendations to the FISA in the performance of its functions.³³ The working group is required to work in consultation with the FISA on all matters regarding Seabed Mineral Activities. "Seabed Mineral Activities" is defined as "operations for the exploration or exploitation of Seabed Minerals within the Area under contract with the ISA and under sponsorship by a State Party". "Seabed Mineral" or "Seabed Minerals" on the other hand means "the hard mineral resources of any part of the Area, including those in crust, nodule or hydrothermal deposit form, which contain (in quantities greater than trace) metalliferous or non-metalliferous elements".³⁴

In addition to the FISA and the FISMWG, the Fiji Seabed Mineral Resources Corporation is a limited liability company incorporated for the purposes of engaging in partnership or joint venture arrangements to conduct Seabed Mineral Activities. Since the FSMRC is a government corporation within the scope of the Public Enterprises Act 1996, the Minister for Public Enterprises may give such directions necessary for its performance, operation and administration.

Institutional matters aside, Part 3 of the ISMM Decree 2013 provides for applications for sponsorship and applications to ISA. To be eligible to perform Seabed Mineral Activities a Sponsorship Application must first obtain a valid Sponsorship Certificate from the Fiji International

³² Section 10, ISMM Decree 2013.

³³ Section 19, ISMM Decree 2013.

³⁴ Section 2, ISMM Decree 2013.

Seabed Authority, and obtain a valid contract from the International Seabed Authority.³⁵ The requirements and processes for application for sponsorship to the Authority and the issuance of sponsorship certificates and sponsorship agreements are set out in sections 23 - 31.

Part 4 of the ISMM Decree 2013 is devoted to the duties pertaining to Seabed Mineral Activities and Indemnification.³⁶ A person engaged in Seabed Mineral Activities is required to comply with the obligations set out in this Part. For the purposes of indemnification, a Sponsored Party or a party engaged in a partnership or joint venture with a body corporate wholly owned by Fiji shall be –

- (a) Responsible for the performance of all Seabed Mineral Activities out within the Contract Area and their compliance with the rules of the International Seabed Authority; and
- (b) Liable for the actual amount of any compensation, damage or penalties arising out of non-compliance or from any wrongful acts or omissions in the conduct of the Seabed Mineral Activities.³⁷

Section 33 indemnifies Fiji against all actions, proceedings, costs, charges, claims and demands which may be made or brought in relation to the performance of Seabed Mineral Activities or for the performance of any function or exercise of any power under the ISMM Decree 2013.

Provisions on the role of the Sponsoring State constitute Part 5 of the ISMM Decree 2013. The obligations of Fiji through the FISA to adhere to the requirements and standards in the rules of ISA and general principles of international law are laid out in section 34. The FISA has the power to monitor and make such examinations, inspections and enquiries of Sponsored Parties and the conduct of Seabed Mineral Activities as are necessary to meet its responsibilities under international law. Where the FISA is of the opinion that a Sponsored Party is at serious risk of materially breaching the rules of ISA, or the ISMM Decree 2013, the FISA may take administrative action.³⁸

Part 6 provides among other things for the maintenance by the FISA of records, termination of sponsorship certificates, the surrender of such certificates, revocation and renewal of sponsorship.³⁹ Financial requirements are provided in Part 7 and Part 8 provides for miscellaneous matters including the commission of inquiries into incidents, and the settlement of disputes.

4.4 Environmental protection legislation of potential relevance to deep-sea mining

The *Environment Management Act 2005* (EM Act) is the primary environmental legislation in Fiji. It applies to Fiji's land territory and marine spaces including the EEZ. The EM Act is intended to aid, primarily, the protection of natural resources and for the control and management of developments, waste management and pollution control.

In relation to the exploration and exploitation of marine non-living resources, the provisions of the EM Act provide, among other things for:

- the requirement of EIAs;
- protected areas;
- waste management and marine pollution control; and
- the protection and preservation of the marine environment up to the outer limits of Fiji's EEZ.

³⁵ Section 22, ISMM Decree 2013.

³⁶ Sections 32 and 33, ISMM Decree 2013.

³⁷ Section 33(1), ISMM Decree 2013.

³⁸ Section 36, ISMM Decree 2013.

³⁹ Sections 37 – 44, ISMM Decree 2013.

The management of developments on land and within Fiji's marine spaces is undertaken through an EIA process. Mining operations are included in the EM Act. Schedule 2 of the EM Act provides for the types of development proposals which are required to be approved by the Environment Impact Assessment Administrator. This potentially places an additional burden on the mining proponent to comply with development approvals. With particular relevance to commercial mining operations are the following proposals that require approval of the Administrator -

- (b) a proposal that could result in the pollution of any marine waters, ground water, freshwater body or other water resource;
- (f) a proposal for mining, reclaiming of minerals or reprocessing of tailings;
- (m) a proposal that could deplete populations of migratory species including, but not limited to, birds, sea turtles, fish, marine mammals;
- (n) a proposal that could harm or destroy designated or proposed protected areas including, but not limited to, conservation areas, national parks, wildlife refuges, wildlife preserves, wildlife sanctuaries, mangrove conservation areas, forest reserves, fishing grounds (including reef fisheries), fish aggregation and spawning sites, fishing or gleaning areas, fish nursery areas, urban parks, recreational areas and any other category or area designated by a written law;
- (o) a proposal that could destroy or damage an ecosystem of national importance, including, but not limited to, a beach, coral reef, rock and gravel deposit, sand deposit, island, native forest, agricultural area, lagoon, sea-grass bed, mangrove swamp, natural pass or channel, natural lake or pond, a pelagic (open ocean) ecosystem or an estuary;

The process for the consideration of proposals is comparable with other jurisdictions around the world (see Figure 6). Complementing the EM Act in the EIA process are the *Environment Management (EIA Process) Regulations 2007* and the EIA Guidelines. The EIA Regulations set out the legal requirements and processes to be complied with by development proponents and EIA consultants registered with the Department of Environment.

The key environmental legislation that relate to deep-seabed mining that relate to the establishment of MPAs or the protection of fragile ecosystems are the *Environment Management Act 2005*, the *Endangered and Protected Species Act 2002*, the *Fisheries Act Cap. 158* and the *Offshore Fisheries Management Decree 2012*. While there is potential for the development of specific regulations under the EM Act in particular for the protection of fragile seabed ecosystems, it would be a significant challenge for the administration to monitor, and ensure compliance with requirements and standards. Marine protected areas or marine reserves may also be established under the *Fisheries Act, Offshore Fisheries Management Decree 2012* and the *EM Act*.

Marine reserves and protected areas are already identified in the *Fisheries Act* and its regulations. These reserves however prohibit commercial fishing or place restrictions on certain activities in identified areas within the internal waters, archipelagic waters and territorial sea.

The *Offshore Fisheries Management Decree 2012* is the primary legislation that makes provision for the management, development and sustainable use of Fiji's offshore fisheries and living marine resources. While focussed on offshore fisheries, the Decree also applies in "Fiji fisheries waters" i.e., the internal waters, the archipelagic waters, the territorial sea, the EEZ and any other waters over which Fiji exercises its sovereignty or sovereign rights, and includes the bed and subsoil underlying those waters. The Decree provides the regime for licensing and authorisations for fishing

and related activities within areas under national jurisdiction and for the authorisation of flagged vessels fishing on the high seas. The Minister responsible for Fisheries has broad powers in the making of regulations including for prescribing measures for the conservation, management, development and regulation of fisheries or any particular fishery and may also make regulations elaborating on area, seasonal or other prohibitions and restrictions relating to the fishery.⁴⁰ Notably, the Decree contains contemporary principles for the conservation and management of fisheries, and associated ecosystems, provides the application of the precautionary approach and supports the protection of biodiversity in the marine environment.⁴¹

In addition to the protection of marine areas, marine species may also be protected under the *Offshore Fisheries Management Decree 2012*, *Fisheries Act Cap. 158* and the *Endangered and Protected Species Act 2002* and its regulations. The *Endangered and Protected Species Act 2002* regulates and controls the international trade, domestic trade, possession and transportation of species protected under the *Convention on International Trade in Endangered Species of Wild Fauna and Flora* (CITES). The Act came into force in 2003 and applies to all endangered species listed in Appendices I, II, and III of CITES and indigenous species listed in its first and second Schedules.

4.5 Draft legislation/policy relevant to deep-sea mining

The Department of Mineral Resources is working to strengthen its legislative framework. Apart from the 2010 amendment to the *Mining Act*, there have been plans for additional legislation. For instance before 2010 the Department was working on a draft Mining Bill which was robust but did not provide adequately for seabed mining. The need for an Offshore Mining Decree has also been identified in the Department's legal reform plan but it is not clear whether this proposed law will be developed.

With respect to the role of the Department of Environment, there are several policies and regulations in existence that are designed to address terrestrial and near-shore issues such as the Environment Management (Waste Disposal and Recycling) Regulations 2007, and the Litter Promulgation 2008. General environmental policies include the: National Solid Waste Management Strategy 2011 – 2014, National Liquid Waste Management Strategy and Action Plan 2006, and the National Air Pollution Control Strategy 2007.

⁴⁰ Section 104(2)(a), *Offshore Fisheries Management Decree 2012*.
⁴¹ See section 6, *Offshore Fisheries Management Decree 2012*.

5 France and the French overseas countries & territories

5.1 Legislation on maritime zones

France has enacted several laws and regulations regarding the establishment and delimitation of the maritime zones off the coasts of continental France and the French overseas territories.

The basic legislation governing the exploration of the continental shelf and the exploitation of its natural resources is Law No. 68-1181 of 30 December 1968 as modified⁴². With the enactment of this legislation, France asserted its sovereign rights regarding the exploration of the continental shelf and the exploitation of its natural resources (article 1). The provisions of this law are applicable to the seabed of the territorial sea and the EEZ of continental France and overseas territories. Regarding the latter, it is specified that the law may have to be adapted, through the adoption of decrees by the State Council, to take into consideration the specificities of these territories (article 36).

Any public or private legal entity wishing to undertake any activity related to the exploration of the continental shelf or the exploitation of its natural resources is required to first obtain an authorization (article 2). It provides a definition of the term "installations and structures" which includes platforms and other devices. Unless specifically mentioned otherwise, French laws and regulations apply to platforms and devices on the continental shelf as if they were located on the French territory throughout the period of exploration of the continental shelf or the exploitation of its natural resources (article 5). Upon completion of the activities, the owner or holder of the exploitation authorization has a legal obligation to remove the installations and structures from the continental shelf (article 14).

The law provides financial incentives for the research or exploitation of oil and gas and other mineral or organic substances on the continental shelf or in its subsoil by exempting all industrial equipment and substances, tools or devices used to ensure their operation or maintenance from import duties (article 16).

Exploration and exploitation rights on the seabed granted to any private or public legal entity are subject to the payment of a levy (article 23). In overseas territories, payment is made directly to the competent authority in the territory concerned (article 23 bis).

Any private or public legal entity which undertakes on the continental shelf any activity for its exploration or the exploitation of its natural resources without an authorization is liable on conviction to a fine of €3 750 and/or imprisonment for a period of three months.

Law No. 68-1181 is supplemented by **Decree No. 71-360 of 6 May 1971**. It provides for the four different types of authorization that can be issued for the exploration of the continental shelf or the exploitation of its mineral or fossil substances:

- authorization for prospecting;
- exclusive research permit;
- mining exploitation permit;
- mining concession (article 3).

⁴² The text used for the preparation of this section is the consolidated version published on 4 June 2014.

These authorizations are referred to collectively as “mining titles”. They can be granted only to public or private entities owning an establishment in the territory of an EU member State or of a State party to the Agreement on the European Economic Area (article 1). Conditions for the application of a mining title are defined in the Mining Code (article 5). Title holders are required to submit their work programmes to the relevant Prefect at least 45 days prior to the opening of the work (article 7)⁴³. These programmes are reviewed by the Commission established under article 22 of Decree No. 2006-649 of 2 June 2006 relating to mining works, underground storage works, and the mining and underground storage police⁴⁴. Should the Commission be of the view that the execution of a programme is likely to adversely impact on the environment or hinder other activities such as navigation, fisheries or defence or affect the operation or maintenance of submarine communications cables, the Prefect or the Delegate of the Government in the overseas territory, as the case may be, may prohibit the works or subject them to specific conditions (article 8 and article 29).

Law No. 71-1060 of 24 December 1971 provides for the delimitation of the French territorial waters, which extend up to a limit of 12 nautical miles measured from the baselines. The sovereignty of the French State extends to the airspace as well as the seabed and subsoil thereof within the limits of the territorial waters. This Law applies to the French overseas territories.

By enacting Law No. 76-655 of 16 July 1976, France has claimed an economic exclusive zone (EEZ) that may extend up to 188 nautical miles beyond the outer limit of its territorial sea and asserted sovereign rights for the purpose of exploring and exploiting natural resources, whether living or non- living, of the seabed and its subsoil and of the waters superjacent to the seabed (article 1). It recognizes that the provisions of Law No. 68-1181 of 30 December 1968 relating to the exploration of the continental shelf and to the exploitation of its natural resources as well as the provisions of articles L. 124-1 and L. 134-1 of the Mining Code are applicable to the seabed and its subsoil in the EEZ subject to the devolution of powers to overseas territories in New Caledonia and in the French Antarctic and Southern Territories (article 2).

Fishing activities by foreign fishing vessels are prohibited within the EEZ off the coast of continental France (article 3).

France exercises the rights recognized to coastal States by international law as reflected in the 1982 Law of the Sea Convention (UNCLOS) notably with respect to the establishment and utilization of artificial islands, installations and structures, marine scientific research, and the protection and preservation of the marine environment. Where the French authorities decide, based on international relations consideration, to exercise only rights relating to artificial islands, marine scientific research and protection and preservation of the environment, this zone should be known as a zone of ecological protection (article 4). This latter provision was introduced in 2003 to support the claim by France of a zone of ecological protection in the Mediterranean Sea.

By adopting the Decree No. 77-130 of 11 February 1977, France has declared an EEZ off the coasts of continental France in the North Sea, the English Channel and the Atlantic Ocean from the Franco-Belgium border in the north to the Franco-Spanish border in the south. In the Mediterranean, due to political consideration, France like other European countries refrained for a long time from claiming jurisdiction over any area beyond the territorial sea. In 2004, France established a zone of ecological protection designed to strengthen its capacity to fight against all

⁴³ This period is extended to 60 days in overseas territories (article 32 of Decree 71-360 of 6 May 1971).

⁴⁴ Note that this Commission is competent to review work programmes relating to mining works undertaken in the territorial sea or in internal waters.

forms of marine pollution⁴⁵. This allowed the French authorities to prohibit or restrict certain activities within the zone and to impose sanctions against polluters. This is in line with the MARPOL Convention. In 2012, France declared an EEZ off its coasts in the Mediterranean Sea to replace the zone of ecological protection⁴⁶.

Outside of continental France, the French Government established an EEZ around the French overseas departments shortly after the enactment of Law No. 76-655 of 16 July 1976 by adopting a series of decrees:

- Decree No. 77-170 of 25 February 1977 establishing an EEZ off the coasts of French Guiana;
- Decree No. 78-148 of 3 February 1978 establishing an EEZ off the coasts of Reunion Island;
- Decree No. 78-276 of 6 March 1978 establishing an EEZ off the coasts of Guadeloupe;
- Decree No. 78-277 of 6 March 1978 establishing an EEZ off the coasts of Martinique.

France is also claiming an EEZ off the coasts of Mayotte⁴⁷, which became a French overseas department in 2011.

As for the French OCT, France has declared an EEZ for New Caledonia, French Polynesia, French Antarctic and Southern Territories⁴⁸, Wallis and Futuna⁴⁹ and St Pierre and Miquelon.

France has also declared an EEZ around Clipperton Island in the Pacific Ocean and Tromelin⁵⁰ in the Indian Ocean.

5.1.1 *Extension of Continental shelf*

Pursuant to Article 76, paragraph 8, of UNCLOS, France has submitted claims for the extension of its continental shelf off the coasts of continental France and in several of its overseas territories. To support the technical preparation of its claims, the French Government has established in 2003 the French Program of continental shelf extension, known as EXTRAPLAC. It is coordinated by a Steering Committee, made up of representatives from the ministries responsible for industry, research, defence, overseas territories, environment and budget and the General Secretariat of the Sea, and executed by the IFREMER in partnership with the Hydrographic and Oceanographic Service of the Navy (SHOM), the French Institute of Petroleum (IFP) and the French Polar Institute Paul Emile Victor (IPEV). A budget of 16 million euros was allocated to EXTRAPLAC for the 2003 to 2009 period to conduct the necessary research. It was estimated that France could extend its continental shelf to a combined area ranging from 858 000 km² to 1 223 000 km². France managed to submit all its claims prior to the 13 May 2009 deadline set by the United Nations.

Continental France

In May 2006, France, Ireland, Spain and the United Kingdom of Great Britain and Northern Ireland submitted a joint submission to the CLCS in respect of the area of the Celtic Sea and the Bay of Biscay⁵¹. It comprises a single document prepared collectively and collaboratively by the four coastal States concerned. It was reported that there was no dispute between them and any other State(s). The requested extension was approved by the CLCS in March 2009.

French overseas territories

⁴⁵ The zone of ecological protection was created by Decree 2004-33 of 10 January 2004.

⁴⁶ See Decree No. 2012-1148 of 12 October 2012.

⁴⁷ See Decree No. 78-149 of 3 February 1978 establishing an EEZ off the coasts of Mayotte.

⁴⁸ See Decree No. 78-144 of 3 February 1978 establishing an EEZ off the coasts of the French Antarctic and Southern Territories.

⁴⁹ See Decree No. 78-145 of 3 February 1978 establishing an EEZ off the coasts of Wallis and Futuna.

⁵⁰ Sovereignty over Tromelin is disputed by Mauritius.

⁵¹ See http://www.un.org/Depts/los/clcs_new/submissions_files/submission_frgbires.htm

France has submitted 10 claims to the CLCS for the extension of the continental shelf of la Reunion Island, Crozet, St Paul and Amsterdam, Kerguelen, New Caledonia, Wallis and Futuna, French Polynesia, French Antilles, French Guiana and St Pierre and Miquelon. The status of the claims is summarized in the table below based on the information available on the EXTRAPLAC website⁵².

Table 1

Status of claims for the extension of the continental shelf deposited by France

Territories/ Status of Claims	Claims awaiting review by CLCS	Claims validated by the CLCS	Claims for which additional technical information is required
Reunion Island ⁵³			
Crozet ⁵⁴			
St Paul and Amsterdam ⁵⁵			
Kerguelen ⁵⁶			
New Caledonia ⁵⁷			
Wallis and Futuna			
French Polynesia			
French Antilles ⁵⁸			
French Guiana ⁵⁹			
St Pierre and Miquelon			

It should be noted that on 8 May 2009 France submitted preliminary information to the CLCS in respect of the delimitation of the continental shelf of Wallis and Futuna, French Polynesia and St Pierre and Miquelon⁶⁰.

5.2 Legislation on deep-sea mining in areas under national jurisdiction

The legal framework regulating deep-sea mining in France is based on the Mining Code, Law No. 68-1181 of 30 December 1968 relating to the exploration of the continental shelf and the exploitation of its natural resources implemented by Decree No. 71-360 of 6 May 1971 and by Decree No. 2006-798 of 6 July 2006 relating to the prospecting, research and exploration of mineral and fossil substances in the seabed of the public domain and of the continental shelf of continental France⁶¹.

A new Mining Code was adopted by Ordinance No. 2011-91 of 20 January 2011 and entered into force on 1st March 2011. It abrogated (except for a few provisions) the previous Mining Code adopted by Decree No. 56-538 of 16 August 1956. The reform of the Mining Code in 2010 was partial as it extended only to the legislative part of the Code. The next step of the reform is to review the regulatory part of the Code. It is important to note that the provisions of Law No.68-1181 of 30 December 1968 on the exploration of the continental shelf and the exploitation of its resources have not been integrated in the new Mining Code.

⁵² See <http://www.extraplac.fr/FR/sig/sig.php>. The site was last visited on 4 June 2014.

⁵³ See http://www.un.org/Depts/los/clcs_new/submissions_files/submit_fra_40_2009.htm

⁵⁴ See http://www.un.org/Depts/los/clcs_new/submissions_files/submit_frazaf_34_2009.htm

⁵⁵ See http://www.un.org/Depts/los/clcs_new/submissions_files/submit_fra_40_2009.htm

⁵⁶ See http://www.un.org/Depts/los/clcs_new/submissions_files/submit_fra1.htm

⁵⁷ See http://www.un.org/Depts/los/clcs_new/submissions_files/submit_fra.htm

⁵⁸ See http://www.un.org/Depts/los/clcs_new/submissions_files/submit_fra1.htm

⁵⁹ See http://www.un.org/Depts/los/clcs_new/submissions_files/submit_fra.htm

⁶⁰ See http://www.un.org/depts/los/clcs_new/commission_preliminary.htm

⁶¹ This Decree implements Law No. 76-646 of 16 July 1976 relating to the prospecting, research and exploitation of mineral resources not included in article 2 of the Mining Code and contained in the seabed of the public domain of continental France. The latter was, for the most part, abrogated by the new Mining Code.

The new Mining Code distinguishes between mine and quarry substances. Mine substances are listed under article L.111-1 and include mineral or fossil substances such as oil, gas, iron, nickel, cobalt and gold to name a few⁶². Substances not listed under this article are regarded as quarry substances and subject to the legal regime governing quarries (not included in the mining Code). However, this distinction applies only on land as research for⁶³ and exploitation⁶⁴ of quarry substances on the seabed and its subsoil on the continental shelf and in the EEZ are subject to the legal regime applicable to mine substances.

The new Mining Code has introduced specific provisions for the research and exploitation of mineral and fossil substances at sea on the continental shelf and in the EEZ⁶⁵.

The legal regime applicable for the research and exploitation of mineral and fossil substances on the continental shelf and in the EEZ as reflected in the new Mining Code and Decree No. 2006-798 is summarized below and should be read together with Law No. 68-1181⁶⁶:

5.2.1 *Research*

Any natural person or legal entity who wishes to undertake research for mineral or fossil substances on the continental shelf and in the EEZ is required to obtain an exclusive research permit. Such a permit should be granted only to applicants who can demonstrate adequate technical and financial capacity to carry out the research (article L. 122-2). To date, the notion of “adequate technical and financial capacity” has not been defined. Other criteria that are taken into consideration for the granting of an exclusive research permit include: the quality of the studies supporting the establishment of the working programme and the ability of the applicants in implementing effectively and efficiently the conditions attached to any other previous authorizations (where relevant), particularly with regard to the protection of the environment. In support of his/her application, the applicant is required to provide, *inter alia*, the following documents:

- a technical study;
- a programme detailing the contemplated activities to be undertaken;
- maps; and
- an impact notice mentioning the potential impact of the works on the environment.

It should be noted that there is an ongoing debate as to whether the applicant of an exclusive research permit should be required to submit a full EIA rather than a mere impact notice⁶⁷.

The exclusive research permit is accorded for a period not exceeding 5 years (article L. 122-3).

The review of an exclusive research permit’s application for quarry substances may be subject to a public consultation (“enquête publique”) (article L. 123-2).

5.2.2 *Exploitation*

Mine substances can be exploited either through the granting of a concession or directly by the State (article L. 131-1). The holder of a valid exclusive research permit has an exclusive right to obtain an exploitation concession within the area and over the substances that are mentioned in the permit (article L. 132-6).

Like for the exclusive research permit, the applicant of an exploitation concession must demonstrate his/her technical and financial capacity to carry out the exploitation works (article L.

⁶² Note that this list can be modified and that substances can be added to it.

⁶³ See article L-123-5 of the New Mining Code.

⁶⁴ See Article L. 133-6 of the new Mining Code.

⁶⁵ See articles L. 123-1 to L.123-15 (research at sea) and articles L.133-1 to L.133-13 (exploitation at sea).

⁶⁶ Note that provisions of Law No. 68-1181 and of Decree No. 71-360 are reviewed separately under section 3 of this document.

⁶⁷ See section 6 of this document on the review of the Mining Code.

132-1) and his ability to comply with the various obligations relating, *inter alia*, to labour, safety and the protection of natural ecosystems⁶⁸. The concession is granted by a decree of the State Council and is subject to the general conditions attached to any exploitation concession as defined by a decree of the State Council. In reviewing an application, the State Council may, on a case-by-case basis, impose additional specific conditions (article L. 132-2). No concession can be accorded without a public consultation carried out in accordance with the procedures laid down in the Environment Code (article L. 132-3 and articles L. 133-11 and L. 133-12). The initial duration of the concession shall not exceed 50 years (article L. 132-11) and can be extended by the State Council for successive periods no longer than 25 years (L. 142.7). The issuance of a concession is also contingent upon the payment of a levy whose rate is specified in the concession document. For the exploitation of oil or gas at sea within the limits of the continental shelf, the holder of an exploitation concession is required to pay an annual levy to the State and the relevant region(s) that is proportional to the level of production (article L. 132-16-1).

The opening of the exploitation works of mineral or fossil substances within the internal waters and the territorial sea is subject to an authorization or a declaration as the case may be (article L. 162-6).

The natural person or legal entity who carries the exploitation of the mine substances, or by default the holder of the concession, is responsible for any damages resulting from the mining activities. It is worth noting that their liability is not limited to the area or the duration mentioned in the concession document. The State guarantees the compensation of damages resulting for mining activities to the victims, should the natural person or legal entity fails to fulfil his/her obligations (article L. 155-3).

5.2.3 *The mining police*

The purpose of the mining police is to prevent or stop any damages or detrimental impact resulting from mining research or exploitation activities and particularly to ensure that mining title holders comply with their obligations (article L. 171-1). In order for the mining police to carry out its duty effectively, holders of concession are required to submit to the competent administrative authority an annual report assessing the impact of the mining activities on the surrounding environment. This report is made available to the territorial authorities concerned (article L. 172-1).

At sea, the mining police is required to control that mining activities are undertaken within the authorized area and that extracted quantities of mine substances do not exceed those agreed upon in the concession document (article 35 of Decree No. 2006-798).

The Prefect is the principal authority empowered to carry out mining police activities. It may be supported, where need be, by the Regional Directorate for the Environment.

5.3 Legislation on deep-sea mining in the Area

There is currently no specific legislation or regulation governing deep-sea mining activities to be undertaken in the Area. As far as could be ascertained no specific provisions dealing with this issue have been introduced in the draft Mining Code.

France has signed a contract with ISA for exploration for polymetallic nodules on the Clarion-Clipperton zone. The contract will expire on 19 June 2016. Research is carried out by the French

⁶⁸ See articles L. 161-1 and L. 161-2 of the new Mining Code.

Research Institute for Exploitation of the Sea (IFREMER). In July 2012, IFREMER submitted, to the ISA, a request for an exploration permit for polymetallic sulphides in the Mid-Atlantic Ridge area.

5.4 Environmental protection legislation of potential relevance to deep-sea mining

5.4.1 *Legislation on environmental impact assessment*

Environmental impact assessment (EIA) is regulated under the Environment Code, which is a very comprehensive piece of legislation. The Environment Code (hereinafter in this section referred to as "the Code") is a thick document of approximately 1 500 pages divided into a legislative and a regulatory part.

The Code recognizes the following main principles as the fundamentals of environmental law:

- the precautionary principle;
- the preventive action and correction principle;
- the polluter-pays principle;
- the principle whereby every person has a right of access to environmental-related information held by public authorities;
- the participatory principle whereby every person is informed of public decisions on projects with an impact on the environment and is entitled to participate in the decision-making process through the formulation of comments to be taken into consideration by public authorities. This principle is also enshrined in the article 7 of the Environment Charter.

An EIA is required for all projects involving works or constructions which by their nature, dimension or location are likely to have a serious impact on the environment or public health (L. 122-1). All projects that are listed in the table appended to article R. 122-2 of the Code are subject to an EIA.

This table is regularly reviewed and modified by Decree. As far as could be established, this table was last updated by Decree No. 2011-2019 of 29 December 2011 modifying impact assessment for works, constructions and management. Projects relevant to this study, which are systematically subject to an EIA or on a case-by-case basis, are the following:

- classified installations for environment protection (ICPE) that are subject to an authorization⁶⁹;
- extraction of minerals by dredging in marine areas (dredging of river mouths);
- drilling for mining exploration and exploitation at depth of less than 100 meters to study subsoil stability⁷⁰;
- opening of works for the exploitation of mineral or fossil substances in the seabed of the maritime public domain and the continental shelf of continental France (systematic procedure);
- installations at sea for the production of energy (any type).

The applicant or holder of an authorization is responsible for the content and quality of the EIA.

Extension of existing works or constructions may also be subject to an EIA (R. 122-2). The content of an EIA varies according to the proposed location of the undertaking, the nature and extent of the works, and the likely impact of the activities on the environment or public health. Information to be presented in an EIA includes:

⁶⁹ See section 6 of this document on the review of the mining code where it is mentioned that one of the proposals made by lawmakers is to subject mining works on the seabed to the legal regime (as far as procedures are concerned) applicable to ICPE.

⁷⁰ Apparently, this provision aims primarily at projects or constructions on land.

- a detailed description of the project providing specific information on its scale, process of exploitation (equipment and substances to be used) and volume of waste to be disposed or discharged;
- an analysis of the state of the area and ecosystems to be affected (fauna and flora, natural habitats, water quality etc.);
- an analysis of the negative and positive effects of the project on the environment on the short, medium and long terms;
- mitigation measures to be applied;
- description of the technical or scientific challenges to implement the project.

To facilitate public information and review, the EIA must contain a non-technical summary of the project. This summary may be submitted as a separate document (article R. 122-5).

The competent administrative authority in environmental matters is either the Minister responsible for the environment or the General Council of Environment. With respect to EIA for mining exploitation on the continental shelf, the Minister is the competent authority in accordance with article R. 122-6 of the Code, which stipulates that the Minister is responsible for any project of work or construction or any project modifying an existing project granted by decree (see section 1 above).

The authority competent to grant the exploitation concession submits the application together with the EIA to the Minister responsible for the environment for review. The latter has three months to make his/her opinion known through the issuance of an administrative notice and after consultation of the State competent administrative authority, which would be the Maritime Prefect for projects of exploitation of mine substances on the continental shelf (article R. 122-7). The EIA and the administrative notice issued by the Minister responsible for the environment are made available to the public through public consultation ("enquête publique") or by posting it in accordance with the provisions of article L. 122-1-1. The authority competent to grant or reject the application is responsible for informing the public of the decision that has been made (article R. 122-12).

A national record of EIAs is kept and indicates for each project: a) the identity of the applicant; b) the nature and location of the project; c) the date of issuance of the authorization or concession; and d) the place where the EIA and the decision to grant an authorization or concession can be consulted by the public (article R. 122-13).

5.4.2 *Other environmental legislation*

The Environment Code recognizes the marine environment as a common heritage of the Nation. As a result, it is the duty of the State to ensure the protection and the sustainable use of the marine environment and the conservation of the marine biodiversity occurring therein. The protection and conservation of the marine environment aim at: a) preventing the degradation of the marine environment and restoring degraded marine ecosystems; b) preventing and reducing discharge in the marine environment so as to progressively eradicate pollution with a view to avoiding serious detrimental impact on marine ecosystems, marine biodiversity and human health; and c) apply an ecosystem approach to the management of human activities so as to ensure that human activities are kept at a level that is compatible with the achievement of the good ecological state⁷¹ of the marine environment (L. 219-7). The competent administrative authority is required to take all the necessary measures to realize or keep a good ecological state of the marine environment no later than 2020. To this end, each marine region or sub-region is required to develop an action plan for

⁷¹ The term "ecological state" is defined as the general state of the marine waters' environment. The notion of "marine waters" includes the water column, the seabed and its subsoil within the limits of the waters placed under the sovereignty or jurisdiction of France.

the marine environment including: a) an assessment of the ecological state of the marine waters and of the environmental impact of human activities on these waters; b) a definition of the “good ecological state” of the marine waters; c) a series of environmental objectives and indicators designed to attain the good ecological state; and d) a surveillance programme to measure progress and allow the adoption of adaptive measures (L. 219-9).

The Environment Code provides for the creation of the Marine Protected Areas National Agency (MPANA) and the establishment of Marine Natural Parks (MNPs) (articles L. 334-1 to L. 334-8).

The MPANA is a public agency responsible for the network of French marine protected areas (MPAs). The agency contributes to the French participation to the establishment and management of international MPAs. The MPANA may be entrusted with the direct management of MPAs.

MNPs can be established by decree in waters under French sovereignty or jurisdiction and in areas forming part of the maritime public domain to improve the knowledge and the protection and sustainable development of the marine environment. The creation of a MNP is subject to a procedure of public consultation (“enquête publique”). The decree establishing a MNP specifies the limits of the area, the make-up of the Management Committee and spells out the management objectives of the area. A Management Committee is set up for the management of each MNP. Its membership includes representatives of the State, regional and local authorities, user organizations, and associations for the protection of the environment. It is responsible for developing the MNP management plan. The plan defines the protection and development measures to be implemented in the park and provides for spatial planning of the different activities and identifies zones of strict conservation. The plan is to be reviewed at least every 15 years. No authorization for an activity likely to seriously affect the marine ecosystem of an MNP should be granted without the prior approval of the MPANA, except for activities relating to national defence, maritime security, public order or fight against pollution.

As far as could be established, there is no provision in the Environment Code or any other legislation providing specifically for the protection of fragile seabed ecosystems, including seamounts. However, there is little doubt that specific measures to protect fragile seabed ecosystems or seamounts in the French continental shelf can be introduced in a regional action plan for the marine environment or in the management plan of a MNP.

It is worth noting that recently France established the natural park of the Coral Sea, which is the largest MPA in France covering an area of 1 300 000 km² corresponding to the entire territorial waters and economic exclusive zone of New Caledonia.

5.5 Draft legislation/policy proposals relevant to deep-sea mining

In France the debate on shale gas and the exploitation of gas off the coasts of French Guiana have shown some weaknesses in the Mining Code. Started in 2011 with a first codification in January 2011, the reform of the Mining Code has become a priority of the current government.

As regards deep-sea mining in the Area, according to the ISA website a letter was sent on 22 March 2013 from the French Embassy in Jamaica to ISA in which it was noted that the French Government is concerned to align its domestic law with the relevant provisions of UNCLOS, to which end a series of inter-ministerial consultations had taken place with a view to preparing legislation. The letter went on to note that due to the complexity of the topic it was unlikely that the legislation would be adopted in 2013.

List of relevant legislation

Maritime zones

Continental shelf

1. Loi 68-1181 du 30 décembre 1968 relative à l'exploration du plateau continental et à l'exploitation de ses ressources naturelles
2. Décret No. 71-360 du 6 mai 1971 portant application de la Loi 68-1181 du 30 décembre 1968 relative à l'exploration du plateau continental et à l'exploitation de ses ressources naturelles
3. Loi 77-485 du 11 mai 1977 modifiant la Loi 68-1181 du 30 décembre 1968 relative à l'exploration du plateau continental et à l'exploitation de ses ressources naturelles

Territorial sea

4. Loi No. 71-1060 du 24 décembre 1971 relative à la délimitation des eaux territoriales françaises

Economic exclusive zone

5. Loi No. 76-655 du 16 juillet 1976 relative à la zone économique et à la zone de protection écologique au large des côtes du territoire de la République
6. Décret No. 77-130 du 11 février 1977 portant création d'une zone économique au large des côtes s'étendant de la frontière franco-belge jusqu'à la frontière franco-espagnol
7. Décret No. 77-170 du 25 février 1977 portant création d'une zone économique exclusive au large des côtes de la Guyane
8. Décret No. 78-144 du 3 février 1978 portant création d'une zone économique exclusive au large des côtes des Terres australes et antarctiques françaises
9. Décret No. 78-145 du 3 février 1978 portant création d'une zone économique exclusive au large des côtes de Wallis et Futuna
10. Décret No. 78-146 du 3 février 1978 portant création d'une zone économique exclusive au large des côtes de Tromelin, Glorieuses, Juan de Nova, Europa et Bassas-da-India
11. Décret No. 78-148 du 3 février 1978 portant création d'une zone économique exclusive au large des côtes de l'île de la Réunion
12. Décret No. 78-149 du 3 février 1978 portant création d'une zone économique exclusive au large des côtes de Mayotte
13. Décret No. 78-276 du 6 mars 1978 portant création d'une zone économique exclusive au large des côtes de la Guadeloupe
14. Décret No. 78-277 du 6 mars 1978 portant création d'une zone économique exclusive au large des côtes de la Martinique
15. Décret No. 2004-33 du 10 janvier 2004 portant création d'une zone de protection écologique au large des côtes du territoire de la République en Méditerranée
16. Décret No. 2012-1148 du 12 octobre 2012 portant création d'une zone économique exclusive au large des côtes du territoire de la République en Méditerranée

Mining

17. Loi No. 76-646 du 16 juillet 1976 relative à la prospection, à la recherche et à l'exploitation des substances minérales non-visées à l'article 2 du code minier et contenues dans les fonds marins du domaine public métropolitain
18. Décret No. 2006-798 du 6 juillet 2006 relatif à la prospection, à la recherche et à l'exploitation de substances minérales ou fossiles contenues dans les fonds marins du domaine public et du plateau continental métropolitains
19. Ordonnance No. 2011-91 of 20 janvier 2011 portant codification de la partie législative du code minier
20. New Mining Code (consolidated version, edition of 2 March 2013)

Environment

21. Décret No. 2011-2019 du 29 décembre 2011 portant réforme des études d'impact des projets de travaux, d'ouvrages ou d'aménagement
22. Code de l'environnement (version consolidée du 1^{er} juin 2014)
23. Loi No. 76-663 du 19 juillet 1976 relative aux installations classées pour la protection de l'environnement

6 Germany

6.1 Legislation on deep-sea mining in the Area

The German legislation on deep-sea mining in the Area is the Seabed Mining Act of 6 June 1995 as most recently amended by article 74 of Act of 8 December 2010.⁷² Germany. The 1995 Act in turn modified the earlier Interim Regulation of Deep-seabed Mining 1980, dated 16 August 1980.⁷³

According to the 1995 Act any person wishing to undertake deep-sea mining activities in the Area needs to be registered at the Secretary-General of ISA⁷⁴. The registration needs to be reported to the ‘Landesamt’ being the Landesamt für Bergbau, Energie und Geologie (English: *State Office for Mining, Energy and Geology*). The Act, in principle, only applies to natural or legal persons with the German nationality, who are being founded under German law and who are subject to the control of the German Authorities⁷⁵. All persons with a different nationality do not fall under the Act and cannot exercise any rights. They should seek their rights elsewhere.

Before the actual mining activities can start the person intending the mining activities needs approval from the Landesamt and a contract with ISA. For approval the application should be presented to the Landesamt together with the application for the conclusion of a contract with ISA. Further a draft plan of work and other necessary documents need to be provided. The documents need to be presented both in German (mainly for the Landesamt) and in English (mainly for ISA)⁷⁶.

Besides the Landesamt two agencies are involved in the assessment of the proposal. The Federal Maritime and Hydrographic Agency will comment on the draft work plan with respect to matters of shipping as well as matters of environmental protection. The Federal Environment Agency will be consulted in matters of environmental protection and so the agencies will provide a joint advice with regard to the environmental protection⁷⁷.

The application will be approved if the following conditions are fulfilled⁷⁸:

- The application and the draft plan of work meet the preconditions set in UNCLOS, the 1994 Agreement and the rules and regulations issued by ISA. Main attention will be paid to the article 4, paragraphs 6 (a) to (c) of Annex III to UNCLOS.
- The applicant is also
 - Sufficiently reliable and can guarantee that the activities in the Area will be implemented in an orderly manner which upholds the needs of operational safety, of health and safety at work and of environmental protection;
 - Can provide the funding needed for an orderly execution of the activities in the Area, and
 - Can show plausibly that the activities planned in the Area can be carried out on a commercial basis.

An application will be refused in case a contract has already been concluded between ISA and a third party. Only exemption is when the new application is for the exploration and exploitation of a different resource and so there is no conflict of interest⁷⁹.

⁷² Federal Law Gazette I, p. 1864.

⁷³ 1981) International Legal Materials, XX, p. 393, Germany.

⁷⁴ Article 4.1 Seabed mining Act

⁷⁵ Article 2.10 Seabed mining Act. This is in accordance with the specifications provided by UNCLOS. See also Norton Rose Fulbright (2014).

⁷⁶ Articles 4.2 and 4.3 Seabed mining Act

⁷⁷ Article 4.4 Seabed mining Act.

⁷⁸ International Seabed Authority (2012)

⁷⁹ Article 4.8 Seabed mining Act

List of relevant legislation

1. Act regulating Seabed Mining 6 June 1995 (Seabed mining Act -MbergG)
2. Agreement (with Protocol) between the Kingdom of Denmark and the Federal Republic of Germany concerning delimitation, in the coastal regions, of the continental shelf of the North Sea of 9 June 1965
3. Agreement between the United Kingdom of Great Britain and Northern Ireland and the Federal Republic of Germany relating to the delimitation of the continental shelf under the North Sea between the two countries of 25 November 1971
4. Aanvullende overeenkomst van 14 mei 1962 (English: *Additional Agreement of 14 May 1962*)
5. Aanvullend protocol tot regeling van de samenwerking met betrekking tot het waterbeheer en het natuurbeheer in de Eemsmonding van 22 Augustus 1996 (English: *Additional Protocol to regulate the water management and conservation in the Eems outfall of 22 August 1996*)
6. Bergverordnung für den Festlandsockel 21 March 1989 (Festlandsockel-Bergverordnung - FlsBergV) (English: *Continental shelf mining ordinance*)
7. Bundesberggesetz 13 August 1980 (BBergG) (English: *Federal mining Act*)
8. Convention for the protection of the marine environment of the North East Atlantic 24 July 1998 (OSPAR)
9. Council Directive 92/43/EEG of 21 May 1992 on the conservation of natural habitats and of wild flora and fauna
10. Directive 2001/42/EC of the European Parliament and of the Council of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment
11. Directive 2008/56/EC of the European Parliament and of the Council of 17 June 2008 establishing a framework for community action in the field of marine environmental policy (Marine Strategy Framework Directive)
12. Exchange of notes constituting an agreement concerning the delimitation of the borderline between Denmark and the Federal Republic of Germany in the Flensburg Fiord Area of 22 and 28 October 1970 (1)
13. Gesetz über die Umweltverträglichkeitsprüfung 5 September 2001 (UVPG) (English: *Environmental Impact Assessment Act*)
14. Proclamation of 11 November 1994 by the Government of the Federal Republic of Germany concerning the extension of the breadth of the German territorial sea
15. Proclamation of 25 November 1994 by the Federal Republic of Germany concerning the establishment of an exclusive economic zone of the Federal Republic of Germany in the North Sea and in the Baltic Sea

16. Raumordnungsgesetz 22 December 2008 (ROG) (English: *Federal Spatial Planning Act*)
17. Treaty between the Kingdom of the Netherlands and the Federal Republic of Germany concerning the lateral delimitation of the continental shelf in the vicinity of the coast of 1 December 1964
18. Treaty between the Polish People's Republic and the German Democratic Republic concerning the delimitation of the continental shelf in the Baltic Sea of 29 October 1968
19. Treaty between the Kingdom of Denmark and the Federal Republic of Germany concerning the delimitation of the Continental shelf under the North Sea of 28 January 1971
20. Treaty between the Kingdom of the Netherlands and the Federal Republic of Germany concerning the Delimitation of the continental shelf under the North Sea of 28 January 1971
21. Treaty between the German Democratic Republic and the Kingdom of Sweden on the delimitation of the continental shelf (with Protocol) of 22 June 1978
22. Treaty between the German Democratic Republic and the Kingdom of Denmark on the delimitation of the Continental shelf and the Fishery zones of 14 September 1988
23. Treaty between the German Democratic Republic and the Polish People's Republic on the delimitation of the Sea Areas in the Oder Bay of 22 May 1989
24. Treaty between the Federal Republic of Germany and the Republic of Poland on the confirmation of the frontier between them of 14 November 1990
25. United Nations Convention on the Law of the Sea 14 October 1984 (UNCLOS)
26. Verdrag tussen het Koninkrijk der Nederlanden en de Bondsrepubliek Duitsland tot regeling van de samenwerking in de Eemsmonding van 8 april 1960 (English: *Treaty between the Kingdom of the Netherlands and the German Democratic Republic to regulate the cooperation in the Eems outfall of 8 April 1960*)
27. Verordnung über die Raumordnung in der deutschen ausschließlichen Wirtschaftszone in der Nordsee 21 September 2009 (AWZ Nordsee-ROV) (English: *Ordinance on Spatial Planning in the German Exclusive Economic Zone in the North Sea of September 21st 2009*)
28. Verordnung über die Raumordnung in der deutschen ausschließlichen Wirtschaftszone in der Ostsee 10 December 2009 (AWZ Ostsee-ROV) (English: *Ordinance on Spatial Planning in the German Exclusive Economic Zone in the Baltic Sea of December 10th 2009*)
29. Verordnung über die Zuständigkeit für die Verfolgung und Ahndung von Ordnungswidrigkeiten im Bereich des Festlandsockels 14 January 1982 (English: *Ordinance on the jurisdiction regarding the prosecution and punishment of offences concerning the continental shelf of 14 January 1982*)
30. Vorläufige absprache über fragen des Tiefseebodens 3 August 1984 (English: *Provisional Understanding regarding deep-seabed matters*)

7 Greece

7.1 Legislation on maritime zones

Due mainly to reasons of geography, Greece has claimed a territorial sea with a maximum breadth of 6 nm in accordance with Law No. 230 of 17 September 1936. Greece has not claimed an EEZ. However activities on the Greek continental shelf are regulated by Decree-Law No. 142/1969 Concerning Exploration for and Exploitation of the Mineral Resources in the Sea-Bed and the Beds of Lakes.

7.2 Legislation on deep-sea mining in areas under national jurisdiction

Deep-sea mining was initially regulated by means of Decree No. 142 of 13 March 1969, ‘On exploration and exploitation of submarine and shallow water minerals’, (Government Gazette 48 A 1969). According to Article 1 of the decree, only the (Greek) State has the exclusive right of exploration for and exploitation of minerals -including hydrocarbons in any form, whether solid, liquid or gaseous , as well as clay which are located:

- a) on the seabed, or the subsoil of the Greek coastal zone;
- b) on the seabed and subsoil of the submarine areas, that extend beyond Greek national territorial sea (outside the Greek coastal zone), comprising of the submerged prolongation of the land mass of Greece, including elevations , that are natural components of the continental margin and islands, in a depth of 200 m beneath sea surface, or even more, where the depth allows for the exploration of the continental shelf , as defined in existing international conventions.

Decree 142 of 1969 was amended in 1973 by Article 191 of Decree 210/1975 ‘On the Mining Code’. More specifically, according to Article 191 of Decree 142 of 1969, the provisions of Decree 142/1969 on exploration and exploitation of submarine and shallow water minerals remain in force for clay and clay aggregate extraction only.

Until now there was no real need for Greece to regulate marine extracting activities, other than oil or gas extraction. As a result, Greece does not have specific legislation in place regarding deep-sea mining. In theory it appears that the existing permit procedure for clay or clay aggregates extraction activities in the sea, could also be used in the case of deep-sea mining.

7.3 Legislation on deep-sea mining in the Area

Greece does not have legislation in place on deep-sea mining in the Area.

7.4 Environmental protection legislation of potential relevance to deep-sea mining

Law 4014/2011 (GG A' 209), amended nearly all existing provisions on EIA since 1986. It refers to the classification of projects and works of public or private sector into categories, according to their impact to the environment.

According to Article 4 of Law 4014/2011 (GG A' 209) the classification of projects will be implemented by means of Ministerial Decision. This was Ministerial Decision 15393 of August 5th

2002. All projects and works are classified to category A and B according to their possible impact to the environment and every category provides for a different permit procedure .In addition, according to Article 2 of Ministerial Decision 15393/2002 , projects belonging to both categories A and B and which fulfill common criteria according to Appendix I (of the same decision) , are further classified in relation to the assessment of their impact to the environment are classified in 12 categories. Extractive activities weather on land or sea are classified as Group 5 Appendix V.

7.5 Draft legislation/policy proposals relevant to deep-sea mining

There are no existing legislative initiatives relating to deep-sea mining.

List of relevant legislation

1. Decree-Law No. 142/1969 Concerning Exploration for and Exploitation of the Mineral Resources in the Sea-Bed and the Beds of Lakes
2. The Mining Code' (Legislative Decree 210/1973 as amended by Law 274/1976)
3. Law No. 669/1977, On the Exploitation of Ornamental Rocks and Industrial Minerals
4. Law No. 1428/84 as amended by law 2115/93, On the Exploitation of Aggregates
5. Law No. 3028 of the year 2002, On the Protection of Antiquities and Cultural Heritage
6. Law No. 4014/2011, On Environmental LicensingJoint Ministerial Decision Nr 42279 of 1938
7. Joint Ministerial Decision 12285 of 2014

8 Greenland

8.1 Legislation on maritime zones

As regards maritime zones claimed by or on behalf of Greenland the situation is as follows.

The territorial sea of Greenland was delineated on 27 May 1963 on the basis of Order No. 191 'On the Delimitation of the Greenland Territorial Sea'. This order was subsequently amended by Royal Decree on 15 October 2004.

In terms of the Greenland continental shelf, this issue was addressed in Royal Decree of 7 June 1963 concerning the exercise of Danish sovereignty over the Continental Shelf whereby the Kingdom of Denmark asserted its sovereignty over the portion of the continental shelf that belongs to it. The decree also applied to Greenland. Article 3 of that decree explicitly provided that

The exploration and exploitation of the natural resources of the continental shelf referred to in article 1 may be effected only by virtue of a concession granted in pursuance of Act No.181 of 8 May 1950 concerning prospecting for and exploitation of raw materials in the subsoil of the Kingdom of Denmark or of Royal Order No.153 of 27 April 1935 concerning the exploitation of raw materials in the soil of Greenland.

Finally, by the Executive Order on the Exclusive Economic Zone of Greenland, 20 October 2004 an EEZ was claimed for Greenland extending up to 200 nm from the baselines in force. This was adopted on the basis of Danish legislation, in the form of Act no. 411 of 22 May 1996 on Exclusive Economic Zones, which was put into force for Greenland by Royal Decree no. 1005 of 15 October 2004.

8.2 Legislation on deep-sea mining in areas under national jurisdiction

In accordance with the Act on Greenland Self-Government, which was adopted by the Danish Parliament on 19 May 2009 and entered into force on 21 June 2009, the Greenland Self-Government authorities can assume responsibility for the mineral resource area of Greenland meaning that the Greenland Self-Government has the legislative and executive powers in the mineral resource area.

Subsequently Act No. 7 of December 7, 2009, on mineral resources and mineral resource activities (the 'Mineral Resources Act') of the Greenland Parliament was adopted and entered into force on 1 January 2010. The Mineral Resources act was intended to create a legal framework to set out the main principles for the administration of mineral resource activities. It also authorizes the Greenland Government to set out provisions in subordinate legislation in the form of executive orders and standard license terms as well as specific license terms. The Mineral Resources Act seeks to ensure that mining activities carried within its auspices are securely performed as regards safety, health, the environment, resource exploitation and social sustainability as well as properly performed according to acknowledged best international practices under similar conditions.

Part 3 of the Mineral Resources Act stipulates that its geographical scope of application extends to the territorial sea, continental shelf and EEZ of Greenland.⁸⁰ To date all mining licences have been granted for onshore activities.⁸¹

8.3 Legislation on deep-sea mining in the Area

Greenland does not have legislation on deep-sea mining in the Area.

8.4 Draft legislation/policy proposals relevant to deep-sea mining

There are currently no proposals for legal or policy reforms relating to deep-sea mining.

List of relevant legislation

1. Order No. 191 'On the Delimitation of the Greenland Territorial Sea' of 27 May 1963
2. Royal Decree of 7 June 1963 concerning the exercise of Danish sovereignty over the Continental Shelf
3. Act No. 411 of 22 May 1996 on Exclusive Economic Zones
4. Royal Decree No. 1005 of 15 October 2004
5. Executive Order on the Exclusive Economic Zone of Greenland, 20 October 2004
6. Act No. 7 of December 7, 2009, on mineral resources and mineral resource activities

⁸⁰ See: <http://govmin.gl/index.php/about-bmp/legal-foundation>

⁸¹ See <http://licence-map.bmp.gl>

9 Italy

9.1 Legislation on maritime zones

Italy has established a system of straight baselines and currently claims the following maritime zones: internal waters, territorial sea, archaeological contiguous zone, continental shelf and ecological protection zones.

The system of straight baselines was adopted in 1973, and consists of 21 segments around the Italian mainland, 10 segments around the island of Sicily and 7 segments around the island of Sardinia.⁸² Main aspects of the baseline system include the straight baselines connecting the outermost points of the Tuscan Archipelago and the line closing the Gulf of Taranto, which is claimed as a historical bay. All waters landwards from the baselines are considered internal waters.

The territorial sea extends up to 12 nm from the baseline.⁸³ Italy has concluded agreements for the delimitation of the maritime boundary with neighbouring States (Yugoslavia and France) in the case of overlapping between the territorial sea of Italy and that of another State. The delimitation agreement with Yugoslavia draws the boundary in the Gulf of Trieste and Northern Adriatic.⁸⁴ Slovenia and Croatia have now succeeded to this agreement. The delimitation agreement with France draws the boundary in the area of the Strait of Bonifacio.⁸⁵ A further delimitation with France, starting from the terminal point of the land boundary between the two States, is still pending.

The “archaeological contiguous zone” can be considered as created by the Code of Cultural Goods and Landscape,⁸⁶ which provides that ‘archaeological and historical objects found in the seabed of the maritime zone which extends 12 nm from the outer limit of the territorial sea are protected in accordance with’ the Rules annexed to the 2001 UNESCO Convention for the Protection of the Underwater Cultural Heritage.⁸⁷

In accordance with international law, as codified in the UNCLOS,⁸⁸ Italy exercises sovereign rights over the continental shelf, which comprises the seabed and subsoil off its coasts and beyond the territorial sea. Originally, the extension of the continental shelf followed the criteria laid down in the 1958 Geneva Convention on the Continental Shelf.⁸⁹ This definition was amended following ratification of the UNCLOS by Italy and was adapted to the definition of continental shelf endorsed in Art. 76 UNCLOS.⁹⁰ In practice, and due to the geographical configuration of the Mediterranean Sea which mandates the delimitation of its boundaries vis-a-vis third opposite and adjacent States, the continental shelf of Italy does not reach the minimum extension of 200 nm provided by the UNCLOS. Accordingly, Italy has delimited most of its continental shelf through five bilateral agreements.

- i. The first agreement, concluded in 1968 with Yugoslavia, delimits the continental shelf in the Adriatic Sea, starting from the final point of the territorial sea boundary.⁹¹ It generally follows the equidistance line, while giving reduced effect to the islands midway between the two

⁸² Presidential Decree 26 April 1973, n. 816.

⁸³ Art. 2, Code of Navigation.

⁸⁴ Agreement of 10 November 1975, ratified by Law 14 March 1977, n. 73.

⁸⁵ Agreement of 28 November 1986, ratified by Law 11 February 1989, n. 59.

⁸⁶ Legislative Decree 22 January 2004, n. 42.

⁸⁷ Art. 94, Legislative Decree 22 January 2004, n. 42.

⁸⁸ Art. 76 UNCLOS.

⁸⁹ Art. 1, Law 21 July 1967, n. 613.

⁹⁰ Art. 4, Law 2 December 1994, n. 689.

⁹¹ Agreement of 8 January 1968, ratified by Presidential Decree 22 May 1969, n. 830.

States. Croatia and Montenegro have succeeded to this agreement. Slovenia also claims to have succeeded to the agreement, although it is uncertain, due to the geographical configuration of the area, whether its maritime entitlement extends beyond the territorial sea. In 2005, Croatia and Italy entered into a Technical Understanding to transform the turning points of the 1968 boundary line in datum WGS 84. Furthermore, in 2009 the two States have signed a Technical Agreement for the joint exploitation of the Annamaria Gas Field, which straddles the boundary.⁹²

- ii. The 1971 agreement with Tunisia delimits the continental shelf between the two States in the Strait of Sicily and in the western Mediterranean.⁹³ The boundary follows the equidistance line between the Tunisian mainland and Sicily, and enclaves the Italian islands of Lampedusa, Lampione, Linosa and Pantelleria.
- iii. The 1974 agreement with Spain delimits the continental shelf between the Italian island of Sardinia and the Spanish Balearic Islands.⁹⁴ It follows the equidistance line.
- iv. The 1977 agreement with Greece delimits the continental shelf in the Channel of Otranto and in the Ionian Sea.⁹⁵ It generally follows the equidistance line between the two States and gives effect (sometimes reduced) to the islands on both sides.
- v. The 1992 agreement with Albania delimits the continental shelf of the two States in the Channel of Otranto.⁹⁶ It follows the equidistance line.

While no delimitation agreement has been signed by the two States, Italy and Malta had provisionally agreed upon a *modus vivendi* to allow for the exploration and exploitation of mineral resources in the maritime area between the two States.⁹⁷ The provisional line is a modified equidistance line between the Maltese islands and the Italian island of Sicily which delimits the seabed and subsoil within the bathymetric line of 200 m.

There is no continental shelf boundary line in place between Italy and Libya and between Italy and France.

In 2006, Italy adopted legislation providing for the declaration of “ecological protection zones” beyond the outer limit of the continental shelf.⁹⁸ Accordingly, in 2011 a first ecological protection zone was declared, which includes areas of the western Mediterranean Sea, the Ligurian Sea and parts of the Tyrrhenian Sea.⁹⁹ Within the ecological protection zone, Italy exercises jurisdiction concerning protection of the marine environmental from pollution, including pollution from off-shore platforms, biodiversity and marine ecosystems protection and the protection of the cultural heritage found on the seabed.¹⁰⁰ No further ecological protection zones have been created so far.

The coasts of Italy abut all on the Mediterranean Sea. Due to the geographic configuration of the Mediterranean, where the distance between opposite coasts never reaches up to 400 nm, no coastal State can claim extended continental shelf. Consequently, Italy has not claimed an extended continental shelf and does not propose to do so.

⁹² Technical Agreement of 1 July 2009, as amended.

⁹³ Agreement of 28 August 1971, ratified by Law 3 June 1978, n. 347.

⁹⁴ Agreement of 19 February 1974, ratified by Law 3 June 1978, n. 348.

⁹⁵ Agreement of 24 May 1977, ratified by Law 23 March 1980, n. 290.

⁹⁶ Agreement of 18 December 1992, ratified by Law 12 April 1995, n. 147.

⁹⁷ Exchange of notes of 29 April 1970.

⁹⁸ Law 8 February 2006, n. 61.

⁹⁹ Presidential Decree 27 October 2011, n. 209.

¹⁰⁰ Art. 3, Presidential Decree 27 October 2011, n. 209.

9.2 Legislation on deep-sea mining in areas under national jurisdiction

Italian legislation concerning the exploitation of mineral resources in the seabed applies to the entire continental shelf and does not distinguish the deep seabed from other areas of the continental shelf. The principal legislative act is Law 21 July 1967, n. 613, on the exploration for and exploitation of liquid and gaseous hydrocarbons in the territorial sea and the continental shelf ("Law 613/67"). Law 613/67 regulates prospection, exploration and exploitation for liquid and gaseous hydrocarbons at sea and deals with institutional and procedural aspects.

While Law 613/67 deals primarily with hydrocarbons, it also addresses mining in general, which includes both mining for hydrocarbons and for hard minerals, as provided by Art. Royal Decree 29 July 1927, n. 1443, concerning the exploration for and exploitation of mines ("Royal Decree 1443/27").¹⁰¹ Art. 2 Law 613/67 provides that mineral substances recovered from the continental shelf are considered for all purposes, including fiscal purposes, in the same manner as those recovered in the Italian territory. This means that mining activities directed at substances other than hydrocarbons are still regulated by Royal Decree 1443/27, as modified and implemented by successive legislation, according to which exploration and exploitation can be conducted only under a specific license granted by the State.¹⁰²

Exploration and exploitation of hydrocarbons is permitted only within specific areas ("maritime zones") designated by the State and identified by a letter. Seven "maritime zones" have been designated so far, accounting for approximately 40% of the Italian continental shelf:

- Zone A: Northern and Central Adriatic Sea.¹⁰³ A significant portion of this zone has been closed to any activity until the Council of Ministers ascertains definitively the absence of environmental concerns.¹⁰⁴
- Zone B: Central and Southern Adriatic Sea.¹⁰⁵
- Zone C: South Tyrrhenian Sea, Channel of Sicily, South Ionian Sea.¹⁰⁶ The area around the Egadi Islands is now closed to any activity.¹⁰⁷
- Zone D: Southern Adriatic Sea and Ionian Sea.¹⁰⁸
- Zone E: Ligurian Sea, Tyrrhenian Sea, Sea of Sardinia.¹⁰⁹ The area of the Gulf of Napoli and the Gulf of Salerno is now closed to any activity.¹¹⁰
- Zone F: Adriatic and Ionian Sea (beyond the outer limits of Zone D).¹¹¹
- Zone G: South Tyrrhenian Sea and Channel of Sicily (beyond the outer limit of Zone C).¹¹² The area around the Egadi Islands is closed to any activity.¹¹³

Areas B, D, F and G are likely to include portions of the deep seabed.

The central (State) administration is competent for all activities relating to minerals and hydrocarbons at sea, also following the devolution of competencies in the area of energy and mining to the regions.¹¹⁴

¹⁰¹ See in particular Art. 2 Royal Decree 1443/27, according to which mining activities may target both hydrocarbons and minerals.

¹⁰² See Part II 'Mines', of Royal Decree 1443/27.

¹⁰³ Law 613/67.

¹⁰⁴ Law 9 January 1991, n. 9, as modified by Legislative Decree 25 June 2008, n. 112.

¹⁰⁵ Law 613/67.

¹⁰⁶ Law 613/67, as extended by Ministerial Decree 27 December 2012.

¹⁰⁷ Law 9 January 1991, n. 9.

¹⁰⁸ Law 613/67.

¹⁰⁹ Law 613/67, as modified by Ministerial Decree 9 August 2013.

¹¹⁰ Law 9 January 1991, n. 9.

¹¹¹ Ministerial Decree 13 June 1975, as modified by Ministerial Decree 30 October 2008.

¹¹² Ministerial Decree 26 June 1981, as modified by Ministerial Decree 29 March 2010 and by Ministerial Decree 9 August 2013.

¹¹³ Law 9 January 1991, n. 9.

The General Directory for Energy and Mining Resources of the Ministry of Economic Development is responsible for the mining sector, on land and offshore. Acting as the National Mining Office for Hydrocarbons and Geothermal Energy (UNMIG), it is in charge of all activities relating to the evaluation of requests for the research and exploration of oil, gas, geothermal and energetic resources and supervises the coordination of activities aiming at the exploitation of these resources. UNMIG also produces guidelines and programmes for the development of mining in Italy.

Exploration permits and exploitation licenses for mineral resources at sea are granted by the Ministry of Economic Development, following the adoption by the Ministry of the Environment of an EIA/SIA Decree, which contains the opinion of the Ministry of the Environment and may prescribe specific obligations or prohibitions which bind the licensee. The Ministry of Economic Development is supported by the Commission for Hydrocarbons and Mineral Resources (*Commissione per gli idrocarburi e le risorse minerarie*, CIRM). CIRM has a consultative role and its opinions, while not binding, are necessary for the completion of the procedure.¹¹⁵

9.3 Legislation on deep-sea mining in the Area

Italian legislation relating to the exploration and exploitation for mineral resources in the seabed beyond national jurisdiction, adopted in the aftermath of the negotiations that led to the adoption of the UNCLOS, was repealed when Italy became a party to the UNCLOS.¹¹⁶ At present, there is no legislation relating to deep seabed mining in the Area.

9.4 Environmental protection legislation of potential relevance to deep-sea mining

Italian legislation adopted in compliance with EU legislation¹¹⁷ requires the conduct of a strategic environmental assessment (SEA) or an EIA for all activities of exploitation of mineral resources of the continental shelf.¹¹⁸

A SEA is required for all plans and programmes that may have a significant impact on the natural environment and the cultural heritage. In particular, a SEA is required for all plans and programmes for the evaluation and management of the quality of the air and for the agricultural, forestry, fisheries, energy, industrial, transport, waste, water, telecommunications, tourism territorial planning sectors and which define the framework of reference for approval, authorisation, area of activities or any other aspect of the execution or projects.

An EIA is required for projects that may have a significant negative impact on the natural environment and the cultural heritage. All projects relating to the exploitation of mineral resources of the continental shelf require an EIA. Furthermore, projects relating to the exploitation of mineral resources which serve exclusively or essentially for the development and testing of new methods and products and will not be used for more than two years, as well as projects that constitute

¹¹⁴ The competence of the central government was maintained by Legislative Decree 31 March 1998, n. 112, which devolved to the regions legislative and enforcement powers concerning mining on land.

¹¹⁵ Presidential Decree 14 May 2007, n. 78. CIRM brings together representatives from all administrations that have an interest in the exploration and exploitation of mineral resources, representatives of the regional and local administrations and experts. CIRM has three functions: exploration and exploitation of mineral resources (CIRM "A"), safety of exploration and exploitation (CIRM "B"), and royalties (CIRM "C").

¹¹⁶ The relevant act, Law 20 February 1985, n. 41, was repealed by Art. 3 of Law 689/94.

¹¹⁷ Directive 2001/42/EC of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment, OJ L 197 of 21.7.2001 and Directive 2011/92/EU of 13 December 2011 on the assessment of the effects of certain public and private projects on the environment, OJ L 26 of 28.1.2012.

¹¹⁸ Art. 6 Legislative Decree 3 April 2006, n. 152.

extension or modification of other projects, will require an EIA if it is considered that they may produce significant negative impacts on the environment.

Other environmental legislation potentially applicable to deep sea mining

Legislation concerning protection of the environment, including the marine environment, is rich and often determined by adaptation of the Italian legal order to EU directives. The main normative instrument is the Code of the Environment, which is complemented by a significant number of laws and regulations.¹¹⁹ The code of the Environment addresses EIAs, the protection of the soil against desertification, the protection and management of water resources, waste management and disposal, protection of the air and the reduction of atmospheric emissions, compensation for environmental damage. It endorses the main environmental principles that are contained in international instruments: sustainable development, the precautionary principle, preventive action and action at the root of the problem and the “polluter pays” principle.

Environmental concerns are at the basis of a series of legislative limitations which affect the possibility to carry out exploration and exploitation of mineral resources in the deep seabed in different ways. In particular, current legislation prohibits any activity, including prospecting, exploration and exploitation, outside the “maritime zones” (A-G) declared by the Ministry of Economic Development and described above. Furthermore, within the seven “maritime zones” any activity is prohibited

- in specifically designated areas: the Gulf of Naples, the Gulf of Salerno, the waters around the Egadi Islands and in the northern Adriatic Sea,¹²⁰
- within any protected marine and coastal area, regardless of the means of protection as long as they are protected for environmental reasons under national or regional legislation or by EU or international acts;¹²¹
- within 12 nm from the baselines from which Italy's territorial waters are measures, as well as within 12 nm from the outer limit of any marine or coastal protected area.¹²²

Italy has established a network of 27 marine protected areas within its territorial sea, which include ten areas inscribed in the SPAMI list. Furthermore, Italy, France and Monaco have established a marine protected area for the protection of cetaceans which includes portions of the ecological protection zone in the Ligurian Sea (the Pelagos Sanctuary).¹²³

Italian legislation provides for the possibility to establish further marine protected areas. Marine protected areas comprise the waters, seabed and coastal areas that present a relevant interest due to their natural, geomorphological, physical and biochemical characteristics.¹²⁴ Marine protected areas are likely to have an impact on the exploration for and exploitation of hydrocarbons and other mineral resources, since mining activities are generally prohibited within them and exploratory activities may be prohibited or significantly conditioned, given that the interference with minerals is generally prohibited.

Legislation concerning the protection of the cultural heritage should also be taken into account as it may have an impact on deep seabed mining. The Code of Cultural Goods and the Environment¹²⁵ provides that all objects found on the seabed will belong to the State and prescribes protective measures applicable within the 24-miles archaeological contiguous zone, while Law 61/06 has

¹¹⁹ Legislative Decree 3 April 2006, n. 152.

¹²⁰ Law 9 January 1991, n. 9.

¹²¹ Art. 6, par. 17, Legislative Decree 3 April 2006, n. 152.

¹²² Art. 6, par. 17, Legislative Decree 3 April 2006, n. 152.

¹²³ Agreement of 25 November 1999, ratified by Law 11 October 2001, n. 391.

¹²⁴ Art. 25, Law 31 December 1982, n. 979.

¹²⁵ Legislative Decree 22 January 2004, n. 42.

extended the applicability of the 2001 UNESCO Convention on the Protection of the Underwater Cultural Heritage to the seabed of the ecological protection zones.

9.5 Draft legislation/policy proposals relevant to deep-sea mining

Existing draft legislation or policy proposals in development

Current proposals for normative development concern mainly three fields: the extension of areas open for exploitation of mineral resources, safety of offshore mineral exploitation and environmental protection.

Calls for extending the areas open to prospecting, exploration and exploitation beyond the current space covered under the seven “maritime zones” have been made more than once, also in the light of the economic crisis that has produced a substantial impact on Italian economy. However, these proposals are countered by environmental concerns.

Safety of offshore activities is a key concern at the moment,¹²⁶ focusing primarily on the implementation of Directive 2013/30/UE. The ministry of Economic Development is leading the work for ensuring timely implementation and has constituted three working groups dealing with prevention and management of risk, liability for environmental damage and public participation, and financial guarantees.¹²⁷

Finally, Italy is continuing efforts to protect fragile ecosystems by way of creating MPAs. From an initial list of 48 marine areas deserving protection, 27 have been formally established while other 17 are forthcoming, since the procedure for their establishment is underway. The remaining 5 are not the object of any action at the moment. All 48 areas are close to the coast and do not seem to involve the deep seabed. However, calls for the establishment of MPAs further offshore, initially voiced from NGOs active in the Mediterranean Sea, are now considered within the framework of the Barcelona Convention system, with the adoption of Operational criteria for identifying SPAMIs in areas of open seas, including the deep sea.

List of relevant legislation

1. Law 8 February 2006, n. 61
2. Law 11 October 2001, n. 391
3. Law 2 December 1994, n. 689
4. Law 12 April 1995, n. 147
5. Law 9 January 1991, n. 9
6. Law 11 February 1989, n. 59
7. Law 20 February 1985, n. 41
8. Law 31 December 1982, n. 979
9. Law 23 March 1980, n. 290
10. Law 3 June 1978, n. 347
11. Law 3 June 1978, n. 348
12. Law 14 March 1977, n. 73
13. Law 21 July 1967, n. 613
14. Law Decree 24 January 2012
15. Legislative Decree 25 June 2008, n. 112
16. Legislative Decree 3 April 2006, n. 152

¹²⁶ Italy has already adopted legislation on the safety of offshore activities, including Law Decree 24 January 2012 on the employment of scuba divers and Ministerial Circular 18 December 2012 on procedures for the prevention of fires.

¹²⁷ Information available on the website of the Ministry of Economic Development at <http://unmig.sviluppoeconomico.gov.it/unmig/internazionale/direttiva.asp>.

17. Legislative Decree 22 January 2004, n. 42
18. Legislative Decree 31 March 1998, n. 112
19. Royal Decree 29 July 1927, n. 1443
20. Presidential Decree 27 October 2011, n. 209
21. Presidential Decree 14 May 2007, n. 78
22. Presidential Decree 26 April 1973, n. 816
23. Presidential Decree 22 May 1969, n. 830
24. Ministerial Decree 9 August 2013
25. Ministerial Decree 27 December 2012
26. Ministerial Decree 29 March 2010
27. Ministerial Decree 30 October 2008
28. Ministerial Decree 13 June 1975
29. Ministerial Decree 26 June 1981
30. Ministerial Circular 18 December 2012

10 Japan

10.1 Legislation on maritime zones

The Act on Exclusive Economic Zone and Continental Shelf was enacted in conjunction with the ratification of UNCLOS by Japan. The EEZ of Japan was established by this Act.¹²⁸ The outer limit of the EEZ of Japan is defined as 200 nautical miles from the baselines from which the breadth of the territorial sea is measured or, if the median line between Japan and a neighbouring state is located in a distance less than 200 nautical miles from the baselines, the median line, unless otherwise agreed with the state concerned.¹²⁹ The Act also defines the continental shelf as the seabed and subsoil subjacent to: (1) a sea area up to 200 nautical miles from the baselines or, if the median line between Japan and a neighbouring state is located in a distance less than 200 nautical miles from the baselines, up to the median line between them, unless otherwise agreed with the state concerned; and (2) a sea area contiguous to the above-mentioned area, stipulated by a Cabinet Order in accordance with UNCLOS.¹³⁰ Article 3 of the Act provides that Japanese laws and regulations apply to activities that take place or relate to the EEZ or the continental shelf, as specified in that Article. They cover many (but not all) of the activities over which the coastal state has sovereign rights, jurisdiction and other rights in the EEZ or the continental shelf under UNCLOS, including exploration and exploitation, and conservation and management of natural resources, the establishment, construction, operation and use of artificial islands, installations and structures, drilling on the continental shelf, and the execution of official duties by public officials in the EEZ or on the continental shelf pertaining to the above matters.¹³¹ Artificial islands, installations and structures referred to in Article 3(1)(1) shall be considered to be located in the territory of Japan, with respect to which the laws and regulations of Japan shall apply in addition to the provision of the said paragraph.¹³² Article 4 provides that where a treaty provides otherwise for matters provided for in this Act, the provisions of the treaty shall apply.¹³³

The territorial sea of Japan is defined in the Act on the Territorial Sea and Internal Waters, originally enacted in 1977 and amended in 1996 to address the entry into force of UNCLOS for Japan. The breadth of the territorial sea is 12 nautical miles from the baselines (except for several straits where the three-mile territorial sea is maintained for the time being) unless the median line between Japan and a neighbouring state is located in a distance less than 12 nautical miles from the baselines. In the latter case, the median line delimits the outer limit of the territorial sea unless otherwise agreed with the state concerned.

The government of Japan submitted information concerning the continental shelf beyond 200 nautical miles to the CLCS on 12 November 2008. On 19 April 2012, recommendations for Japan's submission were adopted. The total areas recognized as Japan's extended continental shelf by the CLCS amount to 310,000 km².

The Japanese submission concerned seven areas. For the Ogasawara Plateau Region and the Shikoku Basin Region, Japanese claims were substantially recognized by the CLCS. For the Minami-Io To Island Region and the Southern Oki-Daito Ridge Region, Japanese claims were recognized to some extent. For the Minami-Tori Shima Island Region and the Mogi Seamount

¹²⁸ Act on Exclusive Economic Zone and Continental Shelf, Article 1(1).

¹²⁹ Ibid., Article 1(2).

¹³⁰ Ibid., Article 2.

¹³¹ Ibid., Article 3(1).

¹³² Ibid., Article 3(2).

¹³³ Ibid., Article 4.

Region, Japanese claims were not recognized at all. For the Southern Kyushu-Palau Ridge Region, CLCS stated as follows: “the Commission considers that it will not be in a position to take action to make recommendations on the Southern Kyushu-Palau Ridge Region (KPR) until such time as the matters referred to in the *notes verbales* have been resolved”. In these *notes verbales*, the People’s Republic of China and the Republic of Korea have taken the view that Okinotorishima is a rock and thus it is not entitled to the continental shelf under Article 121(3) of UNCLOS and requested the CLCS not to take action on the relevant part of the Japanese submission.

Under the Act on Exclusive Economic Zone and Continental Shelf, the government needs to delineate the outer limit of the continental shelf for the part extending beyond 200 nautical miles by way of a Cabinet Order. It has not yet issued such an Order to delineate the outer limit of the continental shelf. For its submission for the KPR, the government of Japan repeatedly expressed its intention to make efforts for the CLCS recommendations to be issued.

10.2 Legislation on deep-sea mining in areas under national jurisdiction

The Mining Act of 1950 is the principal act which regulates mining in Japan. It is implemented through the Ordinance for Enforcement. For the first time in its history, major amendments of the Act took place in 2011 (entered into force in 2012).¹³⁴ In addition to the Mining Act, deep-sea mining activities within areas under national jurisdiction of Japan are subject to various acts relating to maritime safety and marine environmental protection, including those addressing dumping and the setting of safety zones.¹³⁵ For the exploration and digging of petroleum (including natural gas) resources and other underground minerals which are produced in association with such resources within the Joint Development Zone subject to the joint development regime agreed on by Japan and the Republic of Korea, the Act on Special Measures concerning the Development of Petroleum and Combustible Natural Gas in connection with the Implementation of the Agreement between Japan and the Republic of Korea concerning Joint Development of the Southern Part of the Continental Shelf adjacent to the Two Countries applies, in lieu of the Mining Act.¹³⁶

The Mining Act regulates mining activities both in terrestrial areas and in marine areas under the national jurisdiction of Japan. Arguably, the Mining Act was primarily drafted to regulate terrestrial mining since seabed mining was not considered to be feasible at the same of its enactment in 1950. An indication of this focus is found in the maximum size of mining sites in an application for mining rights: the maximum size of 350 hectares (3.5 km²) specified in the Act, combined with possible exceptions, did not satisfy the need of the business community interested in seabed mining.¹³⁷ By virtue of the enactment of the Act on Exclusive Economic Zone and Continental Shelf in 1996, the scope of application of the Mining Act was extended to cover the EEZ.¹³⁸

The Mining Act provides for the power of the state to grant the right to mine and acquire minerals not yet mined.¹³⁹ Minerals that are yet to be mined shall not be mined unless it is allowed by mining rights, except for two specific cases of private, non-profit use of several minerals.¹⁴⁰ Only Japanese

¹³⁴ The amendments in 2011 are aimed at addressing three kinds of concerns: acquisition of mining rights by inappropriate entities, inappropriate use (or non-use) of mining rights, and lack of control over exploration activities. The main points of the amendments are three-fold: introduction of new requirements for the application such as the technical capacity, the review of “first-to-file” system for the granting of mining rights in respect of specified minerals and the establishment of the permission system for exploratory activities. As fully explained in the following paragraphs, the amendments relate particularly to mining in the EEZ and the CS.

¹³⁵ See, e.g., Act on Prevention of Marine Pollution and Maritime Disaster; Act on Establishment of Safety Zone Pertaining to Structures at Sea, etc.

¹³⁶ Act on Special Measures concerning the Development of Petroleum and Combustible Natural Gas in connection with the Implementation of the Agreement between Japan and the Republic of Korea concerning Joint Development of the Southern Part of the Continental Shelf adjacent to the Two Countries, Article 47.

¹³⁷ The business community wished to abolish the maximum size or substantially enlarge the maximum size for sea-based mining to 3500 hectares, in view of the need to hold larger exploratory and digging areas for oil and gas in sea areas.

¹³⁸ For details on this point, see sub-section 3(a).

¹³⁹ Mining Act, Article 1.

¹⁴⁰ Ibid., Article 7.

nationals and juridical persons of Japan, unless otherwise stipulated in treaties, may hold mining rights with permission from the Minister of Economy, Trade and Industry.¹⁴¹ Mining rights consist of right for prospecting and digging of mineral resources.¹⁴² The duration of a prospecting right is two years (in the case of oil or combustible natural gas, four years) and can be extended by two years twice,¹⁴³ while there is no limitation of duration for a digging right.¹⁴⁴

Under the Mining Act as amended in 2011, two types of permission systems exist: a new system for the mining of specified minerals in specified areas¹⁴⁵ was added to the existing system for the mining of other minerals.¹⁴⁶ “Specified minerals” are oil and combustible natural gas as well as other minerals important for the national economy and specified under Cabinet Order as minerals particularly requiring reasonable development. In the Cabinet Order, the latter category is defined as (1) minerals in the sea-bed and its sub-soil which form hydrothermal deposits, (2) those in the sea-bed and its sub-soil which form sedimentary deposits and (3) asphalt. Regarding the mining of specified minerals in specified areas, the Minister of Economy, Trade and Industry designates an area where an ore deposit of a specified mineral occurs or is likely to occur as a specified area and invites applicants through the establishment of an implementation guideline for inviting applicants for the position of a specified developer.¹⁴⁷ Following the examination of eligibility requirements (e.g., a sufficient financial basis and technical capacity and sufficient social credibility), the applicant found most capable of developing the specified minerals appropriately is selected and granted permission.¹⁴⁸ In the case of the mining of specified minerals in specified areas, there is no maximum size for mining areas. In the case of minerals other than specified minerals, the “first-to-file” system still applies but applicants need to meet the requirements such as a sufficient financial basis and technical capacity and sufficient social credibility.¹⁴⁹ For minerals other than specified minerals, the Act sets the maximum size of a site as 350 hectares (3.5 km²), unless it is necessary for the reasonable development of minerals.¹⁵⁰

The amended Mining Act requires prior permission for exploration that employs one of the three methods.¹⁵¹ Apart from the seismic method, which is explicitly mentioned in the Mining Act, two methods are designated in Ordnance for Enforcement: magnetic method and concentrated sampling method employed in internal waters, territorial sea, the EEZ and the continental shelf.¹⁵² Thus, it is clear that this exploration permission system was drafted with sea-based mining in mind. Requirements for exploration permission are less stringent than those for mining rights.¹⁵³ When the Minister of Economy, Trade and Industry finds it necessary to grasp the state of the occurrence of minerals or to secure the proper implementation of the exploration, he or she may order the exploration permission holder to report the results of such exploration.¹⁵⁴

Arguably, the Mining Act does not contain specific provisions concerning the protection of marine ecosystems and marine biodiversity. However, several provisions relate to marine environmental protection. First, the description of ore deposit to be submitted in applying for mining rights shall contain the scope and condition of mining pollution to be expected and, when it is found necessary to investigate the methods to prevent mining pollution, the Minister of Economy, Trade and Industry

¹⁴¹ Ibid., Articles 17, 21 and 39. However, it should be noted that a Japanese subsidiary of foreign companies may hold mining rights.

¹⁴² Ibid., Article 11. Note that the Mining Act envisages that “prospecting” and “digging” are preceded by “exploration”. The use of terms in the Mining Act appears to differ from that in the international law of the sea, where “prospecting”, which does not entail exclusive rights, is followed by “exploration” and then “exploitation”.

¹⁴³ Ibid., Article 18.

¹⁴⁴ The duration of a mining lease right is 10 years and can be extended by five years. Ibid., Article 76.

¹⁴⁵ Ibid., Articles 38-42.

¹⁴⁶ Ibid., Article 21 et seq.

¹⁴⁷ Ibid., Article 38.

¹⁴⁸ Ibid., Article 40.

¹⁴⁹ Ibid., Article 29.

¹⁵⁰ Ibid., Article 14(3).

¹⁵¹ Ibid., Article 100-2. Exploration to be conducted by the state organ is not required to receive such permission. Article 100-10.

¹⁵² Ordnance for Enforcement of the Mining Act, Article 44-2(2).

¹⁵³ See Mining Act, Article 100-3.

¹⁵⁴ Ibid., Article 100-11.

may order mining applicants to submit design specifications of facilities for business.¹⁵⁵ Second, the Mining Act also contains provisions on compensation for pollution arising out of mining.¹⁵⁶ Third, some of the provisions may be argued to indirectly provide protection of the marine environment. In particular, mining shall not, *inter alia*, be harmful to health, destroy agriculture, forestry and other industries, have an extremely adverse effect on public welfare or otherwise be extremely inappropriate in the light of domestic and foreign social and economic circumstances or be likely to hinder the promotion of public interest.¹⁵⁷ Fourth, no mining area can be established in areas where the Environmental Dispute Coordination Commission finds it inappropriate to mine minerals, *inter alia*, in contrast with public interests in general.¹⁵⁸

There is no provision in the Mining Act (or related laws and regulations) that provides for benefit sharing arising out of the exploitation of mineral resources on the continental shelf beyond 200 nm as stipulated in Article 82 of UNCLOS.

The Minister of Economy, Trade and Industry has the overall authority to regulate mining, including the authorization of deep-sea mining in areas under the national jurisdiction of Japan, under the Mining Act.¹⁵⁹ Article 145 of the Act provides that the Minister may delegate part of authority to the Director of Regional Bureau of Economy, Trade and Industry, pursuant to the provisions of the Ordinance of the Ministry of Economy, Trade and Industry ("METI"). In accordance with this article, numerous provisions of the Act are listed in paragraph 1 and paragraph 2 of Article 61 of the Ordinance for Enforcement as potentially subject to the delegation of authority. However, with regard to provisions specified in paragraph 1 of Article 61, Minister's authority relating to specified areas in internal waters, the territorial sea, EEZ and the continental shelf is excluded from the scope of delegation of authority.¹⁶⁰ Therefore, a number of matters relating to deep-sea mining are still to be handled at the national level, rather than the regional level.

10.3 Legislation on deep-sea mining in the Area

The Act on Interim Measures for Deep-seabed Mining provides for the regulation of mining activities by Japanese persons in the Area.¹⁶¹ The Act was enacted in 1982 and last amended in 2011 (with the amendments entering into force in 2012). The Act, however, has never been substantively amended. The Act, as the title suggests, was intended to be interim until entry into force of UNCLOS for Japan. It was drafted in an expeditious manner so as not to fail the protection of prior investment as a pioneer investor; indeed, there was no substantial debate at the Diet during the legislative process. The Act is implemented by the Ordinance for Enforcement, which was enacted also in 1982 and lastly amended in 2013.

Japan was among the so-called "Reciprocating States". This Act was enacted in this context and based on the assumption that deep-seabed mining may be conducted freely by individual states and there is no reference to UNCLOS or to ISA. Although no substantial amendment has been made to accommodate the new circumstance created by the entry into force of UNCLOS and the Part XI Implementation Agreement for Japan in 1996, some impacts arising out of the recent activities of the ISA are found in the provisions of the Ordinance for Enforcement.

¹⁵⁵ Ibid., Articles 22(2), 26, 39(3)(v) and (4) and 41(2)(v) and (4).

¹⁵⁶ Ibid., Articles 109-135.

¹⁵⁷ Ibid., Articles 29(1)(viii)-(ix), 40(1)(v)-(vi) and 100-3(1)(iv)-(v).

¹⁵⁸ Ibid., Article 15.

¹⁵⁹ See, e.g., ibid., Article 21.

¹⁶⁰ Ordinance for Enforcement of the Mining Act, Article 61(1).

¹⁶¹ The Act does not apply to Japanese nationals or juridical persons in partnership with foreign nationals or juridical persons permitted to develop mineral resources by Deep-seabed Mining States when they conduct deep-seabed mining under the latter's permission. Act on Interim Measures for Deep-seabed Mining, Article 40. The term "Deep-seabed Mining States" is used to mean other states that regulate deep-seabed mining in a manner not significantly different from this Act as designated under Article 29 of the Act.

The Act establishes interim measures necessary for regulating business activity in deep-seabed mining.¹⁶² It does not purport to place the deep-seabed under the sovereignty or jurisdiction of Japan and nothing infringes upon the interests of other states in the exercise of the freedom of the high seas.¹⁶³ In the Act, deep-seabed mining means exploration and mining activities and their subsidiary activities in the deep-seabed where mineral resources exist or have the possibility of existing, as specified in an Ordinance of the METI.¹⁶⁴ Exploration does not include prospecting.¹⁶⁵

A person who desires to engage in deep-seabed mining shall designate areas for exploration or mining and obtain permission by the Minister of Economy, Trade and Industry.¹⁶⁶ Criteria for granting permission include: absence of overlapping claims recognized by the Minister or by Deep-seabed Mining States, size and duration of exploration and mining claims and the date of commencement of mining, financial basis and technological capability and other criteria relating to rational and smooth development.¹⁶⁷ Reporting and inspection is provided in Article 35.

Environmental and other damage incurred in Japan in connection with deep-seabed mining shall be compensated by the person engaged in deep-seabed mining under the Act.¹⁶⁸ In respect of ensuring safety in deep-seabed mining, the provisions of the Act on Mine Safety apply *mutatis mutandis*.¹⁶⁹ To this end, the Central Mine Safety Council is given certain competence.¹⁷⁰

The Ordinance for Enforcement provides for, *inter alia*, areas designated as being subject to the Act (Article 4), methods of exploration (Article 5), details of permission application, criteria for permission (Article 11) and the definition of “partnership” in Article 40 of the Act (Article 23). Article 4 specifies three areas by virtue of coordinates (roughly corresponding to (i) the Clarion-Clipperton Fracture Zone, (ii) the South East Pacific and (iii) south east of the Minamitorishima Island) exclusive of areas under national jurisdiction. Area (i) includes an area where the Deep Ocean Resource Development Co. Ltd. (“DORD”; a company sponsored by Japan) holds an exploratory contract with the ISA for manganese nodules. Area (iii) corresponds to areas subject to the exploratory contract for cobalt-rich crusts held by the Japan Oil, Gas and Metals National Corporation (“JOGMEC”). Article 11 provides a table that specifies the size of exploration and mining areas, the duration of exploration and exploitation and the date of commencement of mining referred to in Article 12(1)(2) of the Act.

The table is divided into two parts: one for manganese nodules and the other one for cobalt-rich crusts. For the size and duration, the Ordinance generally follows the ISA Mining Code. For the commencement date, they specify 1 January 1988 or later for manganese nodules and 1 January 2014 or later for cobalt-rich crusts, respectively, to be notified by the Minister.¹⁷¹

The Act only applies to deep-seabed mining in areas specified by the Ordinance of the METI. Theoretically, exploration and exploitation of mineral resources in the Area outside these areas may escape regulation by Japan. Nevertheless, the fact that a new area (primarily aimed for the exploration of cobalt-rich crusts) was quickly inserted to the specified areas after the approval of a plan of work by the ISA and subjected to its regulation demonstrates that it can adequately address

¹⁶² Ibid., Article 1(1).

¹⁶³ Ibid., Article 1(2).

¹⁶⁴ Ibid., Article 2(2).

¹⁶⁵ Ibid., Article 2(3).

¹⁶⁶ Ibid., Article 4.

¹⁶⁷ Ibid., Article 12(1).

¹⁶⁸ Ibid., Article 27.

¹⁶⁹ Ibid., Article 39.

¹⁷⁰ Ibid., Article 39-2.

¹⁷¹ Note that the certificate of registration as a pioneer investor was issued on 16 May 1988 following the decision of the General Committee of the PrepCom on 17 December 1987 to register DORD as a pioneer investor and the contract between the ISA and JOGMEC for the exploration of cobalt-rich crusts was concluded on 27 January 2014 following the approval of the plan of work by the ISA Council on 19 July 2013.

new circumstances such as new exploration/exploitation applications by entities sponsored by Japan.

As noted earlier, there has been no substantial amendment of the Act since its enactment in 1982. Although the Basic Plan on Ocean Policy, under the Basic Act on Ocean Policy, as revised in 2013 refers to ISA exploration regulations to be taken into account, there is no indication to amend the Act or Ordinance for Enforcement with a view to harmonizing them with UNCLOS and the Part XI Implementation Agreement, including in respect of levy or other payment to the ISA. Lack of legislative action relating to deep-seabed mining following the ratification of UNCLOS was briefly discussed in the Diet in 2006, though.

In practice, however, discrepancy from the mining regime developed by the ISA will be limited. First, the Act provides that, if matters provided in the Act are otherwise provided by other treaties, the latter apply. Second, exploration and exploitation conducted or sponsored by Japan is expected to follow the approval of the plan of work by the ISA and to subsequently involve the conclusion of contracts with the ISA; then, the contracts will govern the activities in question. Nevertheless, provisions of the Act relating to violations have not been amended since 1982 and seem insufficient to deter non-compliance.

10.4 Environmental protection legislation of potential relevance to deep-sea mining

The principal act regulating EIA in Japan is the Environmental Impact Assessment Act but it applies only to 13 specified activities and harbour works. Mining is not included in these categories.

Other acts, however, require impact assessments in relation to deep-sea mining to some extent, including the Act on Prevention of Marine Pollution and Maritime Disaster (in particular, information required in relation to dumping and operational discharges) and the Mining Act (in particular, the scope and condition of mining pollution to be expected; see section 1 above).

Various acts of Japan refer to the use of area-based management tools in marine areas, although the term “marine protected areas” is not explicitly used in these acts.¹⁷² In particular, the Nature Conservation Act and the Natural Parks Act may provide a basis to designate areas where certain activities, including mining, are prohibited or otherwise regulated. However, as the relevant acts lack explicit reference to the EEZ or the continental shelf in their scope of application, it is not clear whether they apply to deep-sea mining in areas under national jurisdiction.

10.5 Draft legislation/policy proposals relevant to deep-sea mining

The Government of Japan is in the process of drafting a new act on the management of the EEZ and the continental shelf because the existing Act on Exclusive Economic Zone and Continental Shelf is limited to defining the EEZ and the continental shelf and specifying matters subject to Japanese laws and regulations. The Councillors’ meeting of the Headquarters on Ocean Policy (constituted by all Cabinet Ministers and led by the Prime Minister as its head and the Chief Cabinet Secretary and the Minister for Ocean Policy as deputy head), through its project team, has been engaged in legislative drafting. The project team meetings have discussed, among other issues,

¹⁷² Nevertheless, the Japanese government agreed on the definition of the term “marine protected area” as an overarching concept as follows: “Marine areas designated and managed by law or other effective means, in consideration of use modalities, aimed at the conservation of marine biodiversity supporting the sound structure and function of marine ecosystems and ensuring the sustainable use of marine ecosystem services”. Ministry of the Environment, Marine Biodiversity Conservation Strategy, March 2011, English translation available at http://www.env.go.jp/nature/biodic/kaiyohozon/pdf/pdf_eng_honbun.pdf, p. 34.

marine zoning to harmonize development and environmental protection, coordination between existing and new uses of marine areas, review of the EIA system for EEZ and continental shelf (since the current EIA system is developed mainly for land areas) and the prevention of acts that jeopardize the exercise of sovereign rights. The project team was scheduled to complete its final report by the end of March 2014.

In addition to the above, the draft for the revised Plan for the Development of Marine Energy and Mineral Resources submitted in December 2013 by the METI suggests the need for legislative action on several issues. It notes the need to review the current legal scheme in order to address environmental impacts caused by the reintroduction of sea water involved in lifting up seabed minerals, a comprehensive review of the legal scheme concerning marine mineral resource development with a view to realizing commercial development and the need to examine legal issues entailed in the development of deep-sea mud containing rare-earth elements.

List of relevant legislation

1. Mining Act, Act No. 289 of 20 December 1950, lastly amended 22 July 2011, English translation available at <http://isa.org.jm/files/documents/EN/NatLeg/JapMiningAct.pdf>
2. Ordinance for Enforcement of the Mining Act, Ordinance of the Ministry of International Trade and Industry No. 2 of 27 January 1951, lastly amended 12 January 2012, Japanese text available at <http://law.e-gov.go.jp/htmldata/S26/S26F0380100002.html>
3. Act on Prevention of Marine Pollution and Maritime Disaster, Act No. 136 of 25 December 1970, lastly amended 12 June 2013, Japanese text available at <http://law.e-gov.go.jp/htmldata/S45/S45HO136.html>
4. Order for Enforcement of the Act on Prevention of Marine Pollution and Maritime Disaster, Cabinet Order No. 201 of 22 June 1971, lastly amended 27 December 2013 (not yet in force), Japanese text available at <http://law.e-gov.go.jp/htmldata/S46/S46SE201.html>
5. Ordinance for Enforcement of the Act on Prevention of Marine Pollution and Maritime Disaster, Ordinance of the Ministry of Transport No. 38 of 23 June 1971, lastly amended 6 December 2013, Japanese text available at <http://law.e-gov.go.jp/htmldata/S46/S46F03901000038.html>
6. Act on Establishment of Safety Zone Pertaining to Structures at Sea, etc., Act No. 34 of 27 April 2007, Japanese text available at <http://law.e-gov.go.jp/htmldata/H19/H19HO034.html>
7. Act on Special Measures concerning the Development of Petroleum and Combustible Natural Gas in connection with the Implementation of the Agreement between Japan and the Republic of Korea concerning Joint Development of the Southern Part of the Continental Shelf adjacent to the Two Countries, Act No. 81 of 21 June 1978, lastly amended 22 July 2013, Japanese text available at <http://law.e-gov.go.jp/htmldata/S53/S53HO081.html>
8. Act on Exclusive Economic Zone and Continental Shelf, Act No. 74 of 14 June 1996, English translation available at http://www.un.org/Depts/los/LEGISLATIONANDTREATIES/PDFFILES/JPN_1996_Law74.pdf
9. Order for the Designation of Specified Minerals under Article 6 bis of the Mining Act, Cabinet Order No. 413 of 26 December 2011, Japanese text available at http://law.e-gov.go.jp/cgi-bin/idxselect.cgi?IDX_OPT=1&H_NAME=%8Dz%8B%C6&H_NAME_YOMI=%82%A0&H_NO_GENGO=H&H_NO_YEAR=&H_NO_TYPE=2&H_NO_NO=&H_FILE_NAME=H23SE413&H_R_YAKU=1&H_CTG=1&H_YOMI_GUN=1&H_CTG_GUN=1
10. Mine Safety Act, Act No. 70 of 16 May 1949, lastly amended 27 June 2012, Japanese text available at <http://law.e-gov.go.jp/htmldata/S24/S24HO070.html>
11. Ordinance for Enforcement of the Mine Safety Act, Ordinance of the Ministry of International Trade and Industry No. 96 of 27 September 2004, lastly amended 21 May 2013, Japanese text available at <http://law.e-gov.go.jp/htmldata/H16/H16F15001000096.html>

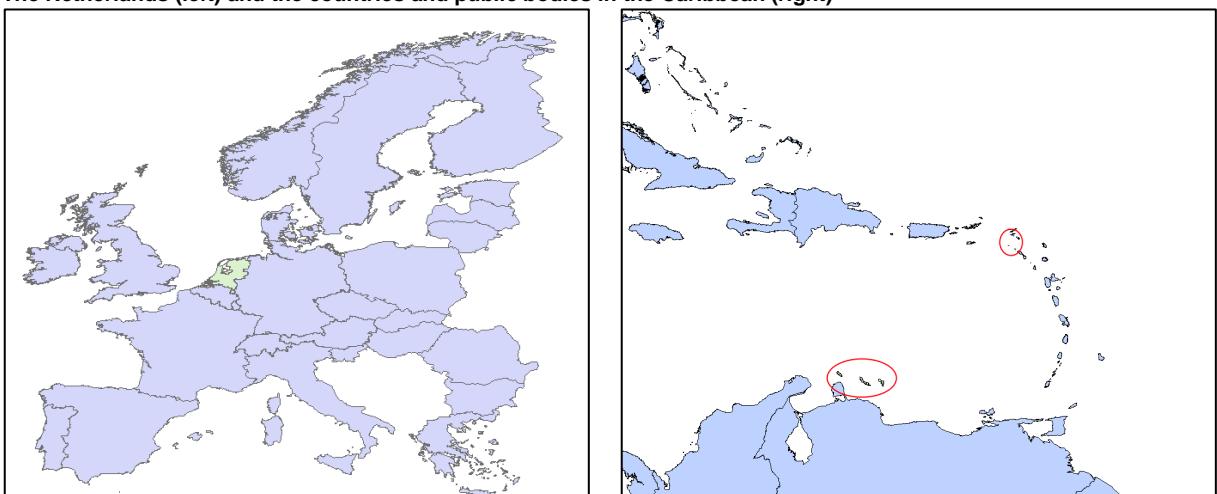
12. Act on Interim Measures for Deep-seabed Mining, Act No. 64 of 1982, Act No. 64 of 16 July 1982, lastly amended 22 July 2011, English translation available at <http://isa.org.jm/files/documents/EN/NatLeg/Japan.pdf>
13. Ordinance for Enforcement of the Act on Interim Measures for Deep-seabed Mining, Ordinance of the Ministry of International Trade and Industry No. 34 of 20 July 1982, lastly amended 20 December 2013, Japanese text available at <http://law.e-gov.go.jp/htmldata/S57/S57F03801000034.html>
14. Basic Act on Ocean Policy, Act No. 33 of 27 April 2007, English translation available at <http://www.japaneselawtranslation.go.jp/law/detail/?re=01&dn=1&x=0&y=0&co=1&ia=03&yo=&gn=&sy=&ht=&no=&bu=&ta=&ky=%E5%A4%A7%E9%99%B8%E6%A3%9A&page=1>
15. Act on Territorial Waters and Contiguous Water Area, Act No. 30 of 2 May 1977, lastly amended 14 June 1996, English translation available at http://www.un.org/Depts/los/LEGISLATIONANDTREATIES/PDFFILES/JPN_1996_Law.pdf
16. Environmental Impact Assessment Act, Act No. 81 of 13 June 1997, lastly amended 21 June 2013 (not yet in force), English translation available at <https://www.env.go.jp/policy/assess/2-law/1.html>
17. Nature Conservation Act, Act No. 85 of 22 June 1972, lastly amended 30 August 2011, Japanese text available at <http://law.e-gov.go.jp/htmldata/S47/S47HO085.html>
18. Natural Parks Act, Act No. 161 of 1 June 1957, lastly amended 14 June 2013, Japanese text available at <http://law.e-gov.go.jp/htmldata/S32/S32HO161.html>

11 The Kingdom of the Netherlands

The Kingdom of the Netherlands consisted of three countries; the Netherlands, located in Europe and two countries in the Caribbean, i.e. Aruba and the Dutch Antilles. The Dutch Antilles consisted of five islands, i.e. the *Benedenwindse eilanden*¹⁷³ Curaçao and Bonaire closely located to the South American continent and the *Bovenwindse eilanden*,¹⁷⁴ Sint Maarten (Saint Martin), Sint Eustasius (Statia) and Saba located in the North of the Caribbean. The internal structure of the Kingdom changed in 2010 after a referendum held on the five islands¹⁷⁵. Since 10 October 2010 the Dutch Antilles no longer exists as a country. Curaçao and Sint Maarten have become individual countries within the Kingdom and with the same status as the Netherlands and Aruba. This means that the Kingdom since 2010 consists of four equal countries¹⁷⁶, three of them located in the Caribbean and one in Europe.

Figure 11.1

The Netherlands (left) and the countries and public bodies in the Caribbean (right)



Source: GIS, edited by Ecorys

The figure above shows the location of the different countries within the Kingdom. The left figure shows the location of the Netherlands within Europe and the figure on the right shows the islands in the Caribbean. The circle in north indicates the islands Sint Maarten, Sint Eustasius and Saba (*Bovenwindse eilanden*) while the circle in the south shows where the *Benedenwindse eilanden*, Aruba Curaçao and Bonaire are located.

The islands of Bonaire, Sint Eustasius and Saba chose to become overseas dependencies of the Netherlands. They can be qualified as '*openbare lichamen*' (Dutch for public bodies) according to article 134 of the Dutch Constitution¹⁷⁷ and they have a similar status as all municipalities within the Netherlands. Citizens with the Dutch nationality can vote for European Parliament and the Dutch Parliament. The legislation applied on these islands is currently the legislation that was used on the Dutch Antilles, however this will be gradually changed to Dutch legislation. It should be noted that some situations might require specific legislation which is in line with the geographical situation of the islands. An example is the currency used on the islands. Instead of the Euro the leading

¹⁷³ In English Leeward Islands

¹⁷⁴ In English Windward Islands

¹⁷⁵ The five islands had four options to choose from: stay member to the country Dutch Antilles, to become a country within the Kingdom, become an independent country outside the Kingdom or become part of the Netherlands.

¹⁷⁶ Article 1 sub 1 Statuut voor het Koninkrijk der Nederlanden

¹⁷⁷ Article 134 Grondwet (Dutch Constitution)

currency on the islands is the American dollar as this is required by the trade relations of the islands¹⁷⁸.

The political changes in the Kingdom are internal and therefore the foreign relations which are maintained by the Kingdom on behalf of the countries have not been changed much. The external borders of the Kingdom have not been changed and foreign affairs, including defence, remain an affair of the Kingdom as a whole. Under the Statute of the Kingdom only the Kingdom is able to conclude treaties with international organisations and / or other powers. Often a delegation of Dutch representatives will participate in treaty negotiations, but before the actual concluding of the treaty the parliaments of Aruba, Curaçao and Sint Maarten need to be notified of the treaty¹⁷⁹.

Although treaties can only be concluded by the Kingdom of the Netherlands it does not mean that the treaties will always apply to all countries in the Kingdom. If a treaty will harm one of the countries or is not beneficial that country will not be bound by the treaty. The government of the country needs to motivate the rejection¹⁸⁰. For instance, rejections might happen in case of bilateral tax or trade agreements. The countries in the Caribbean have concluded tax treaties with neighbouring countries, because their trade relations will benefit. The Netherlands is often not partner to these (bilateral) treaties¹⁸¹.

International treaties, both with international organisations and other powers, are laid down in a *Rijkswet* (statute law). This *Rijkswet* will indicate for which part(s) of the Kingdom the new legislation applies. If a treaty with an international organisation is concluded and the treaty does not apply to all of the countries of the Kingdom, the international organisation will be officially notified of this. The organisation will be asked to include the notification in the list of ratification, however this does not always happen.

An example of an international treaty that does not apply to all countries in the Kingdom is the United Nations Convention on the Law of the Sea (UNCLOS). The treaty was concluded on 10 December 1982 and the Treaty was signed by the Kingdom of the Netherlands on the same day. Initially the treaty only applied to the Netherlands (the European part) and is for this country in force since 28 July 1996. Since 13 February 2009 the treaty also applies to the Dutch Antilles, and so is applicable to Curaçao, Sint Maarten, Bonaire, Sint Eustatius and Saba. After the political changes UNCLOS remained applicable to all five islands. Aruba is not a party to the Treaty¹⁸².

11.1 Legislation on maritime zones

The Kingdom of the Netherlands ratified UNCLOS on 28 June 1996¹⁸³. On the same date also the Part XI Implementation Agreement was ratified.

The exact specifications of the Dutch territorial sea were established in the 'Wet grenzen Nederlandse territoriale zee' adopted on 9 January 1985¹⁸⁴.

The EEZ needs to be formally established. The Netherlands has done so and since 28 April 2000 the country has an EEZ¹⁸⁵. The Netherlands cannot claim the full 200 nautical miles as that would imply that the Dutch EEZ would overlap with the EEZs of Belgium, Germany and the United

¹⁷⁸ Ministerie van Binnenlandse Zaken en Koninkrijksrelaties en Ministerie van Buitenlandse Zaken (2010)

¹⁷⁹ Article 24 sub 1 and 2 Statuut voor het Koninkrijk der Nederlanden

¹⁸⁰ Article 25 Statuut voor het Koninkrijk der Nederlanden

¹⁸¹ Van der Pot and Donner (2006)

¹⁸² Soons (2011)

¹⁸³ http://www.un.org/depts/los/reference_files/chronological_lists_of_ratifications.htm

¹⁸⁴ Wet grenzen Nederlandse territoriale zee

¹⁸⁵ Rijkswet instelling exclusieve economische zone

Kingdom. To establish the borders of the Dutch EEZ connection is sought with the treaties regarding the division of the continental shelf¹⁸⁶.

Besides an EEZ countries also have a continental shelf.

The continental shelf is established by law and so the Netherlands have a continental shelf without claiming it.

11.2 Legislation on deep-sea mining in areas under national jurisdiction

11.2.1 Legislation on mining activities

In the Netherlands two acts apply to mining activities at sea. If the minerals are located at the surface or not lower than 100 metres under the surface the *Ontgrondingenwet* (Act on earth removal) applies¹⁸⁷. If the minerals are located at a depth of more than 100 metres below the surface the *Mijnbouwwet* (Mining Act) will apply¹⁸⁸.

The second act regulating mining activities is the *Mijnbouwwet* (Mining Act). And also this act regulates both mining on land and at sea. This act is relatively new and was concluded in 2002. Before the introduction of the new Mining act four separate acts existed. One of these acts was the 'Mijnwet continentaal plat 1965' (Mining act for the continental shelf 1965). As mining activities on land and water require similar rules it was decided to cluster the four separate acts in to one overall act¹⁸⁹.

The act explicitly mentions that the act is applicable to mining activities in the continental shelf¹⁹⁰ once the activities take place below a depth of 100 metres under the surface¹⁹¹. According to article 6.1 Mijnbouwwet a licence is obligatory issued by the Minister of Economic Affairs, to:

- Trace minerals,
- Extract minerals,
- Trace geothermal
- Extract geothermal

Licenses are granted for a specific type of mineral, e.g. only for gas or sand, and if for a certain area already a license is granted, no second license for the same mineral will be provided¹⁹². It is possible to obtain a license for the same area, but then for a different type of mineral.

In principle a license will always be granted irrespective the articles 7 and 8 of the act and the exceptions provided in article 9.1 Mijnbouwwet. Exceptions are:

- the applicant is technical or financially not capable of carrying out the mining activities;
- the method used to perform the activities is undesirable;
- a lack of efficiency and responsibility, including a lack of social responsibility; or
- when there are two or more applicants that score equally in the assessment of their applications.

Once the license is granted the applicant should presents its winningsplan¹⁹³ (English: *production plan*) and the Minister of Economic Affairs needs to authorize the plan. The plan shall describe the

¹⁸⁶ Noordzeeloket, 'Juridische grenzen en zones op de Noordzee'

¹⁸⁷ Article 4b Ongrodingenwet

¹⁸⁸ Article 2.2 Mijnbouwwet

¹⁸⁹ Kamerstukken II, 1998/99, 26219, Nr 3. p. 4

¹⁹⁰ Article 2.1 Mijnbouwwet

¹⁹¹ Article 2.2 Mijnbouwwet

¹⁹² Article 7.1 Mijnbouwwet

¹⁹³ Article 34 Mijnbouwwet

location and the quantity of minerals available in the area, the start and duration of the mining activities and the methods used to carry out the mining activities¹⁹⁴. Besides the plan the license holders also needs to take all measures that reasonably could be expected from him to protect the environment¹⁹⁵.

In case the mining activities take place from a mining facility which is fixed to the seabed the applicant needs to have an emergency response plan in place (article 85 Mijnbouwbesluit) The emergency response plan requires consent of the Minister of Economic Affairs and contains a description of measures that will be taken to prevent or minimize the effects of possible accidents. To measures shall ensure that the effect for the environment and the safety of shipping and fishery are minimal¹⁹⁶.

The Mijnbouwwet allows for mining activities in the entire continental shelf and territorial sea. However there are some restrictions to this.

If mining activities take place at a depth of more than 100 metres below the surface the *Mijnbouwwet* applies and the Minister of Economic Affairs is the competent Minister. In this case the applicant needs to the authority ‘Staatstoezicht op de mijnen’ (SodM, English: State supervision on the mines¹⁹⁷) which is in charge of the licensing process. The SodM advises the Minister concerning licenses to be granted. Main tasks of SodM are to inspect and enforce the permit conditions. In case of breach of the permit conditions the SodM directly reports to the Minister of Economic Affairs and the Minister can impose a fine.

Besides SodM, who is the main authority in the licensing procedure, two other bodies can advise the Minister, i.e. the ‘Mijnraad’¹⁹⁸, (English: Mining Council) and the ‘Technische commissie bodembeweging’¹⁹⁹, (English: Technical commission for soil movement). The Mijnraad will always advise the Minister on providing a license for tracing and extracting minerals. Also if the Minister wishes to withdrawal a given license he needs to seek advise from the Mijnraad (article 105.3 *Mijnbouwwet*). Besides the obligation to seek advice for the licenses with regard the tracing and extraction of minerals, the Minister can also ask for advice on decisions and the execution of proposed regulation and general policies.

The *Technische commissie bodembeweging* needs to assess the consequences of mining activities on the soil movements and the related damages caused by it. The commission not only advices the Minister, but also the persons that might suffer damages as result of the mining activities. The Minister can ask the mining company to provide a security. This security can be used to pay damages to people suffering from the mining activities. Before setting the security the Minister will ask the commission advice to set the height of the proposed security.

11.3 Legislation on deep-sea mining in the Area

In a *note verbale*²⁰⁰ dated 26 March 2012 the Permanent Mission of the Kingdom of the Netherlands to the United Nations informed ISA that the Kingdom of the Netherlands currently has no legislation in place governing deep-sea mining in the Area. The government also has no intention to draft any new legislation in the short run.

¹⁹⁴ Article 35 Mijnbouwwet

¹⁹⁵ Article 33 Mijnbouwwet

¹⁹⁶ Article 86 Mijnbouwbesluit

¹⁹⁷ <http://www.helpdeskwater.nl/onderwerpen/kust-zee/delfstoffen/offshore-mijnbouw/>

¹⁹⁸ Articles 105-112 Mijnbouwwet

¹⁹⁹ Articles 113-122 Mijnbouwwet

²⁰⁰ Note verbale Netherlands on the sea bed (No. NYV/2013/0205)

11.4 Environmental protection legislation of potential relevance to deep-sea mining

11.4.1 Legislation on Environmental Impact Assessment

For most offshore mining activities, including deep-sea mining, an EIA needs to be carried out. The only exception is exploration drilling activities, which aim to assess whether or not minerals are present in the sea bed²⁰¹. In case the mining activities are governed by the Mijnbouwwet the EIA needs to be carried out before the ‘winningsplan’ has been presented to the Minister of Economic Affairs.

For both mining activities the procedure relating to an EIA is laid down in the ‘Wet Milieubeheer’ (English: environmental act), Chapter 7 and is the same. Article 7.2 sub 1 states that an EIA shall be carried for activities that can have important negative effects on the environment. The activities for which an EIA is obligatory are all formulated in the Besluit milieueffectenrapportage. Annex C 16.2 of this Besluit states that all activities carried out in the continental shelf need to have an EIA before the actual mining can take place, only exemption is extraction of peat.

A second legal ground for carrying out an EIA is based on article 7.2, subs 1 and 3 in connection with the Natuurbeschermlingswet 1998 (Environment protection act 1998). Activities carried out in the EEZ need to have an EIA in connection with the obligatory winningplan.

The EIA should contain at least a description of the planned activity, a description of the current environmental status of the area where the activities will take place as well as the expected developments of the environmental with and without the activity and a description of measures that will be taken to prevent or minimize negative effects on the environment (article 7.7 Wet milieubeheer).

The Dutch EIA system is a rather complex one. The Wet Milieubeheer provides one overall EIA approach which applies to all activities that might have a negative environmental impact. This means that the same rules apply to the assessment of the construction of a new road as well as to deep-sea mining activities. It is not clear from the legislation found what the exact criteria for evaluation are.

11.4.2 Other environmental legislation

The most important act applicable to the Dutch Seabed is the Natuurbeschermlingswet 1998. Article 1a states that the largest share of the Act also applies to the Dutch EEZ. Only the national government, i.e. the Minister of Economic Affairs, is able to appoint maritime areas as protected zones. In order to appoint an area as protect area the decision needs to be officially published and the area needs to be indicated on a map.

In the Netherlands several ecologically important areas have been indicated, however not all of them have a protected status yet. In total ten areas in the Dutch territorial sea and EEZ have been identified as ecological valuable areas. It concerns the following areas (which are also indicated in the following figure):

- Kustzee (Coastal Sea);
- Doggersbank (Dogger Bank);
- Klaverbank (Cleaver bank);
- Friese Front (Frisian Front);

²⁰¹ <http://www.helpdeskwater.nl/onderwerpen/kust-zee/delfstoffen/offshore-mijnbouw/>

- Centrale Oestergronden (Central Oyster Grounds);
- Borkumse Stenen (Borkumse Stones);
- Zeeuwse Banken (Zeeuwse Banks);
- Bruine Bank (Brown Bank);
- Gasfonteinen (Gas Seeps);
- Noordkrompgebied (Arctica Area).

The Netherlands is a party to the OSPAR Convention which aims to protect the marine environment in the North East part of the Atlantic Ocean. Pollution needs to be prevented or ended and the marine area needs to be protected against negative effects of human activities with the aim of improving the human health and maintain the marine ecosystem. Special attention is paid to the offshore activities and pollution resulting thereof. Under this treaty it is possible to establish Marine Protected Areas (MPA). The Netherlands has established five MPAs, three of them located in the territorial sea and two in the EEZ. It should be noted that a MPA can only be established in waters outside the territory of a country, so all areas within the national borders, i.e. internal waters, fall outside the scope of the OSPAR treaty.

Under the OSPAR Treaty 8,320 km² has been appointed as MPA, which equals 14% of the Dutch territorial sea and EEZ, which is about 58,000 km². The areas appointed under OSPAR are mentioned in the table below.

Table 11.1 **Marine Protected Areas under OSPAR**

	Jurisdiction	Year of report	Area in km ²
Noordzeekustzone	TW	2009	1,416
Doggerbank	EEZ	2009	4,646
Klaverbank	EEZ	2009	1,240
Vlake van Raan	TW	2009	199
Voerdelta	TW	2009	819

Source: OSPAR Commission (2013)

Besides OSPAR also the European Habitats Directive²⁰² applies and this Directive ensures that areas with a high ecological value will be protected. Some of the areas can be located at sea and so it is possible to protect certain ecological valuable areas at sea. To protect such an area a Natura2000 zone can be established. In the Dutch part of the EEZ several zones are indicated as Natura2000 zones or are appointed as possible valuable areas. Once an area is appointed as an ecological valuable area mining activities might no longer be allowed. To see which zones are protected the national water plan²⁰³ is the guiding document. The zones are the same zones as shown in **Error! Reference source not found.**. The full green areas are already Natura2000, while the striped areas are nominated to become a Natura2000 area.

Another European Directive that is applicable to the MPAs is the Marine Strategy Framework Directive²⁰⁴ (MSFD). This Directive obliges coastal states to take spatial protection measures that contribute to coherent and representative networks of marine protected areas and that adequately cover the diversity of the constituent ecosystems. The Directive applies to the whole North Sea (article 4.2.a.i) and that implies that all mining activities are indirectly effected by the Directive as the Directive obliges Member States to draft a Marine strategy for protecting the marine environment.

²⁰² Directive 92/43/EEG of 21 May 1992 on the conservation of natural habitats and of wild flora and fauna

²⁰³ Which is a part of the Integral Beheerplan Noordzee 2015

²⁰⁴ Directive 2008/56/EC of the European Parliament and of the Council of 17 June 2008

In deep-sea mining several installations needs to be used. These installations can be fixed or mobile. The ‘Besluit algemene regels milieu mijnbouw’ provides additional rules for the installations from an environmental perspective. The Besluit deals with the noise levels (articles 50 and 51), the air quality (articles 52-56), waste and hazardous substances (articles 57-60) and energy usage (article 61).

11.5 Draft legislation/policy proposals relevant to deep-sea mining

During the preparation of this report no indications have been found indicating that since the submission of the *note verbale* to ISA in 2012, the Dutch Government has any concrete plans to draft legislation regarding deep-sea mining in the Area.

List of relevant legislation

1. Besluit van 4 juli 1994, houdende uitvoering van het hoofdstuk Milieu-Effectenrapportage van de Wet Milieubeheer (Besluit milieueffectenrapportage)
2. Besluit van 6 december 2002, houdende regels ter uitvoering van de Mijnbouwwet (Mijnbouwbesluit)
3. Besluit van 14 juni 2006 ter uitvoering van de Rijkswet (Besluit grenzen aansluitende zone)
4. Besluit van 3 april 2008, houdende regels betreffende het milieu met betrekking tot mobiele installaties en onderzeese installaties (Besluit algemene regels milieu mijnbouw)
5. Convention for the protection of the marine environment of the North-East Atlantic (OSPAR treaty)
6. Grondwet voor het Koninkrijk der Nederlanden van 24 augustus 1813
7. Mijnbouwregeling
8. *Note verbale* dated 26 March 2012, drafted by the Permanent Mission of the Kingdom of the Netherlands to the United Nations
9. Overeenkomst tussen de Regering van het Koninkrijk der Nederlanden en de Regering van het Verenigd Koninkrijk van Groot-Brittannië en Noord-Ierland inzake de begrenzing van het tussen deze landen gelegen continentale plat onder de Noordzee van 6 oktober 1965 (in force since 23 december 1966)
10. Rijkswet van 27 mei 1999 tot instelling van een exclusieve economische zone van het Koninkrijk (Rijkswet instelling exclusieve economische zone)
11. Rijkswet van 28 april 2005 tot instelling van een aansluitende zone van het Koninkrijk (Rijkswet instelling aansluitende zone)
12. United Nations Convention on Law of the Sea 1982 (UNCLOS)
13. Verdrag tussen het Koninkrijk der Nederlanden en de Bondsrepubliek Duitsland inzake de zijdelingse begrenzing van het continentale plat in de nabijheid van de kust van 1 december 1964 (in force since 18 september 1965)
14. Verdrag tussen het Koninkrijk der Nederlanden en de Bondsrepubliek Duitsland inzake de begrenzing van het continental plat onder de Noordzee van 28 januari 1971 (in force since 7 december 1972)
15. Verdrag tussen het Koninkrijk der Nederlanden en het Koninkrijk België inzake de afbakening van het continental plat van 18 december 1996 (in force since 1 januari 1999)
16. Verdrag tussen het Koninkrijk der Nederlanden en het Koninkrijk België inzake de afbakening van de territorial zee van 18 december 1996 (in force since 1 januari 1999)
17. Voorlopige overeenstemming inzake aangelegenheden betreffende de diepzeemijnbouw (3 augustus 1984)

18. Wet van 28 oktober 1954, houdende aanvaarding van een statuut voor het Koninkrijk der Nederlanden (Statuut voor het Koninkrijk der Nederlanden)
19. Wet van 13 juni 1979, houdende regelen met betrekking tot een aantal algemene onderwerpen op het gebied van milieuhygiëne (Wet milieubeheer)
20. Wet van 8 november 1980, tot provinciale indeling van de Waddenzee
21. Wet van 9 januari 1985, houdende vaststelling van de grenzen van de territoriale zee van Nederland (Wet grenzen Nederlandse territoriale zee)
22. Wet van 12 december 1985, tot gemeentelijke indeling van de Waddenzee
23. Wet van 2 november 1990, houdende regeling provincie- en gemeentegrenzen langs de Noordzeekust van de gemeente Den Helder tot en met de gemeente Sluis en wijziging van de Financiële verhoudingswet 1984
24. 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 (Mijnbouwwet)

12 Netherlands overseas countries & territories

12.1 Legislation on maritime zones

Since 1 October 2010²⁰⁵ the EEZ has also been set for all Caribbean islands, except of Aruba, to which UNCLOS does not apply. The islands cannot fully claim the entire EEZ of 200 nautical miles as the EEZs of the islands would overlap with the EEZ of surrounding countries in the Caribbean.

The Kingdom of the Netherlands borders six other powers in the Caribbean Sea. The islands of Aruba, Curaçao and Bonaire border Venezuela both with the territorial sea as well as the EEZ. The islands also border with the territorial sea and EEZ of the Dominican Republic. Saba's EEZ borders with the EEZ of the American Virgin Islands (USA), as well as with the EEZ of Anguilla (UK). Sint Maarten, Sint Eustatius and Saba border with the territorial sea and EEZ of the French part of Saint Martin and Saint Barthélemy (France), with Saint Christopher and Nevis, and also with the EEZ of Venezuela.

The Kingdom has only concluded a treaty²⁰⁶ with Venezuela regarding the borders of the territorial sea and the EEZ. There have been negotiations with France, however they have not resulted in a treaty yet, as there is still no consensus regarding the territorial sea border on the east coast of Sint Maarten²⁰⁷. No treaties are concluded with the other countries and to determine the borders of both the territorial sea and the EEZ the equidistance is used.

The borders of the territorial sea and the EEZ do not only have to be established between the Kingdom and the surrounding countries, but always within the Kingdom. As described in the first chapter the Kingdom consists of four different countries which can become independent²⁰⁸. The territorial sea between Aruba and Curaçao (former part of the Dutch Antilles) is based on the equidistance. The line is laid down in the *Rijkswet vaststelling zeegrens Aruba en Nederlandse Antillen* in 1985. With the political changes new borders needed to be established between Curaçao and the Netherlands (Bonaire) and between Sint Maarten and the Netherlands (Saba). The new borders have been laid down in the *Rijkswet van 7 juli 2010*²⁰⁹.

Aruba is the only country within the Kingdom without an EEZ. The country has established an Exclusive Fishery Zone to ensure the country has exclusive fishing rights in the seas around the island. The exact borders have been laid down in the '*Visserijbesluit Nederlandse Antillen en Aruba*' and since then the borders between Aruba and the former Dutch Antilles have been formalized. With other countries, e.g. Venezuela no agreements have been made.

The following figure shows the different maritime zones for the Benedenwindse eilanden, Aruba, Curaçao and Bonaire. The purple areas indicate the territorial seas of the different islands. The dark grey areas connected to the purple ones indicate the contiguous zones and the light grey area is the EEZ. The EEZ is divided in three separate areas by the light green lines. These lines indicate the division of the EEZ between the different countries of the Kingdom, so between Aruba and Curaçao and between Curaçao and the Netherlands.

²⁰⁵ Besluit grenzen Caribische exclusieve economische zone

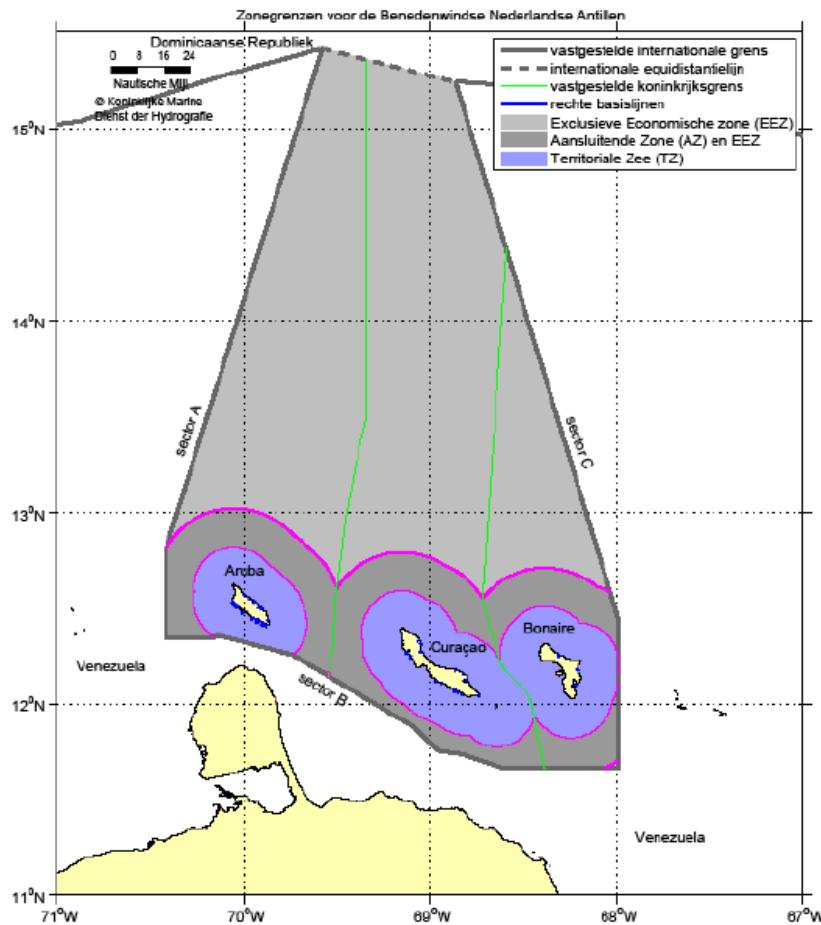
²⁰⁶ Grensverdrag tussen het Koninkrijk der Nederlanden en de Republiek Venezuela, Willemstad 31 maart 1978

²⁰⁷ Soons (2011)

²⁰⁸ In 1986 Aruba became an individual country within the Kingdom. At that time it was agreed that Aruba would become an independent country per 1 January 1996 and would no longer be part of the Kingdom. Till today the country is still part of the Kingdom, but still has the possibility to become independent. Also Sint Maarten en Curaçao can opt for full independency. The islands that are now overseas dependencies can opt for a country status within the Kingdom or for full independency at a later date in time.

²⁰⁹ Rijkswet van 7 juli 2010 tot vaststelling van een zeegrens tussen Curaçao en Bonaire, en tussen Sint Maarten en Saba

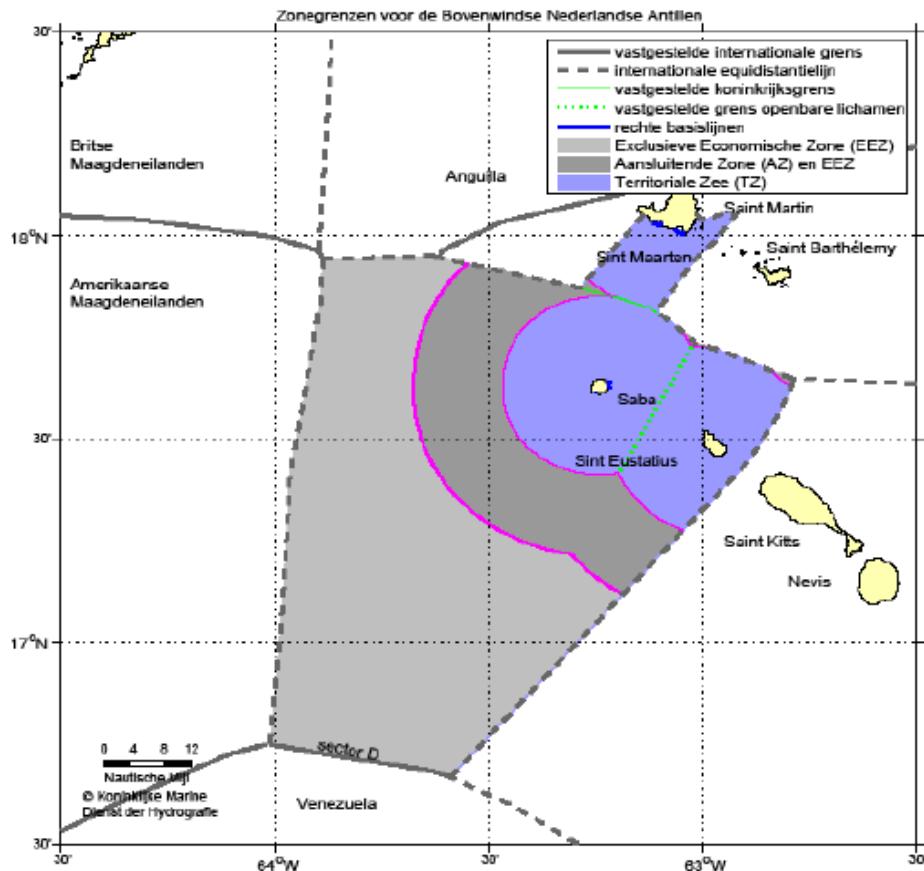
Figure 12.1 Maritime zones of Aruba, Curacao and Bonaire (NL)



Source: Besluit grenzen Caribische exclusieve zone

The following figure shows the different maritime zones for the Bovenwindse eilanden, Sint Maarten, Sint Eustatius and Saba. The meaning of the colours is the same as for the figure above. Here the territorial sea is divided between the three islands. There is a division between Sint Maarten en the Netherlands (with the island Saba) and between the two public bodies, Saba and Sint Eustatius.

Figure 12.2 Maritime zones of Sint Maarten, Saba (NL) and Sint Eustatius (NL)



Source: Besluit grenzen Caribische exclusieve zone

12.2 Legislation on deep-sea mining in areas under national jurisdiction

12.2.1.1 BES Islands

The three islands that have become part of the Netherlands, i.e. Bonaire, Sint Eustatius and Saba, are often called the BES islands. Currently most of the legislations of the Dutch Antilles still apply to the islands. For each topic two possibilities exists. The first option is that the legislation will be gradually replaced by the legislation applicable in the Netherlands. The second option is that the legislation used in the Dutch Antilles becomes part of the Dutch legislation, but will only apply to the BES islands. The acts to which this applies are all mentioned in the 'Invoeringswet openbare lichamen Bonaire, Sint Eustatius and Saba'²¹⁰ by which the establishment of the three public bodies was introduced.

The former 'Curaçaosche Mijnwet' (English: Mining Act of Curaçao) is an example of an act now being part of the Dutch legal system. The title of the Act has been translated into 'Mijnwet BES' (English: Mining Act BES) and applies to mining activities performed in and around these public bodies. The Act states that, in principle, all minerals are owned by the State (article 1a. sub 2). Only exception exists when the minerals are found in lands on which property rights were established before 1 July 1906 (article 10). The rights on the lands should be inherited from the previous owner, so with the selling of the land these rights cease.

In order to mine for minerals a license or concession is required. The license can be used for exploration activities, while the concession can be used for exploitation. A license is granted for a

²¹⁰ Act to the introduction of the public bodies Bonaire, Sint Eustatius and Saba

certain period of time with a maximum of three years and the possibility of twice a renewal for one year each (article 1a. sub 4). The concession is also granted for a certain period of time with a maximum duration of 75 years (article 1a. sub 5). The Mijnwet BES indicates that a license or concession should be granted by the Minister of Economic Affairs (article 1a. sub 3).

Licenses or concessions will only be granted to people with the Dutch nationality²¹¹ and all residents of the Netherlands, Bonaire, Sint Eustatius and Saba. Also companies can obtain a license; however the director or commissioners should have the Dutch nationality or be a resident on Bonaire, Sint Eustatius or Saba. In large companies not all directors and commissioners need to fulfil this criterion, but the majority has too (Article 5.1). More details on the application procedure are laid down in the Mijnbouwbesluit BES²¹². Main requirement is that the applicant needs to choose domicile at the capital of the island for which he is requesting the license respectively the concession.

12.2.1.2 Aruba, Sint Maarten and Curaçao

Aruba, Sint Maarten and Curaçao have more or less the same Act as the BES Islands as all Acts also originates from the Curaçaoche Mijnwet. The Act of Aruba is called Mijnverordening (English Mining Regulation) and the Act of Sint Maarten is entitled the ‘Landsverordening tot regeling van het mijnrecht²¹³. The Acts states that all minerals are, in principle, owned by the rechtspersoon (English: legal person) Aruba, Sint Maarten or the Nederlandse Antillen (English: Dutch Antilles). To be able obtain the ownership of the minerals a license or a concession is needed.

A license provides the right of exploration and will be given for a period of three years with the option to renew the license two times for one year each (article 1.4). A concession provides the right of exploitation and will be given for maximum 75 years (article 5). For Sint Maarten, both applications should be made to the Minister of Tourism, Economic Affairs, Infrastructure and Telecommunication. For Curaçao the application should be made to the Governor. Aruba has a slightly different system as both applications needs to be approved by a Landsbesluit (English: National decision), a decision taken by the central government of Aruba.

Licenses or concessions will only granted to people with the Dutch nationality²¹⁴ and all residents of Aruba, Sint Maarten respectively Curaçao. Also companies can obtain a license, however the director or commissioners should have the Dutch nationality or be a resident on Aruba, Sint Maarten respectively Curaçao. In large companies not all directors and commissioners need to fulfil these criteria, but the majority has too (Article 5.1). More details are laid down in the Mijnverordening for Sint Maarten (English: Mining regulation) and the Mijnverordening for Curaçao. Aruba has no additional legalisation for mining activities in place.

12.2.1.3 Additional legislation for the usage of the sea

Besides a license for mining activities the applicant also needs a license to operate any installations at sea. This is stated in acts that are rather similar for the BES Islands, Curaçao and Sint Maarten. The license does not only hold for fixed installations that are used in the territorial sea or the EEZ of the five islands, but also for all mobile installations used which fall under the definition of article 60

²¹¹ People on Bonaire, Sint Eustatius and Saba have the Dutch nationality and therefore fall under this precondition.

²¹² This decision is also originally a decision of the Dutch Antilles. The former name was ‘Mijnverordening ter uitvoering der Curaçaoche mijnwet’

²¹³ National Regulation regulating the mining law

²¹⁴ People on Bonaire, Sint Eustatius and Saba have the Dutch nationality and therefore fall under this precondition.

UNCLOS, not being a ship²¹⁵. This means that when mining for oil and gas, but also for other minerals a license needs to be obtained to be able to perform these activities.

For the BES Islands the competent Minister is the Minister of Infrastructure and Environment²¹⁶, however the actual licensing is done by Rijkswaterstaat, the executive body of the Ministry of Infrastructure and Environment²¹⁷. Rijkswaterstaat has a local office at the islands. For Sint Maarten the competent Minister is the Minister of Tourism, Economic Affairs, Infrastructure and Telecommunication²¹⁸ and for Curaçao it is the Minister of Traffic and Transport²¹⁹.

Before a license is granted the effects of installing and using the installations on the marine environment, the nature, the safety of navigation and the maritime cultural heritage need to be assessed (article 21.1). The license will be refused in case a negative effect occurs on one or more areas mentioned above.

A given license can be withdrawn or changed:

- in case the provided details are incorrect or incomplete and with the correct details the decision would have been different;
- the license is not used within the period for which it is granted;
- in case legislation is changed, the circumstances have changed or new insights occur that no longer justify the license and other interests take precedence.

The Wet maritiem beheer BES provides the general requirements for the granting of a license. Each application will be examined in detail by Rijkswaterstaat and per application Rijkswaterstaat will decide whether or not a license will be given²²⁰.

12.3 Legislation on deep-sea mining in the Area

The position is as for the Kingdom of the Netherlands as a whole.

12.4 Environmental protection legislation

From 1 July 2014 onwards a new Act regarding EIAs will apply to the BES islands²²¹. As that date is near the focus will be on this new Act instead of the old Dutch Antilles Act. The relevant act is the 'Wet Volkshuisvesting, ruimtelijke ordening en milieubeheer BES' (English: Act on housing, spatial planning and environmental management BES). An EIA needs to be carried out if an activity can have important negative effects on the environment (Article 7.1a). Which activities will require an EIA is laid down in the 'Inrichtingen- en activiteitenbesluit BES' (English: Establishment and Business decision) which is currently pending in Parliament²²².

The EIA should contain at least a description of the planned activity, a description of the current environmental status of the area where the activities will take place as well as the expected developments of the environment with and without the activity and a description of measures that

²¹⁵ Wet maritiem beheer BES (for the BES Islands), Landsverordening maritiem beheer (for Sint Maarten) and Landsverordening maritiem beheer (For Curaçao).

²¹⁶ Article 4.1 Wet maritiem beheer BES

²¹⁷ <https://www.rijksdienstcn.com/infrastructuur-en-milieu/wet-maritiem-beheer-bes>

²¹⁸ Article 1.a Landsverordening maritiem beheer

²¹⁹ Article 1.a Landsverordening maritiem beheer

²²⁰ <https://www.rijksdienstcn.com/infrastructuur-en-milieu/wet-maritiem-beheer-bes>

²²¹ Article 16 and 17 Besluit grote inrichtingen milieubeheer BES

²²² http://www.eersteamer.nl/id/vitj9z0vygm/overzicht/stand_van_zaken_wetgeving_ook_van

will be taken to prevent or minimize negative effects on the environment (article 7.3 Wet Volkshuisvesting, ruimtelijke ordening en milieubeheer BES).

An EIA is not needed if for the planned activity already an EIA has been carried out and it is expected that a new EIA will not provide new and relevant information or that the activity should be carried out immediately (article 7.1.5). The competent Minister to decide upon this is the Minister of Infrastructure and Environment (article 1.2.1).

The situation on the other three islands is less clear. For Curaçao the need of an EIA is laid down in the 'Hinderverordenig' (English: Hindrance Regulation). Article 15 of the Regulation states that, before a license can be obtained, the current status of the area needs to be described, the impact of the planned activity on the environment needs to be assessed, the expected developments that will impact the area need to be described and the impacts of current activities in the area need to be evaluated. The criteria mentioned in the Regulation are more or less the same as the ones mentioned in the Wet Volkshuisvesting, ruimtelijke ordening en milieubeheer BES and the criteria used in the Dutch environmental procedures. However an EIA is hardly applied at Curaçao as there is no act specifying the EIA procedures, indicating which activities require an EIA and other administrative issues. An act regulating the EIA procedure is already pending for more than 20 years in parliament, but until today the act has not been adopted²²³.

The other two islands, Aruba and Sint Maarten, also have a Hinderverordening (English: Hindrance Regulation), however these regulations are even vaguer formulated than the one adopted at Curaçao. Both regulations have an accompanying 'Hinderbesluit' (English: Hindrance decision) indicating that mining activities need a license provided under the Hinderverordening. However the criteria to obtain such a license are relatively easy met. Some environmental assessment is required, mainly focused on not damaging the environment substantially. No specific indications are given. Also in the parliaments of these countries acts introducing an EIA procedure are pending, but currently no further steps have been taken.

As regards MPAs, the Ministry of Economic Affairs has appointed several areas as ecologically valuable. Some of the areas are located on land, while the others are located at sea. The areas located at sea are mainly located near the coast of the different islands. The management of the national parks is based on spatial plans that are developed according to a model used by the Dutch Caribbean Nature Alliance (DCNA). The plans are approved by the World Commission on Protected Areas (WCPA). The following marine parks have been appointed:

- Bonaire national marine park (STINAPA²²⁴)
- Saba national marine park²²⁵
- Saba Bank national park²²⁶
- St. Eustatius national marine park (STENAPA²²⁷)

List of relevant legislation

1. Besluit van 23 oktober 1985, houdende uitvoering van artikel 1 Rijkswet uitbreiding van de territoriale zee van het Koninkrijk in de Nederlandse Antillen (Besluit uitbreiding territoriale zee van het Caribische deel van het Koninkrijk) (English: *Decision of 23 October 1985, implementing article 1 of the Statute Law expansion of the territorial Sea*)

²²³ Antiliaans Dagblad, 12 January 2011

²²⁴ <http://www.bmp.org/>

²²⁵ <http://www.sabapark.org/>

²²⁶ <http://www.dcnanature.org/saba-bank/>

²²⁷ <http://www.statiapark.org/>

2. Besluit van 6 juli 1993, houdende instelling van een visserijzone voor de Nederlandse Antillen en Aruba (Visserijbesluit Nederlandse Antillen en Aruba) (English: *Decision of 6 July 1993, implementing a Fishery zone for the Dutch Antilles and Aruba*)
3. Besluit van 14 juni 2006 ter uitvoering van de artikelen 2 en 3 van de Rijkswet instelling aansluitende zone (Besluit grenzen aansluitende zone) (English: *Decision of 14 June 2006 implementing the articles 2 and 3 of the Statute Law establishing a contiguous zone*)
4. Besluit van 10 juni 2010, houdende vaststelling van de grenzen van de exclusieve economische zone van het Caribische deel van het Koninkrijk der Nederlanden (Besluit grenzen Caribische exclusieve economische zone) (English: *Decision of 10 June 2010,determining the border of the exclusive economic zone for the Caribbean part of the Kingdom of the Netherlands*)
5. Besluit van 30 september 2010, houdende vaststelling van de grenzen van de openbare lichamen Bonaire, Sint Eustatius en Saba (Besluit grenzen openbare lichamen Bonaire, Sint Eustatius en Saba) (English: *Decision of 30 September 2010, determining the borders for the public bodies Bonaire, Sint Eustatius and Saba*)
6. Besluit van XXX, houdende regels met betrekking tot de vergunningverlening, het toezicht daarop en de handhaving daarvan voor bepaalde categorieën grote inrichtingen op Bonaire, Sint Eustatius en Saba (Besluit grote inrichtingen milieubeheer BES) (English: *Decision of XXX, laying down rules for the authorization, supervision and enforcement of certain categories of large establishments in Bonaire, Sint Eustatius and Saba*)
7. Hinderverordening, Aruba (English: *Hindrance regulation, Aruba*)
8. Hinderverordening, Curaçao (English: *Hindrance regulation, Curaçao*)
9. Landsbesluit, houdende algemene maatregelen, ter uitvoering van artikel 1 van de Hinderverordening (English: *National decision, laying down rules to implement article 1 of the Hindrance Regulation*)
10. Landsbesluit, houdende algemene maatregelen, ter uitvoering van artikel 1, tweede lid, van de Hinderverordening (English: *National decision, laying down rules to implement article 1, sub 2, of the Hindrance Regulation*)
11. Landsverordening van de 2de maart 2007 houdende regels inzake het beheer van de maritieme gebieden in de Nederlandse Antillen (Landsverordening maritiem beheer) (English: *National Regulation of 2 March 2007 laying down rules for the management of maritime areas in the Dutch Antilles*)
12. Landsverordening houdende regels inzake het beheer van de maritieme gebieden in Sint Maarten (Landsverordening maritiem beheer) (English: *National Regulation, laying down rules for the management of maritime areas in Sint Maarten*)
13. Landsverordening tot regeling van het mijnrecht (English: *National Regulation regulating the mining law*)
14. Landsverordening houdende maatregelen ten aanzien van het oprichten van inrichtingen die hinder, schade of gevaar kunnen veroorzaken (English: *National Regulation, laying down measures with regard to the creation of devices that may cause hindrance, damage or danger*)
15. Mijnbesluit BES (English: *Mining Decision BES*)
16. Mijnverordening, Aruba (English: *Mining Regulation, Aruba*)
17. Mijnwet BES (English: *Mining Act BES*)
18. Note verbale dated 26 March 2012, drafted by the Permanent Mission of the Kingdom of the Netherlands to the United Nations.
19. Rijkswet van 12 december 1985, tot vaststelling van een zeegrens tussen de Nederlandse Antillen en Aruba (Rijkswet vaststelling zeegrens tussen Aruba en Curaçao) (English: *Statue Law of 12 December 1985, establishing a maritime border between the Dutch Antilles and Aruba*)
20. Rijkswet van 27 mei 1999 tot instelling van een exclusieve economische zone van het Koninkrijk (Rijkswet instelling exclusieve economische zone) (English: *Statue Law of 27 May 1999 establishing a exclusive economic zone of the Kingdom*)

21. Rijkswet van 28 april 2005 tot instelling van een aansluitende zone van het Koninkrijk (Rijkswet instelling aansluitende zone) (English: *Statue Law of 28 April 2005 establishing a contiguous zone of the Kingdom*)
22. Rijkswet van 7 juli 2010 tot vaststelling van een zeegrens tussen Curaçao en Bonaire, en tussen Sint Maarten en Saba (English: *Statue Law of 7 July 2010 establishing a maritime border between Curaçao and Bonaire and between Sint Maarten and Saba*)
23. Verordening ter uitvoering der Curaçaosche mijnwet (P. B. 1909 no. 3) en tot regeling van sommige daarmede in verband staande onderwerpen (Mijnverordening) (English: *Regulation implementing the Curaçao mining act and the regulation of certain related topics*)
24. Verordening ter uitvoering van de Mijnwet en tot regeling van sommige daarmee in verband staande onderwerpen (Mijnverordening) (English: *Regulation implementing the Mining act and the regulation of certain related topics*)
25. Voorlopige overeenstemming inzake aangelegenheden betreffende de diepzeemijnbouw (3 augustus 1984) (English: *Provisional Understanding regarding deep seabed matters*)
26. Wet van den 1sten Juli 1909 (Staatsblad No. 123), tot regeling van het mijnrecht in de kolonie Curaçao (Curaçaosche mijnwet) (English: *Act of 1 July 1909 regulating the mining law in the colony of Curaçao*)
27. Wet van 28 oktober 1954, houdende aanvaarding van een statuut voor het Koninkrijk der Nederlanden (Statuut voor het Koninkrijk der Nederlanden) (English: *Act of 28 October 1954, accepting a Statute for the Kingdom of the Netherlands*)
28. Wet van 17 mei 2010 tot invoering van de regelgeving met betrekking tot de openbare lichamen Bonaire, Sint Eustatius en Saba (Invoeringswet openbare lichamen Bonaire, Sint Eustatius en Saba) (English: *Act of 17 May 2010 introducing the regulations regarding the public bodies Bonaire, Sint Eustatius and Saba*)
29. Wet van 22 december 2011, houdende regels inzake de volkshuisvesting, de ruimtelijke ordening en het milieubeheer in de openbare lichamen Bonaire, Sint Eustatius en Saba (Wet Volkshuisvesting, ruimtelijke ordening en milieubheer BES) (English: *Act of 22 December 2011, containing rules on public housing, spatial planning and environmental management in the public bodies Bonaire, Sint Eustatius and Saba*)
30. Wet Maritiem Beheer BES (English: *Act Maritime management BES*)

13 Papua New Guinea

13.1 Legislation on maritime zones

The application of the National Seas Act 1977 is relevant only in so far as to ascertain the various maritime zones and their limits in Papua New Guinea. However the legislation is not compliant with UNCLOS to deal with other aspects of ocean use such as deep-sea mining.

Under consideration by the Government is the proposed Maritime Zones Bill 2014. That Bill is now going through the various internal government processes before it is tabled in Parliament most likely in the May sitting of Parliament.

The proposed Maritime Zones Bill was drafted essentially to be compliant with UNCLOS requirements and improve on the current National Seas Act.

The Government of Papua New Guinea has three areas of interest in claiming extended continental shelves²²⁸. One area has been submitted to the CLCS as a joint submission with two other neighboring countries. The Executive Summary can be read on UNDOALOS website. The other two areas are listed as Preliminary Information²²⁹ and currently work in progress.

The three areas of interest are: Ontong Java Plateau, the Eauripik Rise and Mussau Ridge.

13.2 Legislation on deep-sea mining in areas under national jurisdiction

It is important to note at the outset, that there is no specific deep-sea mining legislation in Papua New Guinea. However following an application by Canadian company Nautilus Minerals, relating to the Solwara 1 deep-sea mining project, an economic decision was made to an issue exploration license to conduct deep-sea exploration in Papua New Guinea's territorial waters. This was to happen under the Mining Act, which obviously attracted publicity. The basis for this decision will be briefly discussed later to put in context the absence of the law.

A key question was whether deep-sea mining should be regulated by legislation that is on aggregate extraction in shallow water or by legislation based to land based mining. A number of items of legislation are potentially relevant and will be discussed in the following paragraphs.

The Mining Act of 1992 regulates minerals and mining but is modelled for land-based operations.

This is clear from the definition of 'land' which includes:

- the surface and any ground beneath the surface of the land; and
- water; and
- the foreshore, being that area between the mean high water springs level of the sea and the mean low water springs level of the sea; and
- the offshore area being the seabed underlying the territorial sea from the mean low water springs level of the sea to such depth as admits of exploration for or mining of minerals; and
- the bed of any river, stream, estuary, lake or swamp; and
- any interest in land;

²²⁸ www.undoalos.com refer to UN Commission on the Limits of the Continental Shelf see under Papua New Guinea

²²⁹ Preliminary Information relates to SPLOS/183 concerning decision regarding the workload of the CLCS and the ability of developing countries in particular to fulfil the requirements of Article 4, Annex II to the Convention.

The reference to the foreshore being the seabed up to 12 nm from the mean low water springs level of the seas to such depths as admits of exploration for mining of minerals was relied on by the previous Mining Department to issue an exploration license for deep-sea mining.

Even then there was no specific category of offshore licenses under the Mining Act to issue an offshore exploration license. Land-based licenses were applied instead for exploration in the Bismarck Sea. Different mining tenements can be referred to²³⁰ for an appreciation of what is currently available under the Mining Act in Papua New Guinea.

The previous Mining Department was firmly of the opinion that whatever power is exercisable on land can be exercised offshore up to 12 nm and that the Mining Act had such an effect. However as noted, the application of the Mining Act applies 12 nm offshore with no substantive provisions regulating deep-sea mining meaning that there is an obvious legal gap.

All minerals existing on, in or below the surface of any land in Papua New Guinea, including any minerals contained in any water lying on any land in Papua New Guinea, are the property of the State. However it is to be noted that where a mining lease is granted then the rights of the State are consequently transferred to the lease-holder during the life span of the mining lease.

In relation to the sea, the rights of the State exist past internal waters. The legal implication for offshore benefit sharing is not clearly outlined by legislation in Papua New Guinea. In future developments where minerals are found at sea, would pose consideration for resource sharing benefits with interests of local communities, the local level governments and provincial governments.

Benefit sharing is relevant with land-based operations because it is catered for in the legal regime. But the same cannot be said for sea based developments and would be dependent on where minerals are found. It would be relevant for the Government to create legislation to deal with economic developments at sea and how the proceeds from these developments can be shared among three levels of Government in Papua New Guinea. These are some of the current gaps that exist in the legal framework.

As regards the Land Act, there is no guidance given as to what extent this item of legislation applies offshore. The definition of land includes an interest in land whether arising out of and regulated by custom or otherwise. What is noted is the lack of clarity on foreshore issues even though the Land Act requires reclamation for public purposes outlined in that legislation.

There is an apparent lack of clarity between the Mining Act and the Land Act when it comes to definition of land and to what extent the Land Act applies offshore. Likewise there is no guidance given to what extent historical fishing and customary rights apply offshore as an interest in land.

A number of other key issues also need to be considered, in connection with deep-sea mining. These issues have important application and do impact on deep-sea mining. These are mine closure, waste management and community rights.

As regards mine closure, in the Papua New Guinea mining regime, mining starts at the exploration phase and should supposedly end at the closure phase. There are a number of licensing phases of

²³⁰ www.mineralresourcesauthority.com under Licensing

a project cycle²³¹. But in reality, there is no Government endorsed mine closure policy and the Mining Act 1992 currently does not provide any mine closure phase, therefore another legal gap.

In the context of deep-sea mining, a mine closure would be relevant. That should be based on UNCLOS requirements pertaining to abandonment of any installation or structure, or artificial island to be removed to ensure safety of navigation, with due regard to fishing, the protection of the marine environment and duties of other coastal states.

Where such structures or installations are not removed then appropriate publicity to be given of any depth, position or dimension of such installation, again to ensure safe passage of ships. As an obligation, Papua New Guinea has to enact these requirements under its national laws; currently under consideration²³² but to date no current laws provide for the same. It is further understood that at this point in time Papua New Guinea has not formally adopted a Mine Closure Policy for the offshore.

Turning to the issue of waste management, there is no specific waste management legislation in Papua New Guinea; hence the Constitutional and Law Reform Commission Issues paper is on point.²³³ The upshot of the Issues Paper explains in detail the types of tailings carried out in Papua New Guinea. The alarming fact as already alluded to earlier is that Papua New Guinea is one of the only two countries in the world still practising riverine waste disposal and deep-sea waste disposal, which practices are criticized by many as being an environmentally unfriendly method.

This is where seabed mining impacts would be most challenging, in the Nautilus case example, their use of underwater robots is unknown and untested so a lot of uncertainty at stake. The disposal of any waste to a large extent would also reinforce this uncertainty, as no in-depth study in Papua New Guinea has looked into this aspect.

It also calls into question the EIA processes which will be discussed later in the paper given that some of the current mines already dispose of their waste offshore. It is however important to note that a legislation on tailings is in the pipeline to be considered in Papua New Guinea and therefore relevant for its application to deep-sea mining.

As regards mine safety, the Mine Safety Act 1977 and its regulations provide in detail the safety operational requirements to be undertaken at mine sites. However, the act and its regulations do not have specific application offshore. This legislation is read consistently with the Mining Act. It has been observed²³⁴ that both the Mining Act and the Mine (Safety) Act are inadequate to in relation to containment of mine tailings. This would be an issue with no clear linkages with the environmental legislations and its appropriateness to large scale developments that impact on the marine environment.

As regards the rights and interests of communities, as observed above, with the current definition of land under the Land Act, *interests* of the coastal communities in accordance with customary law would become relevant as developments take place in the sea or coastal areas in Papua New Guinea. Under Papua New Guinea laws, customary laws are recognized and can be enforced and applied provided they are not inconsistent with statute laws or human rights.

²³¹ See under licensing, the Flow Chart of the Licensing phases of a Project Cycle in Mineral Resources Authority official website: www.mineralresourcesauthority.com

²³² Proposed Maritime Zones Bill to repeal the National Sea Act; currently under consideration by the Papua New Guinea Government

²³³ See Constitutional and Law Reform Commission Issues paper, at page 7 of report , under nature of tailings

²³⁴ Constitutional and Law Reform Commission Issues paper at page 31

The National Constitution of Papua New Guinea provides broad goals and guidance in policy making. These guiding goals are commonly referred to as the National Goals and Directive Principles. In particular, the National Goals number 4 and 5 respectively call for safeguards and protection of natural resources including the marine, national environment and fish; including call for *traditional Papua New Guinean ways of doing things, and traditional forms of organization*.

Section 53 of the Constitution provides a right of protection to Papua New Guineans from unjust deprivation of property. It enables 'just compensation' to be paid where land is taken from customary landowners for a public purpose, therefore to be regulated by law. Almost 97% of land in Papua New Guinea is customarily owned and about 3% are State owned therefore this constitutional provision provides some safeguards.

In terms of the recognition of custom by the law of Papua New Guinea,²³⁵ Schedule 2.1 of the Constitution gives recognition to customary laws of and provides that such customary laws will be applied and enforced as part of the underlying laws of the country. The Constitution further provides that any custom that is, and to the extent that it is, inconsistent with a Constitutional Law or a statute, or repugnant to the general principles of humanity will not be enforced.

Schedule 2.1 further states that an Act of the Parliament may provide for the proof and pleading of custom for any purpose and regulate the manner in which, or the purposes for which, custom may be recognized, applied or enforced and provide for the resolution of conflicts of custom.

The Customs Recognition Act 1963 relates to the determination and recognition of custom. Among other things the legislation provides that custom may be taken into account when considering the ownership by *custom of rights* in, over or in connection with the sea or a reef, or in or on the bed of the sea or of a river or lake, including *rights of fishing* or the ownership by custom of water, or of *rights* in, over or to water.

The Underlying Law Act, 2000 provides for the source of the underlying law; for the formulation of rules of the underlying law and for the development of the underlying law and for related purposes. The Act should be read consistent with Schedule 2.2 of the Constitution, the Customs Recognition Act; the Village Courts Act and related legislation dealing with customary laws of Papua New Guinea. However, customary laws will not be applied if inconsistent with written laws, contrary to basic rights of the Constitution, or inappropriate to the circumstances of the country.

The Village Courts Act 1989, authorised by Section 172 of the Constitution, provides a system of Village Courts in Papua New Guinea; and provides for Village Peace Officers, their jurisdiction, powers, duties, practice and procedure, in determination of disputes within communities or villages throughout the country. Village Courts make up an informal court system that allows communities to apply customary laws to solve disputes in everyday life at the community level. Such disputes may include disputes relating to customary rights to reef or bank areas etc. Under the Village Courts Act, the definition of land includes 'a reef or a bank' but does not include things growing on the land.

The Land Disputes Settlement Act 1975 provides for the settlement of disputes in relation to interests in customary land, and for related purposes. This is the principal legislation commonly referred to in the application of disputes to determine customary land ownership. The purpose of this legislation is to provide just, efficient and effective machinery for the settlement of disputes in relation to interests in customary land by encouraging self-reliance through the involvement of

²³⁵ Go to www.pacii.psu.edu click on Papua New Guinea, click on consolidated legislation. All legislations including regulations and national court judgements are listed alphabetically.

people in the settlement of disputes; and the use of the principles underlying traditional dispute settlement processes.

Under the Land Dispute Settlement Act, "land" means customary land, and includes:

- (a) a reef or bank; and
- (b) a house or other structure built on land or over water; and
- (c) things growing on land or in water over land, earths and minerals on or under land; and
- (d) an interest in land.

The implication of the legislation discussed above clearly suggests that Papua New Guinea laws recognize the application of customary laws. The application of customary rights to water, river, sea or bank areas, or up to certain offshore areas for fishing rights would be relevant considerations as these affect rights of local coastal communities.

The laws require prior consultations with local communities to determine if their rights and interests would be affected by any developments close to their reef areas or banks or coastal areas impacting on their livelihoods.

However the above cited legislation is not clear as to the extent to which customary laws apply in the offshore areas. Thus the laws seem to leave this aspect open ended but will be dependent on historical fishing rights to be determined on case by case basis.

There are number of National Court Judgments which recognize customary rights in relation to water or sea areas. The National Court decisions have held that the rights of the State exist past internal waters. The Courts have further stated that no one can own the oceans as the ocean is a matter in the public domain. Thus case law seems to support the Doctrine of Crown Prerogative. It is the notion that rights in use of the ocean are clustered in user rights as opposed to ownership.

The other consideration is the limit of such rights. The rights of the State commence immediately past internal waters. The discussions of limits of powers become relevant and in the context of this discussion it therefore seems clear that any customary rights would be considered within the internal waters only as opposed to other maritime zones.

In terms of deep-sea mining, any consultations with coastal communities would be within areas of internal waters. However, to date, the Papua New Guinea Government has not delimited its internal waters nor allocated a zone to consider community rights such as a zone to be known as coastal waters.

The declaration of coastal waters will be considered in the proposed maritime zones bill. Following the passing of the proposed maritime zones legislation by Parliament, this will give effect to the national baseline to be legally recognized, based on which internal waters would be further delimited separately given its wider implications also for provincial coordinates, internal ports and harbours etc.

Under the scheme of the legislative regime regarding mining and oil and gas developments, benefit sharing is an entrenched practice given many of the economic activities occurs on customary land (customary land is acquired and then converted into State land and granted mining lease during life span of the mine).

About 97% of land in Papua New Guinea is customarily owned with about 3% owned by the State through acquisition and regulated by the Land Act. Land is important to people and ongoing

concerns have been raised over the years to protect interests of local communities from exploitation of natural resources in PNG. As observed earlier, laws protect the rights of local communities in terms of recognition of customary rights to land. This also applies to limited sea areas as safeguarded by the Constitution and relevant legislation.

Sharing of proceeds from resource exploitation is clearly laid down by law. This can be seen in the application of the current legislation for resource exploitation in PNG such as mining and LNG developments on land. See Mining Act and the Oil and Gas Act.

The law is clear on how benefits in terms of royalties should be worked out between different levels of Government and the local communities. But this is not the same with laws dealing with access to fisheries or other marine resources including mining at sea.

The Organic Law on Provincial Government & Local Level Government Actsets down the consultative provisions on resource sharing arrangements referred to by the Mining and Oil and Gas legislations. The two main provisions for resource sharing arrangements are sections 98 &99 of the Organic Law.

It has been observed that many provincial economic developments are limited by the Organic law itself especially in relation to fisheries and other marine developments of large scale nature cannot be assumed by the Provinces and is left to the National Government. This is one of the gaps in the legal framework that is currently being reviewed to give more economic incentives and legislative power to Provinces.

Under section 98, among other things it provides that an Act of the Parliament shall make provision for the rates, management, sharing arrangement and application of the development levies. To date the Government has not enacted separate legislation for sharing arrangements and application of development levies. Rather, the Government has approached the provision of benefit sharing through appropriate agreements with developers.

Most of the large commercial fisheries activities in the offshore occur well in the EEZ, the archipelagic and territorial sea. These areas have little to do with interests of coastal communities. There are of course exceptions to this where fisheries shore based facilities are in place or with large scale port or LNG developments or shore based developments are to occur under different legislations. In that sense there is the consultative requirement with local communities as noted from foregoing discussion. Thus the traditional rights of communities and extent of rights of communities in the offshore would apply but to what extent would be dependent on case by case basis.

In the final analysis, the benefit sharing of the proceeds from mining have not been legislated by the Government but economic benefits to local communities are implemented through commercial agreements. In terms of deep sea mining where mining takes place would determine how development levies are worked out but for all intent it would be recommendable to have laws enacted for benefit sharing with Government and other levels of Government.

To date the Government has no coastal zone planning inbuilt into its planning and decision making in relation to impacts from economic developments on livelihoods of communities, an obligation required by many international instruments such as the Framework Convention on Climate Change and Convention on Biological Diversity to which PNG is a state party to both these Conventions.

In terms of licensing, there are two key Government agencies which would be responsible for ensuring the relevant approvals are obtained from the Government, authorizing deep-sea mining in Papua New Guinea.

These Departments cannot make decisions on their own, especially when financial limits do apply and different authority approvals are needed to commit the Government to legal binding arrangements. The Department of Mineral Policy and Geohazards deals with all policy related matters including geohazards whilst Mineral Resources Authority is responsible for development of mining and licensing of mining operations under the Mining Act.

The Government has internal approval processes in places to determine large scale operations that impact on the economy and the environment. These include both administrative and legislative requirements. All major impact projects would go through a consultative process known as the Central Agencies Consultation Committee (CACC) which meets at both at Heads level as well as at the Deputy Heads level.

Where a project involves economic considerations, it would also go through the Economic Ministers Meeting to grant approvals before the National Executive Council final approval is sought. The Department of Mineral Policy and the Mineral Resources Authority would naturally invoke these internal government processes to determine any deep-sea mining interests.

Following CACC approval processes of the Government, there are further prerequisites of various legislations that regulate mining would need to be satisfied. For instance, any major environmental impact development in Papua New Guinea will be subject to the *Environment Act* essentially to obtain EIA prior to an environment permit granted.

The Mineral Resources Authority Act establishes the Mineral Resources Authority of Papua New Guinea.²³⁶ Section 5 of the Act is relevant and provides the functions of the Authority. That can be referred to in terms of determining what can be undertaken by MRA under its constituent legislation relevant for deep-sea mining. As earlier noted, Mineral Resources Authority will apply the Mining Act to regulate mining; and that Act has no provision on deep-sea mining.

Depending on the nature of the operations would involve a discussion of various items of legislation including discussions on the impacts to the marine environment.

13.3 Legislation on deep-sea mining in the Area

Papua New Guinea does not have specific legislation governing deep-sea mining in the Area.

The National Seas Act is only relevant to determine the limits of the territorial sea and the offshore area. The offshore is defined to include the archipelagic waters and the EEZ and the coordinates are specified in the offshore seas proclamation under the same item of legislation. On the UN DOALOS website, for Papua New Guinea, there is reference to Continental Shelf (Living Natural Resources) Act 1974. That legislation had been repealed and no longer in force.

The International Tribunal for Law of the Sea Decision in the Nauru case has been noted and its implication for Coastal States to regulate the impacts of the marine environment from deep-sea mining both in areas under national jurisdiction and in the AREA. To date the Government has not amended its laws to consider some of the pertinent points raised by the ITLOS decision.

²³⁶ See copy of legislation provided in reference folder.

These include strengthening the EIA process, due diligence, and application of precautionary approach in national legislation dealing with the marine environment in areas of national jurisdiction as well as in the areas beyond national jurisdiction to regulate deep-sea mining.

13.4 Environmental protection legislation of potential relevance to deep-sea mining

The Environment Act 2000 regulates the environmental impacts of development activities in order to promote sustainable development of the environment and further provides for the management of national water resources.

Water is defined under the Environment Act to include internal waters, territorial seas and offshore seas as defined in the National Seas Act and includes seabed and subsoil thereof.

Part 5 of the Environment Act sets down requirements in relation to conduct of activities which may harm the environment. To obtain an environment permit requires detailed requirements which are set therein including specific obligations to submit an environment impact assessment and all steps associated with this, such as those required by section 51, public review under section 55, proper assessment by Director under sections 54 and 56 and subsequent consideration by Environment Council under section 58.

The Environment Act among other things provides a process for a permitting system for allowing activities to be conducted on the environment.

Any construction of works, land clearance, demolition, excavation, or other works in relation to land, water or air must apply for the required permit where material or serious harm are to be expected, fall under level 3.

With regard to EIA requirements, the relevant provisions are found in sections 41 -73 of the Environment Act 2000. The provisions lay down steps taken to apply for an environment permit and for those activities which are of national interest and would cover serious harm to the environment (level 3) then a proponent must submit for an environment impact assessment.

At the outset, where a proponent intends to undertake preparatory works (defined in section 47) that proponent must register his intention in writing to the Director, at least a month prior to commencing such activity. See section 48.

Upon receipt of such a notice, a notice will be served on the proponent to undertake an environment impact assessment.

The steps taken as part of submission of an environment impact assessment are covered in sections 51- 73. As noted in earlier comments, consultative processes are inbuilt into these provisions and would require public consultation with all affected stakeholders including local communities.

Under the scheme of the Environment Act, all other prerequisites required to be taken with other authorities will not take place until after the EIA process has been completed. More so an environmental permit will not be given until after the EIA has been completed.

All level 3 activities must undertake an Environmental Impact Assessment (EIA). The Environment (Prescribed Activities) Regulation further regulates the activities which pose serious harm to the

environment. Activities to marine conservation areas are not clearly specified and it seems this Regulation only apply to land based conservation areas.

The Environment Water (Quality Criteria) Regulations set out minimum standards for the protection of aquatic life and such standards applies to any discharges into fresh water or the sea. Any deep-sea mining would be required to adhere to the standards of this Regulation.

Ordinarily, where data or legislation is silent on specific regulatory measures to be taken, then preventive measures or precautionary approach should be considered looking at best practices and what is available under international law to support the gaps.

To date Papua New Guinea has not adopted any such preventive measures in the form of precautionary principle guideless or best practice guidelines or any conditions on due diligence to be applied within the framework of the Environment Act.

At the regional level, through the efforts of the South Pacific Community, a regional approach to deep-sea mining has been developed²³⁷ for the Pacific Island Countries. Essentially this approach is to guide the development of specific laws to cover deep-sea mining in the Pacific. A Precautionary Principle has been developed to apply in the monitoring of the impacts of deep-sea mining. But the responsibilities seem very onerous and can be daunting on small countries which have inadequate capacity to follow through the application of this principle.

On analysis, it is clear that these steps require expertise knowledge, regular monitoring and assessment of impacts of deep-sea mining, a matter seriously not well implemented. Many of the pacific Island countries including Papua New Guinea do not have expertise available to undertake such onerous responsibilities.

In practice the onus would be on the Government as a regulator to apply the Precautionary Principle but too often as experienced funding may not be readily available nor the manpower and having the necessary technical expertise to implement such responsibilities.

In a SPC regional news article on deep-sea mining, a deep-sea biologist²³⁸ pointed out that the region is weak in essential areas or knowledge for mining development. This includes geology, skills and knowledge, deep-sea marine biology and environment, many regulatory and social economic areas.

Furthermore concerns were noted by the same article which reiterated that mining must not occur in known spawning areas. The extent of sediment plumes generated by sea floor mining must be assessed before mining occurs.

In reality, the region has no capacity to monitor the unknown impacts of deep-sea mining. Scientific data to assist decision making to regulate the marine environment is not available, a fact also common in Papua New Guinea for lack of capacity, skilled manpower and knowledge. That may have explained the absence of counter arguments from Papua New Guinea regarding EIA presented by Nautilus.

The Environment Act enables Provincial Governments to enact provincial laws on parks, reserves, gardens, scenic and scientific centres whilst the Local level Governments can enact laws on local

²³⁷ See www.spc.int, see Applied Geoscience and Technology(SOPAC) under Oceans and Islands Programme, see under Geology, Minerals and Hydrocarbons, see Deep-sea Minerals Project, under Publications and Reports is a reference to sample of the Precautionary Principle for deep-sea mining.

²³⁸ See www.spc.int, under Prospects, Issue 3, February 2014, Question and Answer with Cindy Van Dower, Deep-sea Biologist

environment, hygiene and sanitation, and protection of traditional sites pursuant to the effect of the *Organic Law on Provincial Governments and Local level Governments Act*. (This legislation deals with decentralization of powers to other levels of Government). The protection of traditional sites is important for purposes of traditional taboo fishing grounds or sea areas taboo to local communities. Further the Environment Act allows for clean-up orders to be issued or Codes of practice and other ways of achieving compliance with the Act. The legislation further recognizes right of Provincial Governments to make environment polices on noise, hygiene and sanitation or any prescribed activity within the policy capacity of Provincial Governments.

Other legislation which Department of Environment & Conservation administers includes the *National Parks Act; Fauna (Protection & Control) Act; Conservation Areas Act and the Crocodile Trade (Protection) Act*.

The Mining Act is subject to the application of the Environment Act in terms of mining developments of large scale. The Environment Act in section 46 makes specific reference to other legislations not to apply until after EIA has gone through the requirements of the Environment Act. Nonetheless, the current challenges would be in the development and application of the Environment Impact Assessment on developments pertaining to deep-sea mining including land based mining or tailing waste disposals operations which could impact the oceans.

The mining safety aspects of the deep-sea mining, waste, noise and water quality aspects should be all synergised into the Environmental Regulations. These aspects have not been considered in a holistic manner in the appropriate Regulations.

Moreover a number of environmental issues remain unclear:

1. The definition of **water** under the legislation does not extend to waters beyond national jurisdiction.
2. The Environment Act may be limiting in the sense that has no clear scope of activities which are serious in nature to be regulated by Regulations; for instance to cover deep-sea mining even though section 51 of the Act provides that Regulation may prescribe further details of undertaking an environment impact assessment.
3. The legislation seems to place responsibility on proponent to raise issues to be covered by the environment impact statement when it should be the Department of Environment taking lead on this to avoid conflict of interest by the proponent.
4. The level 3 activities prescribed by the *Environment (Prescribed Activities) Regulation* are not clear on how impacts from other users of the sea will be managed in terms of deep-sea mining to fisheries or fisheries protected areas. The regulations only cover land based conservation areas.
5. The prohibited fishing grounds under the *Fisheries (Management) Act* are not included in the Environment Prescribed Activities Regulations so essentially it is not clear if a ban on fishing could stop deep-sea mining.
6. The whole assessment process does not widen the scope of assessment to allow expertise to be drawn in for best practice or precautionary principle based on international standards to be applied.
7. The process seems to place a lot of powers on the Director who may not have the required skills and knowledge to be guided in decision making with EIA issues including authorities (members of the Council or the Minister) listed in the legislation when matters are highly technical.
8. It is not clear that Government has strengthened the current EIA process, taking into account due diligence, best practices guidelines, or precautionary principle of ensuring constant monitoring and assessments are done of activities which have high risk to affecting the marine environment.

9. It is further noted that the Government has no appropriate policies and appropriate legislation on deep-sea mining in Papua New Guinea and in areas beyond national jurisdiction; matters which have potential for economic significance to the country.
10. No legislation or amendments to existing legislation exist at the moment to cover future deep-sea mining in areas beyond national jurisdiction.
11. Following the SPC Regional Model, no precautionary principle for deep-sea mining has been formulated to apply in the absence of appropriate legislation in Papua New Guinea.

A number of items of legislation address the issue of conservation but to a large extent limited and have no direct application to marine protected areas and fragile ecosystems and sea mounts.

Papua New Guinea is a state party to CBD and under CBD, hydrothermal vents sites are recognized as ecologically and biologically significant areas in need of protection. Such hydrothermal vents have been discovered in the Bismarck Sea of Papua New Guinea. But Papua New Guinea government has no policy regarding hydrothermal vents to be specially protected. However Bismarck Sea is the very area where future deep-sea mining will take place.

The Environment Act is applicable to the marine environment but its application to regulation of seamounts and fragile marine ecosystems are not specifically covered. The closest requirement would be in the form of protection orders under section 101 of the Act. That seems to apply only where activities are considered to cause harm to the environment. Perhaps such orders could be issued assuming deep-sea activities take place.

The Conservation Areas Act 1978 provides for the preservation of the environment and designates national cultural inheritance by conservation of sites and areas having particular biological, topographical, geological, historic, scientific or social importance; and the management of those sites and areas, and to establish a National Conservation Council to carry out its functions under the legislation. Under this Act the Minister may declare an area to be an area as a conservation area. The term **area** is defined to include a site, place, or region *but does not indicate explicitly to include or extend to the sea*. This is an obvious limitation. The Interpretation Act is limited to those areas declared under the National Seas Act, again no substantive provisions regulate MPAs or fragile marine ecosystems.

As noted earlier, Provincial Governments may enact provincial laws on parks, reserves, gardens, scenic and scientific centres whilst the Local level Governments can enact laws on local environment, hygiene and sanitation, and protection of traditional sites. The protection of traditional sites is important for purposes of traditional taboo fishing grounds or sea areas taboo to local communities.

Through the work of Non-Government Organizations with some communities, conservation areas close to those coastal communities have been declared marine protected areas and some through the application of customary laws as well.

The Fisheries (Management) Act provides for promotion for the management and sustainable development of fisheries and for related purposes. The act contains provisions intended to ensure the protection of ecosystems that will benefit fisheries. To ensure sustainable development of fisheries is maintained and observed throughout the administration of fisheries, the legislation provides management objectives and principles as reflected in section 25 of the Act to guide the various fisheries authorities to have due regard to such matters as:

- The protection of the ecosystem as a whole, including species which are not targeted for exploitation, and the general marine and aquatic environment;

- Preservation of the biodiversity;
- Minimisation of pollution;
- Implement any relevant obligations of Papua New Guinea under applicable rules of international law and international agreements.

The foregoing principles would be reflected in all Fisheries Management Plans, License conditions and fishing access agreements to strike a balance between development and conservation management of the fisheries resources.

There is no clarity on how deep-sea mining would impact on fisheries conservation or prohibited areas. As regards the relation between fisheries and environmental legislation, the Environment (Prescribed Activities) Regulation under the Environment Act are silent on the matters subject of prohibition notices under the Fisheries (Management) Act and to what extent deep-sea mining conflicts with such prohibition notices remains to be developed or investigated.

Scientific data on other wider fisheries areas or marine ecosystems relevant for fisheries are sketchy to support arguments of potential damage to greater marine ecosystems which are declared prohibited areas. Fisheries Scientific Research and documentation are not undertaken in a systematic way but more on a case by case basis to enable National Fisheries Authority to make sound decisions on the status of various species for management purposes. Again how deep-sea mining would impact on fisheries and other ecosystems important to fisheries have not been clearly understood or investigated by the Government.

As regards the impacts of land based mining activities, the Ramu Nickel Mine in the North coast of Papua New Guinea proposed to dump its wastes in the sea. The Papua New Guinea National Fisheries Authority undertook a study which resulted in a Report titled “Ramu Nickel Project on Fisheries Implications” raised serious issues with the EIA and made the point that an EIA process should inbuilt into its process the impacts of environment regulated activities on fisheries and the wider marine ecosystem. That is obviously missing within the current scope of the Environment (Prescribed Activities) Regulation. The Regulation does not include *impacts of land based mining operations* (such as the Ramu Nickel Mine) on coastal or near shore areas including other wider marine ecosystems.

Another serious issue raised by the Ramu Nickel report related to the Submarine Tailing Discharges/Disposals. There is no Government policy on waste management in any form including a Policy or Guidelines on Submarine Tailings Disposal/Discharges. The Report noted that no law on submarine tailings discharges currently exists, further evidenced by the absence of such provision under the Mining Act; Environment Act and the Environment (Prescribed Activities) Regulation. Nevertheless for level 3 activities, there is no mention of other fisheries activities to be impacted by deep-sea mining to other wider interest as well. The other concern is the impacts of deep-sea mining close to shore and its activities on fisheries management or establishing linkages in the activities to be regulated is not clear.

The proposed Maritime Zones Bill will be the most relevant legislation when it gets enacted to cover MPAs and fragile ecosystems. Among other things it will also provide for Marine Protected Areas, fragile marine or marine sensitive areas and Marine Reserves to be established in Papua New Guinea waters. A key legislation which will also be amended consequent to the passing of the Maritime Zones Bill will be the *Interpretation Act*. This legislation will basically include references to internal or territorial sea to include a general term “*waters of Papua New Guinea*” which will apply to the EEZ for purposes of environment protection.

13.5 Draft legislation/policy proposals relevant to deep-sea mining

As already noted the Government is currently considering the proposed Maritime Zones Bill 2014. That Bill is now going through the various internal government processes before it is tabled in Parliament. The proposed Maritime Zones Bill was drafted essentially to be compliant with UNCLOS requirements and improve on the current National Seas Act.

A number of other items of legislation and policy are in draft form pending finalization pertaining to deep-sea mining in Papua New Guinea. These are:

- Legislation on Offshore Mining (draft);
- Policies on offshore mining (draft);
- EIA specially formulated for offshore mining (support for this in principle);
- Mine Closure Policy (draft);
- Waste management policy and legislation under current considerations;
- Maritime Zones Bill (already going through internal government approval processes).

List of relevant legislation

1. Customs Recognition Act, 1963
2. Land Disputes Settlement Act, 1975
3. Mine (Safety) Act, 1977
4. National Seas Act, 1977
5. Conservation Areas Act, 1978
6. Village Courts, 1989
7. Mining Act, 1992
8. Land Act, 1996
9. Fisheries Management Act, 1998
10. *Organic Law on Provincial Governments and Local level Governments, 1998*
11. Underlying Law Act, 2000
12. Environment Act, 2000
13. Mineral Resources Authority Act, 2005
14. Environment (Prescribed Activities) Regulations

14 Portugal

14.1 Legislation on maritime zones

The delimitation of marine areas under national jurisdiction is governed by Law 34/2006 of 28 July 2006²³⁹, which repeals the previous regime (Law 2080 of 21 March 1956 and Law 33/77 of 28 May). Its provisions are to be interpreted in line with the principles and rules of UNCLOS (Article 3).

Portugal has jurisdiction over its internal waters, territorial sea, contiguous zone, EEZ and continental shelf (Article 2), regarding which the following limits are set:

- the outer limit of the territorial sea is a line connecting points 12 nautical miles from the nearest point on the baseline (Article 6);
- the outer limit of the contiguous zone is a line connecting points 24 nautical miles from the nearest point on the baseline (Article 7);
- the outer limit of the EEZ is a line connecting points 200 nautical miles from the nearest point on the baseline (Article 8) and is divided in the following sub-areas: Mainland, Madeira and Azores;
- the outer limit of the continental shelf is a line connecting points along the limits of the continental margin or points 200 nautical miles from the nearest points on the baseline, whichever is further (Article 9).

The geographic coordinates of these limits will be added to official charts under a regulation that has yet to be approved which will be deposited with the secretary general of the United Nations (Article 12). Until then, Articles 3, 4, 5 and 6 (and annexes) of Law-Decree 119/78, of 1 June 1978²⁴⁰, which establishes the external limits of the EEZ and its sub-areas, remains in force. Except when otherwise provided by international law or custom the maritime borders with states facing or adjacent to the Portuguese coast will be delineated along an equidistant line (Article 10, Law 34/2006) which is defined as *a line connecting points at equal distance from the points of the baselines of each State* (Article 4 (c), Law 34/2006).

In line with Article 55 of the UNCLOS the Portuguese EEZ is an area beyond and adjacent to the territorial sea. It is one of the largest EEZ in Europe covering more than 1,700,000 km² (more than 18 times the country's terrestrial area)²⁴¹.

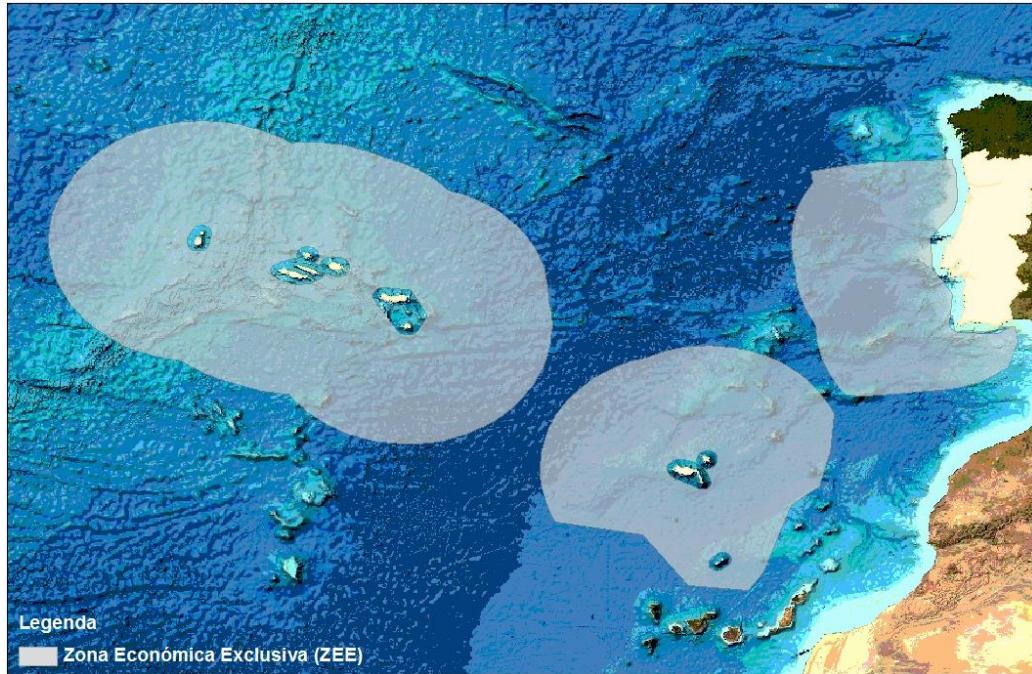
²³⁹ Law 34/2006 of 28 July 2006 defines the limits of the marine areas under national jurisdiction <http://dre.pt/pdf1sdip/2006/07/14500/53745376.pdf>

²⁴⁰ Law Decree 119/78 of 1 June 1978, defines the EEZ and establishes its respective limits <http://dre.pt/pdf1sdip/1978/06/12500/09840988.pdf>

²⁴¹ DG MARE - EU Maritime Policy Facts and Figures http://www.eurocean.org/np4/file/321/portugal_en.pdf
Main land 327,667 km², Azores Islands 953,633 km², Madeira Islands 446,108 km². Total: 1,727,408 km²

Figure 1

The Portuguese EEZ²⁴²



The authority of the Portuguese State over the sea areas under its jurisdiction and the high seas is exercised by the National Maritime Authority (see above) the navy and the air force (Article 14, Law 34/2006).

The recently adopted Framework of the National Maritime Space Planning and Management Policy²⁴³ defines the planning and management instruments of the maritime zones with the purpose of ensuring their proper organization and use towards the promotion of a sustainable development. The National Ocean Strategy (see below) is the main strategic planning instrument.

Administrative offences for the pollution of the marine environment in the maritime areas under national jurisdiction are established by Law Decree 235/2000 of 26 September 2000²⁴⁴ which classifies the following as constituting offences (Article 4): any discharge or spillage of pollutants likely to cause changes to the natural characteristics of the marine environment as well as all the unauthorised operations; the direct or indirect introduction in the marine environment of deposit of substances, organisms or energy which contribute to the environmental degradation (namely damaging natural living resources or other activities developed under the law).

Extended Continental Shelf submission

On 11 May 2009, Portugal submitted to the CLCS information regarding the limits of the continental shelf beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured, pursuant to Article 76 (8) and Annex II of UNCLOS²⁴⁵. The outer limits of the Portuguese extended continental shelf are represented below.

²⁴² Portuguese Hydrographic Institute - <http://www.hidrografico.pt/download-gratuito.php>

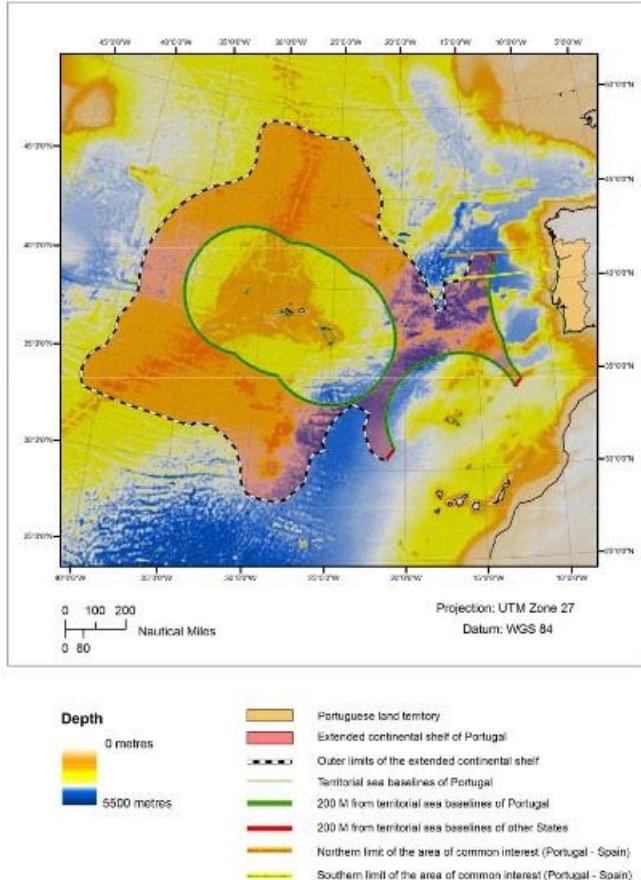
²⁴³ Law 17/2014 of 10 April 2014 establishes the framework of the National Maritime Space Planning and Management Policy <http://dre.pt/pdf1sdip/2014/04/07100/0235802362.pdf>

²⁴⁴ Law Decree 235/2000 of 26 September 2000, Establishes the administrative offences regime for the pollution of the marine environment in the maritime areas under national jurisdiction <http://dre.pt/pdf1sdip/2000/09/223A00/51345137.pdf>

²⁴⁵ http://www.un.org/depts/los/clcs_new/submissions_files/prt44_09/prt2009executivesummary.pdf

Figure 3

Map of the outer limits of the extended continental shelf of Portugal



The submission was made by the Task Group for the Extension of the Continental Shelf (*Estrutura de Missão para a Extensão da Plataforma Continental- EMEPC*)²⁴⁶ established by Council of Ministers Resolution 9/2005 of 17 January²⁴⁷ with the purpose of preparing the proposal as well as monitoring its evaluation process with the CLCS. Its mandate has been successively extended by Council of Ministers Resolutions 26/2006 of 14 March 2006, 55/2007 of 4 April 2007, 32/2009 of 16 April and 3/2011 of 12 January 2011 which, together with the Programme of the XVIII Constitutional Government (approved by Law Decree 7/2012 of 17 January), fix the term of EMEPC mandate to 31 December 2016.

The submission was presented to CLCS on 13 April 2010 by the head of EMEPC. The CLCS decided that it would be addressed by way of a sub-commission to be established in accordance with rule 51, paragraph 4 ter, of the rules of procedure of CLCS, at a future session²⁴⁸.

Portugal has since then been waiting for the setting up of the sub- commission²⁴⁹. According to EMEPC it is expected that this evaluation will be concluded in 2016.

If Portugal's application is approved, Portugal will extend the area of its continental shelf in more than 2 million km², which will represent the 11th most extensive area in the world.

This extension has great potential with regard to biodiversity and living, mineral and energy resources in the soil and subsoil. It also represents a considerable challenge with regard to their

²⁴⁶ <http://www.emepc.pt/>

²⁴⁷ Council of Ministers Resolution 9/2005 of 17 January 2005, creates the Task Group for the Extension of the Continental Shelf, as revoked by Council of Ministers Resolution 3/2011 of 12 January 2011
<http://dre.pt/pdf1sdip/2011/01/00800/0027100273.pdf>

²⁴⁸ <http://daccess-dds-ny.un.org/doc/UNDOC/GEN/N10/337/97/PDF/N1033797.pdf?OpenElement>

²⁴⁹ Statement by the Chairperson of the CLCS on the progress of work in the Commission - 30 April 2010.
http://www.un.org/Depts/los/clcs_new/commission_submissions.htm

protection and exploitation. Studies conducted so far with regard to mineral and energy resources in the deep continental shelf have demonstrated the existence of: (a) extensive areas of rich crusts and polymetallic nodules in manganese oxides and iron, with very high levels of nickel, cobalt and copper, and also platinum, cerium and tellurium in Madeira's national continental shelf (b) the presence of massive sulphide rich copper, lead and zinc with precious metals and applicable in high-tech industries, in particular the Azores's continental Shelf²⁵⁰. The seafloor around the Azores Archipelago is identified has providing an ideal location as a deep-sea mining test facility in European waters where several studies have been conducted²⁵¹.

14.2 Legislation on deep-sea mining in areas under national jurisdiction

The recently adopted National Ocean Strategy (2013-2020) demonstrates the political commitment with regard to the sustainable deep-sea mining.

The Portuguese Constitution²⁵² establishes that the mineral deposits belong to the public domain (Article 84 (1) c), CRP) which includes ore deposits (including all metallic and radio- active ores, coal, graphite, pyrites, phosphates, asbestos, talcum, kaolin, diatomite, quartz, feldspar, precious and semi-precious stones, potassium salts and rock-salt); hydro-mineral resources (natural mineral waters and mineral-industrial waters); and geothermal resources.

The Portuguese legal regime for research and exploitation of geological resources was entirely reviewed in 1990 with the entry into force of Law Decree 90/90 from 16 March²⁵³, which applies to the State and privately owned geological resources (Article 1(2)). It is regulated by six other Acts, published on the same date, specific to each type of geological resources:

- Ore deposits - Law Decree 88/90²⁵⁴;
- Hydro-mineral resources (mineral and industrial waters) - Law-Decrees 86/90 and 85/90²⁵⁵;
- Geothermal resources - Law Decree 87/90²⁵⁶;
- Mineral masses or quarries - Law Decree 270/2001²⁵⁷;
- Spring waters - Law-Decree 84/90²⁵⁸.

With regard to the mineral resources belonging to the public domain (ore deposits, hydro-mineral and geothermal resources) the following rights may be constituted through administrative contracts²⁵⁹ (Article 9, DL 90/90):

²⁵⁰ Studies such as *Searching mineral resources in the ocean domain- The Portuguese case study* identify the potential but conclude that more research is required
<https://www.fc.ul.pt/sites/default/files/fcul/public/Pedro%20Madureira%20-%20Castle%20Meeting.pdf>

²⁵¹ Innovative Mining of Marine Mineral Resources – A European Pilot Mining Test in the Atlantic on Tools, Facilities, Operations and Concepts
<https://ec.europa.eu/eip/raw-materials/en/content/innovative-mining-marine-mineral-resources-%E2%80%93-european-pilot-mining-test-atlantic-tools>

²⁵² Constitutional Law 1/2005 of 12 August (7th Amendment) English version:
http://app.parlamento.pt/site_antigo/ingles/cons_leg/Constitution_VII_revisao_definitive.pdf

²⁵³ Law Decree 90/90 of 16 March 1990 on research and exploitation of geological resources
<http://dre.pt/pdf1sdip/1990/03/06300/12961304.pdf>

²⁵⁴ Law Decree 88/90 of 16 March 1990 on ore deposits
<http://dre.pt/pdf1sdip/1990/03/06300/12731286.pdf>

²⁵⁵ Law Decree 86/90 of 16 March 1990, on the regulation for mineral waters
<http://dre.pt/pdf1sdip/1990/03/06300/12541264.pdf>

Law Decree 85/90 of 16 March 1990 on the regulation for mineral-industrial waters
<http://dre.pt/pdf1sdip/1990/03/06300/12441254.pdf>

²⁵⁶ Law Decree 87/90 of 16 March 1990, on the regulation for geothermal resources
<http://dre.pt/pdf1sdip/1990/03/06300/12641273.pdf>

²⁵⁷ Law Decree 270/2001 of 6 October 2001, which repeals Law Decree 89/90 of 16 March 1990, on the regulation for mineral masses or quarries
<http://dre.pt/pdf1sdip/2001/10/232A00/63476367.pdf>

²⁵⁸ Law Decree 84/90 of 16 March 1990, on the regulation for exploration of spring waters
<http://dre.pt/pdf1sdip/1990/03/06300/12421244.pdf>

²⁵⁹ The exploitation of the mineral masses and spring waters, which do not belong to the public domain, require a license.

Prospecting and exploration, which allow the undertaking of operations to discover the resources and assess their characteristics, to determine whether they have economic value;
Exploration, which allow the exercise of subsequent activities of economic use of the resources.

Ore deposits are defined as 'all existing mineral occurrences in national territory and on the seabed of the EEZ, which due to their rarity, high value or importance for specific industrial application processes of the substances contained therein, are presented as having particular interest to the national economy' (Article 2(1), DL 90/90). The following are classified as ore deposits: usable minerals in obtaining metals contained therein, radioactive substances, carbon, graphite, pyrites, phosphates, asbestos, talc, kaolin, diatomite, barite, quartz, feldspar, gemstones and semiprecious (Article 3(1), DL 88/90).

A specific legal regime applying to deep-sea mining was adopted in the autonomous region of the Azores in 2012 - Regional Legislative Decree 21/2012/A of 9 May 2012²⁶⁰ which provides for the economic regulation of the geological resources in the adjacent seabed to the archipelago of Azores. It applies without prejudice to the legal regime of exploitation of mining resources in the Azores approved by Regional Legislative Decree 12/2007/A of 5 June²⁶¹ (Article 2 (2) a), DLR 21/2012/A).

The rationale for this regime is based on the fact that 'the ore deposits known to date concentrate on the adjacent seabed of Azores and the high economic potential of investment in the economic exploitation of the ocean floor which will pave the way for structural and strategic investments (...) on the geological resources located on the maritime territory of the Autonomous Region of the Azores, in particular those located beyond the territorial sea' (Preamble, DLR 21/2012/A).

DLR 21/2012/A contains a set of rules aligned with the scope and definitions of DL 90/90 (Article 1, 2 (1) and 3). It adapts the legal regime to the organic structure of the autonomous region establishing a correspondence between agencies, services and acts of the central government to the autonomous regional administration (Articles 4, 14, 15, 16 and 19) and the remaining provisions regulate the procedures for prospecting, exploring, exploiting, research and allocation of rights as well as occupation and expropriation of land.

In line with Article 133 a) of UNCLOS, DLR 21/2012/A defines marine mineral resources as all 'solid, liquid or gaseous mineral resources in situ on the seabed or the subsoil thereof, including polymetallic nodules and deposits of methane hydrates' (Article 3, q).

Marine mineral resources are, as such, a category of ore deposits. Polymetallic nodules and methane hydrates, which were not included in the category of ore-deposits (Article 3(1), of DL 88/90), are covered by DLR 21/2012/A, which excludes from its scope hydrocarbons, including natural gas and methane hydrates (Article 2 (1)).

Prospecting and research activities are defined as those aimed at the discovery and characterization of a geological feature until the revelation of its economic value (Article 3 m)) whereas exploitation is the subsequent activity aiming at the economic exploitation of a geological feature (Article 3, g)).

²⁶⁰ Regional Legislative Decree 21/2012/A of 9 May 2012 on the exploitation of mineral resources in the continental crust, known as geological resources, integrated or not in the public domain, of the terrestrial and marine territory of Azores <http://dre.pt/pdf1sdip/2012/05/09000/0244402450.pdf>

²⁶¹ Regional Legislative Decree 12/2007/A of 5 June 2007 on mining resources in Azores <http://dre.pt/pdf1sdip/2007/06/10800/37043724.pdf>

In line with the general principle established under Article 12 of DL 90/90, the use of geological resources requires their adequate protection, and without prejudice to the rules on Environmental Impact Assessment (EIA) and licensing, the applications for the operations of prospecting, research and exploitation shall contain the following elements (Article 5 (1), DLR 21/2012/A):

- The presentation of specific plans containing the measures for environmental protection and landscape restoration to be undertaken during and after the proposed work;
- The clarification of the objectives of the operations to be carried out, the disposal of the materials to be collected, and the assessments, studies and evaluations to be performed;
- The submission of a plan of reports describing the operation and its results minimum contents, frequency (minimum 1 year), deliverability and availability;
- A reasoned analysis of the costs of the operation and investment with a specific estimation of the costs and investments that will be made in the regional economy;
- A detailed analysis of costs and benefits resulting from the operation, indicating the economic, labour and tax advantages for the Azores, where they exist.

The process is subject to public consultation (Article 5 (3)) and the issuing of any licence or authorisation as well as the celebration of any contract is subject to the approval of the plans containing the measures for environmental protection and landscape restoration by the environmental regional administration (Article 5 (2)).

The rules on prospecting and research are defined in Chapter III which allows them to be undertaken by the State directly subject to an authorisation of the member of the Regional Government in charge of natural resources management which, with regard to the marine mineral resources, shall be taken together with the member of the Regional Government responsible for sea affairs (Article 6). The conclusion of contracts for prospecting and research between the Autonomous Region and the applicant is subject to a resolution of the Regional Government Council granting the applicant the right to inter alia carry out the work in the area, temporarily occupy it and obtain a concession for the exploitation of the resources (Article 8 (3) DLR 21/2012/A and Article 15, DL 90/90). On the other hand the applicant is required to initiate the work within three months of the conclusion of the contract (unless another period is agreed), to carry it out in accordance with the approved plan and to compensate third parties for any damages directly caused by the activity (Article 8 (3) DLR 21/2012/A and Article 16, DL 90/90).

The rules on exploitation are defined in Chapter IV of DLR 21/2012/A - this activity requires a concession contract to be celebrated by the Regional Government Council subject to a resolution of the Regional Government Council. The concession contract grants the supplier the right to exploit and market the resources and to use the water and other assets in the public domain (Article 10 (3) DLR 21/2012/A and Article 23, DL 90/90). Suppliers are also required to: initiate the work within three months and further required to comply with the hygiene and safety and environmental protection requirements, even when the concession terminated; make use of the resources, through appropriate technical standards and consistent with the public interest of better use of those goods; to submit, with the frequency to be defined by the contracting authority, the information regarding the knowledge of the resource; and to explore, whenever possible, the resources of the public domain to be revealed in the area demarcated with recognized economic value, provided that there is compatibility of operation (Article 10 (3) DLR 21/2012/A and Article 24, DL 90/90).

The protection of the mineral resources from the deep-sea is addressed in Article 17 of DLR 21/2012/A, which under its paragraph 1 establishes that the operation of geological resources is subject to UNCLOS, including the rules on mineral exploration that may be adopted by the ISA. It

further requires that the research and exploration of deep-sea mineral resources, including their exploitation, are subject to the rules and recommendations on the protection and conservation of the ecosystems and biological diversity of the maritime area established under Annex V to the OSPAR Convention (Article 17 (2)). A plan to prevent pollution of the marine environment previously approved by the competent department of the autonomous regional administration is required for all operations performed at sea (Article 17 (3) and its approval is a requirement for the issuing of a license or authorisation (Article 17 (4)).

In a recent decision, the Constitutional Court²⁶² ruled that DLR 21/2012/A is unconstitutional with regard to the marine mineral resources existent in the Portuguese maritime zone as its provisions violate paragraph 3 of Article 8 of the Statute of the Autonomous Region of the Azores²⁶³. Article 8 of the Azores Statute defines the competences of the region over the Portuguese maritime zones and specifically attributes, under its paragraph 2, to the region the power of issuing licences for the private use of resources belonging to the public domain namely the activity of mining. Paragraph 3 of Article 8 establishes that the remaining powers of the Portuguese State over the maritime zones under national sovereignty or jurisdiction adjacent to the Azores shall be shared with the region in accordance with national and international law except when the integrity or sovereignty of the State is at stake.

The Constitutional Court argues that Article 8 of the Statute is attributing some powers of management over the maritime zones to the autonomous region of Azores but it is not determining the rights over the maritime public domain. It therefore concludes that, with the exception of issuing licences for activities to be undertaken in the maritime zones, the autonomous region has to share the exercise of the remaining competences with the Central Government. The scope of DLR 21/2012/A is beyond the competence of the autonomous region of the Azores, which renders it unconstitutional.

As regards the institutional framework for the implementation of the legislation, the Maritime Authority System (*Sistema da Autoridade Marítima - SAM*) was established in 2002 as an intergovernmental framework for the protection and conservation of the marine resources integrating entities, bodies and central, regional or local services with coordination, executive, advisory or enforcement powers including representatives of the following Ministries²⁶⁴:

²⁶² Case law 315/2014 of 1 April 2014:

<http://www.tribunalconstitucional.pt/tc/acordaos/20140315.html>

²⁶³ Law 39/80 of 5 August 1980, approves the Political and Administrative Statute of the Azores Autonomous Region, as last amended and republished by Law 2/2009 of 12 January 2009
Consolidated Version

<http://dre.pt/pdf1sdip/2009/01/00700/0017200220.pdf>

²⁶⁴ Law Decree 43/2002 of 2 March 2002, defines the organisation and powers of the maritime authority system and creates the national maritime authority

<http://dre.pt/pdf1sdip/2002/03/052A00/17501752.pdf>

Law Decree 44/2002 of 2 March 2002, establishes the powers, structure and organization of the national maritime authority, within the maritime authority system, and creates the General Directorate of the Maritime Authority<http://dre.pt/pdf1sdip/2002/03/052A00/17521758.pdf>

Figure 2

Maritime Authority System



The authority of the Portuguese State over the sea areas under its jurisdiction and the high seas is exercised by the National Maritime Authority, the navy and the air force (see Law 34/2006 below).

The General Directorate for Energy and Geology (*Direcção Geral da Energia e Geologia - DGEG*)²⁶⁵, is the competent authority with regard to mineral resources and mining whose missions and attributions are defined under Law Decree 151/2012²⁶⁶ and the organisational structure is established by Order 194/2013²⁶⁷. Within DGEG the Services Directorate for Mines and Quarries (*Direcção de Serviços de Minas e Pedreiras - DSMP*) is responsible for the attributions of rights for prospecting and exploration of ore deposits and for supervising and monitoring the exercise of the operations covered by the contracts.

Applications for prospecting and exploration contracts shall be addressed to the Secretary of State for the Environment²⁶⁸ for decision, submitted to and processed by the DGEG through DSMP.

If so requested, DGEG may provide technical and administrative advice concerning the drawing up and submission of the applications, providing drafts and models, information concerning available areas or those licensed, and may allow consultation of technical documentation and maps in the archives.

The Regional Secretariat of Natural Resources²⁶⁹ is the competent authority with regard to the marine mineral resources in the Azores through the General Directorate for Sea Affairs (*Direcção Regional dos Assuntos do Mar - DRAM*).²⁷⁰

²⁶⁵ <http://www.dqeg.pt/>

²⁶⁶ Law Decree 151/2012 of 12 July 2012 creates the General Directorate for Energy and Geology (DGEG) <http://dre.pt/pdf1sdip/2012/07/13400/0364703649.pdf>

²⁶⁷ Order 194/2013 of 28 May 2013 approves the structure and functioning of the DGEG <http://dre.pt/pdf1sdip/2013/05/10200/0311803124.pdf>

²⁶⁸ <http://www.portugal.gov.pt/pt/os-ministerios/ministerio-do-ambiente-ordenamento-do-territorio-e-energia/conheca-a-equipa/secretaristas-de-estado/artur-trindade.aspx>

²⁶⁹ <http://www.azores.gov.pt/Portal/pt/entidades/srrn>

²⁷⁰ According to subparagraph (b) of Article 4 of DLR 21/2012/A and to Regulatory Regional Decree 11/2013/A of 2 August 2013 which approves the organic structure of Regional Secretariat of Natural Resources <http://dre.pt/pdf1sdip/2013/08/14800/0457404611.pdf>

During the elaboration of the present study the following entities were contacted: DGEG, DSMP, Regional Secretariat of Natural Resources, DRAM and Regional General Directorate of Energy. Annex II provides their contacts and information made available.

14.3 Legislation on deep-sea mining in the Area

Portugal does not have a legal regime governing deep-sea mining in the Area that is, the seabed and ocean floor and subsoil thereof beyond the limits of national jurisdiction.

With regard to deep-sea mining in the Area, during the elaboration of DLR 21/2012/A the autonomous region of the Azores consulted ISA, 'which has so far not established clear guidelines on deep-sea mining that can be adapted to the context of Azores. Since this activity is still considered "far from maturity", the only rules known are those established by the International Marine Minerals Society (IMMS) which were submitted to ISA in April 2010' (Preamble, DLR 21/2012/A).

14.4 Environmental protection legislation of potential relevance to deep-sea mining

Mining operations are subject to a mandatory EIA for all operations located in a protected area. Moreover a mandatory EIA is required for the extraction of minerals by marine or fluvial dredging including inters superior do 1 ha or 150 000 t/year (Annex II (2 c)), according to Article 1 paragraph 3 (b) of DL 151-B/2013 of 21 October as amended by Law-Decree 47/2014 of 24 March²⁷¹ which transposes into national law Directive 2011/92/EU of the European Parliament and of the Council of 13 December 2011 on the assessment of the effects of certain public and private projects on the environment. It does not require EIA for deep-sea mining.

The extraction of minerals from deep-sea is however subject to a mandatory EIA, irrespectively of their dimension, under Annex II (6) of Regional Legislative Decree 30/2010/A²⁷², which adapts the legal regime for EIA to the autonomous region of the Azores (Article 16 (1) c)). An EIA is required for 'the extraction from deep-sea of minerals and rocks, including sands and sludge and methane hydrates, irrespectively of the method or technology with the exception of the extraction of dredged inert landfill for construction up to 3 nautical miles'.

The operations of releasing mineral waste overboard and discarding the water used in the elevation of mineral materials or in their processing require the granting of a special authorisation after evaluation of the environmental impact of the operations (Article 17 (5), DLR 21/2012/A).

The legal regime of biodiversity and nature conservation was approved by Law-Decree 142/2008²⁷³ which establishes the National Network of Protected Areas (*Rede Nacional de Áreas Protegidas-RNAP*).²⁷⁴

The RNAP is constituted by the protected areas classified as such under DL 142/2008 'which includes terrestrial, inland water and maritime areas where the biological diversity or other natural

²⁷¹ Law Decree 151-B/2013 of 31 October 2013, establishes the legal regime for EIA of the public and private projects likely to have significant effects on the environment as amended by Law Decree 47/2014 of 24 March 2014
<http://dre.pt/pdf1sdip/2013/10/21102/0000600031.pdf>
<http://dre.pt/pdf1sdip/2014/03/05800/0216102163.pdf>

²⁷² Regional Legislative Decree 30/2010/A of 15 November 2010, establishes the legal regime for environmental impact assessment and licensing to the autonomous region of the Azores
<http://dre.pt/pdf1sdip/2010/11/22100/0511805183.pdf>

²⁷³ Law Decree 142/2008 of 24 July 2008 establishes the legal regime of biodiversity and nature conservation rectified by Declaration of rectification 53-A/2008, of 22 September <http://dre.pt/pdf1sdip/2008/07/14200/0459604611.pdf>

²⁷⁴ <http://www.icnf.pt/portal/naturaclas/ap/map>

occurrences present, due to its rarity, scientific, ecological, social or scenic value a special relevance which requires the adoption of specific conservation and management measures in order to promote their rational management and the enhancement of the natural and cultural heritage' (Article 10 (1) and (2)). The aim is to grant them with a legal status of protection adequate for the maintenance of the biodiversity and ecosystems (Article 12). The National Network of Marine Protected Areas (MPAs) is composed by protected areas the limits of which are under national jurisdiction and the "marine reserves" and "marine parks" (Articles 10 (4), 17 and 18).

The classification of protected areas nationwide may be proposed by the national authority (Institute for the Conservation of Nature and Forests - ICNF²⁷⁵) or by any public or private entities and are subject to ICNF's technical assessment whereas regional or local protected areas can be classified as such by municipalities or associations of municipalities, subject to the conditions and terms set out in Article 14 and Article 15 of DL 142/2008.

Portugal has nominated 12 MPAs to OSPAR. 4 of the areas however are encompassed by the Portuguese submission to the UN CLCS on the outer limits of its extended continental shelf, (see above) and have therefore been assigned to the category "High Seas/ Areas beyond National Jurisdiction". These areas, collectively covering 119,900 km², have not yet been correlated to Portugal in the statistical analysis of the OSPAR Network of MPAs. One area (Rainbow Hydrothermal Vent Field, 22 km²), although subject to a submission of Portugal to the UN CLCS, has been nominated by Portugal as an OSPAR MPA and thus is assigned to Portugal²⁷⁶.

The legal regime of the measures to achieve the good environmental status of the marine environment by 2020, has been adopted in 2010 and subsequently reviewed in 2012 and 2013 transposing into national Law the Marine Strategy Framework Directive (Directive 2008/56/EC)²⁷⁷. Protected Areas are defined as those classified as such by DL 142/2008 or by European or international agreements to which Portugal is a Party (Article 3 (b)). It applies to the MPAs located on the continental shelf beyond 200 nautical miles, as recognized under the OSPAR Convention or other international organizations of which the Portuguese State is a member (Article 17-A). The selective extraction e.g. exploration and exploitation of living and non-living resources on seabed and subsoil, are listed under the pressures and impacts of Annex I which are relevant to: the assessment of the marine water (Article 8 (1) which transposes Article 8 of Directive 2008/56/EC); the determination of good environmental status (Article 9 (2) which transposes Article 9 of Directive 2008/56/EC); the establishment of environmental targets (Article 10 (1) a) which transposes Article 10 of Directive 2008/56/EC); the establishment of monitoring programmes (Article 11 (1) which transposes Article 11 of Directive 2008/56/EC). The Portuguese report relating to the implementation of Articles 8, 9 and 10 of the Directive is presently being evaluated by the European Commission.

Law Decree 140/99 of 24 April 1999, reviews the transposition into national law of Directive 79/409/EEC of 2 April 1979 on the conservation of wild birds and Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora.²⁷⁸

It provides for the establishment of Special Protected Areas (SPAs) for birds listed under its Annex A-I and for the establishment of Special Areas of Conservations (SACs) for the habitats or species

²⁷⁵ <http://www.icnf.pt/portal/icnf>

²⁷⁶ OSPAR Commission 2012 Status Report on the OSPAR Network of MPAS

http://www.ospar.org/documents/dbase/publications/p00618/p00618_2012_mpa_status_report.pdf

²⁷⁷ Law-Decree 108/2010, as amended by Law Decrees 201/2012 and 136/2013, establishes the legal regime of the measures to achieve the good environmental status of the marine environment by 2020 at the latest Consolidated Version: <http://dre.pt/pdf1sdip/2013/10/19300/0604006049.pdf>

²⁷⁸ Law Decree 140/99 of 24 April 1999, reviews the transposition into national law of Directive 79/409/EEC of 2 April 1979 on the conservation of wild birds and Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora revoking previous legislation
<http://dre.pt/pdf1sdip/2005/02/039A00/16701708.pdf>

listed under its Annex B-I, which comprise Natura 2000 Network (Article 4). Annex B-III defines the criteria for selecting sites eligible for identification as Sites of Community Importance (SCIs) and designation as SPAs.

Portugal has a total of 59 SPAS of which 10 are marine (terrestrial SPA area - 9,816 km²; marine SPA area 622 km²)²⁷⁹ and 96 SCIs of which 25 are marine (terrestrial SCI area 16,013 Km²; marine SCI area 775 Km²)²⁸⁰.

14.5 Draft legislation/policy proposals relevant to deep-sea mining

The strategic importance of deep-sea mining is highlighted in the National Strategy for Geologic Resources - Mineral Resources (ENRG -RM)²⁸¹, which for the period 2012-2020 identifies, as a priority, the review of the legal framework for the exploitation of the marine mineral resources.

The National Strategy for the Integrated Costal Zone Management²⁸² highlights the importance of the costal areas for the geothermal resources, in particular ore deposits, and recommends an integrated management of the costal mineral resources.

The National Ocean Strategy (2013-2020)²⁸³ recently adopted, is aligned with the EU Blue Growth Strategy and its five strategic areas. The potential of exploitation of the marine mineral resources is highlighted: 'subject to confirmation through research studies and prospection, the geological context of the national maritime space is favourable to the occurrence of mineral deposits with substantial economic value, particularly in geological structures of Middle-Atlantic ridge, near the Azores, in the Madeira-Tore Crest and along the adjacent platform that extends from Madeira to the west coast of Portugal'. According to the Strategy this high potential of development will requires due consideration for the sustainable exploitation of the ocean.

List of legislation reviewed

1. Law Decree 88/90 of 16 March 1990 on ore deposits, Decreto-Lei n.^o 88/90, de 16 de Março, Aprova o regulamento de depósitos minerais, Diário da República n.^o 63, Série I de 16 de Março de 1990, <http://dre.pt/pdf1sdip/1990/03/06300/12731286.pdf>
2. Law Decree 90/90 of 16 March 1990 on research and exploitation of geological resources, Decreto-Lei n.^o 90/90, de 16 de Março, *Disciplina o regime geral de revelação e aproveitamento dos recursos geológicos*, Diário da República n.^o 63, Série I de 16 de Março de 1990, <http://dre.pt/pdf1sdip/1990/03/06300/12961304.pdf>
3. Law Decree 270/2001 of 6 October 2001 on research and exploration of minerals, as as last amended by Law Decree 340/2007 of 12 October 2007 rectified by Declaration of Rectification 108/2007 of 11 December 2007 <http://dre.pt/pdf1sdip/2001/10/232A00/63476367.pdf> <http://dre.pt/pdf1sdip/2007/12/23800/0885708859.pdf>
4. Law Decree 43/2002 of 2 March 2002, defines the organisation and powers of the maritime authority system and creates the national maritime authority, Decreto-Lei n.^o 43/2002, de 2 de Março, Define a organização e atribuições do sistema da autoridade marítima e cria a

²⁷⁹ Natura 2000 barometer
<http://ec.europa.eu/environment/nature/natura2000/barometer/docs/spa.pdf>

²⁸⁰ Natura 2000 barometer
<http://ec.europa.eu/environment/nature/natura2000/barometer/docs/sci.pdf>

²⁸¹ Council of Ministers Resolution 78/2012 of 11 November 2012, approves the National Strategy for Geologic Resources - Mineral Resources
<http://dre.pt/pdf1sdip/2012/09/17600/0518605194.pdf>

²⁸² Council of Ministers Resolution 82/2009, approves the National Strategy for the integrated costal zone management
<http://dre.pt/pdf1sdip/2009/09/17400/0605606088.pdf>

²⁸³ Council of Ministers Resolution 12/2014 of 12 February, adopts the National Ocean Strategy (2013-2020)
<https://dre.pt/pdf1sdip/2014/02/03000/0131001336.pdf>

autoridade marítima nacional, Diário da República n.º 52, Série I-A de 2 de Março de 2002
<http://dre.pt/pdf1sdip/2002/03/052A00/17501752.pdf>

5. Law Decree 44/2002 of 2 March 2002, establishes the powers, structure and organization of the national maritime authority, within the maritime authority system, and creates the General Directorate of the Maritime Authority, *Decreto-Lei n.º 44/2002. Estabelece, no âmbito do sistema da autoridade marítima, as atribuições, a estrutura e a organização da autoridade marítima nacional e cria a Direcção-Geral da Autoridade Marítima, Diário da República n.º 52, Série I-A de 2 de Março de 2002*<http://dre.pt/pdf1sdip/2002/03/052A00/17521758.pdf>
6. Council of Ministers Resolution 9/2005 of 17 January 2005, creates the Task Group for the Extension of the Continental Shelf, as revoked by Council of Ministers Resolution 3/2011 of 12 January 2011, *Resolução do Conselho de Ministros n.º 9/2005, de 17 de Janeiro, Cria uma estrutura de missão denominada «Estrutura de Missão para a Extensão da Plataforma Continental»*, Diário da República n.º 11, Série I-B de 17 de Janeiro de 2005, <https://dre.pt/pdf1sdip/2005/01/011B00/02830284.pdf>, revogada pela Resolução do Conselho de Ministros n.º 3/2011, de 12 de Janeiro, Diário da República n.º 8, Série I de 12 de Janeiro de 2011, <http://dre.pt/pdf1sdip/2011/01/00800/0027100273.pdf>
7. Council of Ministers Resolution 82/2009 of 8 September 2009 approves the National Strategy for the integrated costal zone management, *Resolução do Conselho de Ministros 82/2009, de 8 de Setembro, Aprova a Estratégia Nacional para a Gestão Integrada da Zona Costeira*, Diário da República n.º 174, Série I de 8 de Setembro de 2009<http://dre.pt/pdf1sdip/2009/09/17400/0605606088.pdf>
8. Regional Legislative Decree 21/2012/A of 9 May 2012 on the exploitation of mineral resources in the continental crust, known as geological resources, integrated or not in the public domain, of the terrestrial and marine territory of Azores, *Decreto Legislativo Regional n.º 21/2012/A, de 9 de Maio, Estabelece o regime jurídico de revelação e aproveitamento de bens naturais existentes na crosta terrestre, genericamente designados por recursos geológicos, integrados ou não no domínio público, do território terrestre e marinho da Região Autónoma dos Açores*, Diário da República n.º 90, Série I de 9 de Maio de 2012 <http://dre.pt/pdf1sdip/2012/05/09000/0244402450.pdf>
9. Law Decree 151/2012 of 12 July 2012 approves the Organic Structure of the General Directorate for Energy and Geology (DGEG), Decreto-Lei n.º 151/2012, de 12 de Julho, Aprova a orgânica da Direção-Geral de Energia e Geologia, Diário da República n.º 134, Série I de 12 de Julho de 2012 <http://dre.pt/pdf1sdip/2012/07/13400/0364703649.pdf>
10. Council of Ministers Resolution 78/2012 of 11 November 2012 approves the National Strategy for Geologic and Mineral Resources (ENRG -RM), *Resolução do Conselho de Ministros n.º 78/2012, de 11 de Novembro, Aprova a Estratégia Nacional para os Recursos Geológicos - Recursos Minerais*, Diário da República n.º 176, Série I de 11 de Novembro de 2012 <http://dre.pt/pdf1sdip/2012/09/17600/0518605194.pdf>
11. Directorate for Energy and Geology (DGEG), Portaria n.º 194/2013, de 28 de Maio, Fixa a estrutura nuclear da Direção-Geral de Energia e Geologia, Diário da República n.º 102, Série I de 28 de Maio de 2013
<http://dre.pt/pdf1sdip/2013/05/10200/0311803124.pdf>
12. Council of Ministers Resolution 12/2014 of 12 February, adopts the National Ocean Strategy (2013-2020), *Resolução 12/2014 de 12 de Fevereiro Adopta a Estratégia Nacional para o Mar (2013-202)*, Diário da República, n.º 30, Serie I, de 12 de Fevereiro de 2014 , <https://dre.pt/pdf1sdip/2014/02/03000/0131001336.pdf>
13. Law 17/2014 of 10 April 2014, establishes the framework of the National Maritime Space Planning and Management Policy, Lei n.º 17/2014, de 10 de Abril, Estabelece as Bases da Política de Ordenamento e de Gestão do Espaço Marítimo Nacional, Diário da República n.º 71, Série I de 10 de Abril de 2014
<http://dre.pt/pdf1sdip/2014/04/07100/0235802362.pdf>

14. Law Decree 119/78 of 1 June 1978, defines the EEZ and establishes its respective limits, Decreto-Lei n.º 119/78, de 1 de Junho de 1978, Define «zona económica exclusiva» e fixa os seus limites, Diário da República n.º 125, Série I, de 1 de Junho de 1978, <http://dre.pt/pdf1sdip/1978/06/12500/09840988.pdf>
15. Law Decree 140/99 of 24 April 1999, reviews transposition into national law of Directive 79/409/EEC of 2 April 1979 on the conservation of wild birds and Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora and revokes Law Decrees 75/91 of 14 February 1991, 224/93 of 18 June 1993 and 226/97 of 27 August 1997, as amended and republished by Law Decree 49/2005 of 24 February 2005, Decreto-Lei n.º 140/99, de 24 de Abril, Revê a transposição para a ordem jurídica interna da Directiva n.º 79/409/CEE, do Conselho, de 2 de Abril (relativa à conservação das aves selvagens), e da Directiva n.º 92/43/CEE, do Conselho, de 21 de Maio (relativa à preservação dos habitats naturais e da fauna e da flora selvagens). Revoga os Decretos-Leis n.os 75/91, de 14 de Fevereiro, 224/93, de 18 de Junho, e 226/97, de 27 de Agosto, Diário da República n.º 96, Série I-A de 24 de Abril de 1999, alterado e republicado pelo Decreto-Lei n.º 49/2005, de 24 de Fevereiro, Diário da República n.º 39, Série I-A de 24 de Fevereiro de 2005, Consolidated Version <http://dre.pt/pdf1sdip/2005/02/039A00/16701708.pdf>
16. Law Decree 235/2000 of 26 September 2000, establishes the administrative offences regime for the pollution of the marine environment in the maritime areas under national jurisdiction, Decreto-Lei n.º 235/2000, de 26 de Setembro, Estabelece o regime das contra-ordenações no âmbito da poluição do meio marinho nos espaços marítimos sob jurisdição nacional, Diário da República n.º 223, Série I-A de 26 de Setembro de 2000, <http://dre.pt/pdf1sdip/2000/09/223A00/51345137.pdf>
17. Law 34/2006 of 28 July 2006 is the main delimitating marine areas under national jurisdiction, Lei n.º 34/2006, de 28 de Julho, Determina a extensão das zonas marítimas sob soberania ou jurisdição nacional e os poderes que o Estado Português nelas exerce, bem como os poderes exercidos no alto mar, Diário da República n.º 145, Série I de 28 de Julho de 2006, <http://dre.pt/pdf1sdip/2006/07/14500/53745376.pdf>
18. Law Decree 142/2008 of 24 July 2008 establishes the legal regime of biodiversity and nature conservation Decreto-Lei n.º 142/2008, de 24 de Julho, Estabelece o regime jurídico da conservação da natureza e da biodiversidade, Diário da República n.º 142, Série I de 24 de Julho de 2008, rectificado pela Declaração de Rectificação n.º 53-A/2008, de 22 de Setembro Diário da República n.º 142, Série I, de 24 de Julho de 2008, <http://dre.pt/pdf1sdip/2008/07/14200/0459604611.pdf>
19. Law-Decree 108/2010 of 13 October 2010, as amended by Law Decrees 201/2012 and 136/2013, establishes the legal regime of the measures to achieve the good environmental status of the marine environment by 2020 at the latest Decreto-Lei n.º 108/2010, de 13 de Outubro, Estabelece o regime jurídico das medidas necessárias para garantir o bom estado ambiental do meio marinho até 2020, respondendo a Directiva n.º 2008/56/CE, do Parlamento Europeu e do Conselho, de 17 de Junho, Diário da República n.º 199, Série I de 13 de Outubro de 2010, <http://dre.pt/pdf1sdip/2010/10/19900/0446204472.pdf>, alterado pelo Decreto-Lei n.º 201/2012, de 27 de Agosto, Diário da República n.º 165, Série I de 27 de Agosto de 2012, e pelo Decreto-Lei n.º 136/2013, de 7 de Outubro, Diário da República n.º 193, Série I de 7 de Outubro de 2013
Consolidated Version: <http://dre.pt/pdf1sdip/2013/10/19300/0604006049.pdf>
20. Regional Legislative Decree 30/2010/A of 15 November 2010, Establishes the legal regime for environmental impact assessment and licensing to the autonomous region of the Azores, Decreto Legislativo Regional n.º 30/2010/A, Estabelece o regime jurídico da avaliação do impacte e do licenciamento ambiental, Diário da República n.º 221, Série I de 15 de Novembro de 2010
<http://dre.pt/pdf1sdip/2010/11/22100/0511805183.pdf>

21. Law Decree 151-B/2013 of 31 October 2013, establishes the legal regime of Environmental Impact Assessment (EIA) of the public and private projects likely to have significant effects on the environment transposing to national law Directive 2011/92/EU of the European Parliament and of the Council of 13 December 2011 on the assessment of the effects of certain public and private projects on the environment, as amended by Law Decree 47/2014 of 24 March 2014, *Decreto-Lei n.º 151-B/2013, de 31 de Outubro, Estabelece o regime jurídico da avaliação de impacte ambiental (AIA) dos projetos públicos e privados suscetíveis de produzirem efeitos significativos no ambiente, transpondo a Diretiva n.º 2011/92/UE, do Parlamento Europeu e do Conselho, de 13 de dezembro, relativa à avaliação dos efeitos de determinados projetos públicos e privados no ambiente, Diário da República n.º 211, 2.º Suplemento, Série I de 31 de Outubro de 2013, <http://dre.pt/pdf1sdip/2013/10/21102/0000600031.pdf>, alterado pelo Decreto-Lei n.º 47/2014, de 24 de Março, Diário da República n.º 58, Série I de 24 de Março de 2014, <http://dre.pt/pdf1sdip/2014/03/05800/0216102163.pdf>*

15 Spain

15.1 Legislation on maritime zones

According to article 132.2. of the 1978 Spanish Constitution the territorial sea, the natural resources found in the EEZ and in the continental shelf are public goods (property under public state domain).

To measure the width of the territorial sea, Spain uses a combination of the normal baseline provided by Article 5 of UNCLOS and of straight baselines provided in Article 7, although the predominant is the straight baselines. The Law which gave origin to that system is Ley 20/1967 de 8 de Abril sobre extensión de las aguas jurisdiccionales españolas a 12 millas, a efectos de pesca²⁸⁴ (Law 20/1967 of 8 April on the extension to 12 nautical miles of the Spanish jurisdictional waters for fisheries purposes) whose Article 2 establishes that the baselines from which the width of jurisdictional waters are measured are those defined by the low-water line along the coast although the Government might agree to use the straight baselines. This Law was developed through Real Decreto 2510/1977 de 5 de Agosto²⁸⁵ (Royal Decree 2510/1977, of 5 August on the trace of straight baselines developing Law 10/1967). This Royal Decree establishes 123 straight baselines of which 46 correspond to the two archipelagos, 29 in the Canary Islands and 17 in the Balearic Islands).

Internal waters resulting from the use of the straight baselines as provided by Article 8 of UNCLOS were first referred to by Ley 93/1962, de 24 de Diciembre, sobre sanciones a las infracciones que en materia de pesca cometan embarcaciones extranjeras en aguas españolas²⁸⁶ (Law 93/1962, of 24 December, on sanctions to fisheries infractions committed by foreign vessels in Spanish waters). Afterwards, its legal statute was defined by Ley 22/1988, de 28 de julio, de Costas²⁸⁷ (Law 22/1988, of 28 July, on Coasts) as part of the marine public domain.

In Spain, the total length of internal waters generated by the use of straight baselines is approximately of 14.394 km² of which 4.744 km² are located within the two archipelagos, corresponding 2.398 Km² to the Canary Islands²⁸⁸. On these internal waters the ten coastal Autonomous Communities (CC.AA-regions) out of the seventeen CC.AA in Spain, exercise exclusive powers on fisheries, shell fishing and aquaculture²⁸⁹. However powers of CC.AA in the territorial sea and internal waters in other affairs depends on the specific sector regulations. One example is the field of marine biodiversity protection, which is relevant for the establishment of MPAs and for the protection of marine species we are in front of an environmental competence provided for by Article 149.1.23 of the CE. It provides for the exclusive competence of the Spanish Central State to approve basic legislation for environmental protection without detriment to the competence of the Autonomous Communities to establish additional protection measures and develop the basic legislation. It is important to take into consideration that according to Article 36.1. of Ley 42/2007, de 13 de diciembre, del Patrimonio Natural y de la Biodiversidad²⁹⁰ (Law 22/2007, on Natural Heritage and Biodiversity) CC.AA are competent to declare and determine the

²⁸⁴ Published in the Spanish Official Journal (BOE) BOE núm. 86, of 11.04.1967. Available at: http://www.boe.es/diario_boe/txt.php?id=BOE-A-1967-5595

²⁸⁵ Real Decreto 2510/1977, de 5 de Agosto, sobre trazado de líneas de base recta en desarrollo de la Ley 20/1967, de 8 de abril, sobre extensiones de aguas jurisdiccionales españolas a 12 millas, a efectos de pesca (BOE núm. 234, de 30.10.1977)- , text available at: <http://www.boe.es/buscar/act.php?id=BOE-A-1977-23967>

²⁸⁶ This Law has been repealed. BOE núm. 310, de 27.12.1962.

²⁸⁷ BOE núm. 181, de 29.07.1988.

²⁸⁸ Suárez de Vivero, J.L.: El nuevo orden oceánico. Consecuencias territoriales. Sevilla, Junta de Andalucía, 1985.

²⁸⁹ Art. 148.1.11 CE and Ley 3/2001, de 26 de marzo, de Pesca Marítima del Estado (BOE núm. 75, de 28.03.2001)

²⁹⁰ BOE núm. 299, de 14.12.2009.

management system for MPA when the best available scientific evidence shows the ecological connectivity between the marine ecosystem and the terrestrial natural space protected.

The definition of the territorial sea and its width it is provided by *Ley 10/1977, de 4 de Enero, sobre el mar territorial*²⁹¹ (Law 10/1977, of 4 January, on the territorial sea, text available at: <https://www.boe.es/buscar/act.php?id=BOE-A-1977-465>). According to its Article 1 the Spanish State sovereignty extends to “the water column, the seabed and its subsoil and the resources of that sea as well as on its suprajacent air space”. Its width is of 12 nm from the normal or straight baselines and on those waters the right of innocent passage can be exercised²⁹².

The *Ley 15/1978 de 20 de marzo sobre Zona Económica*²⁹³ (Law 15/1978 of 20 March on the Exclusive Economic Zone- EEZ, text available at http://noticias.juridicas.com/base_datos/Admin/l15-1978.html) provides for the EEZ where the jurisdiction only falls on the natural resources in accordance with the provisions of UNCLOS: “(...) the Spanish State has sovereign rights for the exploration and exploitation over natural resources on the seabed and its subsoil and in the waters superjacent to the seabed”²⁹⁴.

The EEZ extends until 200 nautical miles from the baselines from which the breadth of the territorial sea is measured. In accordance with this Law, it corresponds to the Spanish State²⁹⁵:

- a) exclusive rights on the natural resources of the EEZ,
- b) the power to regulate the conservation, exploration and exploitation of those resources and for this purpose the marine environment shall be preserve,
- c) exclusive jurisdiction to enforce the applicable provisions,
- d) any other competence that the Government provides for in accordance with International Law.

Law 15/1978 only applies to Spanish peninsula and archipelagic marine areas of the Atlantic Ocean, including the *Mar Cantábrico*, and allows the Spanish Government to extend its application to other Spanish marine areas²⁹⁶. Following that faculty given to the Spanish Government, *Real Decreto 236/2013, de 5 de abril, por el que se establece la Zona Económica Exclusiva de España en el Mediterráneo noroccidental* (Royal Decree 236/2013, of 5 April, establishing a EEZ in the Northwestern Mediterranean, text available at: <http://www.boe.es/boe/dias/2013/04/17/pdfs/BOE-A-2013-4049.pdf>) was passed. According to this RD, the Spanish EEZ in the Northwestern Mediterranean extends from the exterior line of the territorial sea until a coordinates point I: 35° 57,46'N; L: 2° 5,31'W (datum W GS84), located in delay 173° (S 007 E) of Gata Cape and 46 nautical miles far from it, following towards east through the equidistant line with the coastal countries and drawn in accordance with International Law until the maritime border with France.

Before the approval of that Royal Decree, Spain had proclaimed a fisheries protection zone in the Mediterranean through *Real Decreto 1315/1997, de 1 de agosto, por el que se establece una zona de protección pesquera en el mar Mediterráneo* (Royal Decree 1315/1997, of 1 August, establishing a fisheries protection zone in the Mediterranean sea, text available at: http://noticias.juridicas.com/base_datos/Admin/rd1315-1997.html). That protection zone was delimited by a line towards South from Punta Negra-Cabo de Gata until 49 nautical miles continuing towards East following the equidistant line with the coastal countries until the maritime border with France.

²⁹¹ BOE núm. 7, de 8.01.1977.

²⁹² From the territorial sea up to a distance of 24 nautical miles the contiguous zone is found. (Art. 33 UNCLOS). Article 7.1. and the second additional provision of Ley 27/1992, de 24 de noviembre, de Puertos del Estado y de la Marina Mercante (Law 27/1992, of 24 November on State Ports and Merchant Marine) created a 24 miles contiguous zone.

²⁹³ BOE núm. 46, of 23.02.1978.

²⁹⁴ Art. 1.1., Ley 15/1978.

²⁹⁵ Art. 1.2., Ley 15/1978.

²⁹⁶ First final provision of Law 15/1078.

The Spanish legal order does not include a specific law on the continental shelf as it does for the territorial sea and the EEZ.

In 2006, Spain, France, Ireland and the United Kingdom in accordance with Article 76 (8) of UNCLOS jointly submitted to the CLCS to extend the outer limits of the continental shelf beyond 200 nautical miles from the baselines in respect of the Celtic Sea and Biscay Gulf²⁹⁷. The final recommendations were approved on 24 March 2009 (CLCS/62).

On 8 May 2009, the Spanish Council of Ministers approved an agreement acknowledging the submission of a verbal note submitted to the CLCS related to the widening of the continental shelf to the West of Canary Island beyond the 200 nautical miles from the coast baseline²⁹⁸. The submission took place on 11 May 2009 and would represent an extension of 206.000 Km². The Kingdom of Morocco rejected this proposal until an agreement is reached²⁹⁹.

Also on 11 May 2009, the Kingdom of Spain submitted to the CLCS information on the limits of the continental shelf beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured in respect of the area of Galicia³⁰⁰. Portugal also sent its comments on this submission³⁰¹.

In addition, Spain is signatory to two bilateral Conventions to delimitate the continental shelf: one with France of 1974 in the Viscay Gulf³⁰² and the other with Italy of 1974 between Balearic Island and Sardinia³⁰³.

15.2 Legislation on deep-sea mining in areas under national jurisdiction

Ley 22/1973, de 21 de julio, de Minas (Law 22/1973, of 21 July, on Mines³⁰⁴, consolidated text available at: <https://www.boe.es/buscar/act.php?id=BOE-A-1973-1018>) provides the legal regime for the exploration, investigation and exploitation of mineral deposits and of any other geological resource irrespective of its origin and physical state (Art. 1.1) in Spain. This Law establishes that all mines deposits of a natural origin and the rest of existing geological resources found in the Spanish territory, including the territorial sea and the continental shelf are public domain goods whose exploration, investigation and exploitation can be done directly by the Spanish State or can be transferred following the procedures and conditions provided in this Law and other applicable provisions in force (Art. 2.1).

Among those applicable provisions is *Real Decreto 2857/1978, de 25 de agosto, por el que se aprueba el Reglamento General para el régimen de la minería* (Royal Decree 2857/1978, of 25 August, approving the General Regulation for Mining Regime³⁰⁵- Regulation on Mining text available at: <http://www.boe.es/buscar/act.php?id=BOE-A-1978-29905>)

Article 1.1. of this Regulation provides for its scope of implementation establishing that exploration, investigation and exploitation activities and the benefits derived from all mines deposits and the rest

²⁹⁷ http://www.un.org/depts/los/clcs_new/submissions_files/submission_frbries.htm

²⁹⁸ http://www.un.org/depts/los/clcs_new/submissions_files/preliminary/esp_can_2009_preliminaryinfo.pdf

²⁹⁹ http://www.un.org/depts/los/clcs_new/submissions_files/preliminary/mar_re_esp2009e.pdf

³⁰⁰ http://www.un.org/depts/los/clcs_new/submissions_files/submission_esp_47_2009.htm

³⁰¹ http://www.un.org/depts/los/clcs_new/submissions_files/esp47_09/prt_re_esp2009.pdf

³⁰² Instrumento de Ratificación del Convenio entre España y Francia sobre Delimitación de Plataformas Continentales entre los dos Estados en el Golfo de Vizcaya (Golfo de Gascuña), París 29 January 1974 (BOE núm. 159, de 4.07.1975).

³⁰³ Instrumento de Ratificación del Convenio entre España e Italia sobre Delimitación de la Plataforma Continental entre los dos Estados, hecho 19 February 1974 (BOE núm. 290, of 5.12.1978).

³⁰⁴ This Law has been subject to different amendments, the last in 2010.

³⁰⁵ As the Law, the Regulation has been also subject to a series of ammendments, the last also in 2010.

of geological resources irrespective of its origin and physical state found in the national territory, including the territorial sea, the continental shelf and the seabed under Spanish jurisdiction or sovereignty according to Spanish Law and international conventions ratified by Spain, shall be regulated by the Law on Mines and this Regulation.

Therefore, the Spanish legal regime for deep-sea mining is the same as that regime provided for land-based mining. As a result, minerals found in the deep-seabed under Spanish jurisdiction or sovereignty are public goods or goods under public domain whose exploration and exploitation are subject to Public Law or Administrative Law. Exploration and exploitation of goods under public domain are mainly subject to administrative authorizations and concessions.

The Law on Mines divides the types of mines deposits and other geological resources into the following kinds called sections (Art. 3, Law on Mines and Art. 5 Regulation on Mining):

- i. **Section A.-** Those of reduced economic value and restricted geographical commercialization, as well as those whose sole exploitation purpose is to obtain small fragments of appropriate shape for their direct use in public infrastructure and constructions works which only requires operations of initiation, weakening and calibration.
- ii. **Section B.-** Terrestrial and marine mineral and thermal waters , underground structures and deposits created as a consequence of the operations regulated by the Law on Mines.
- iii. **Section C.-** Those minerals and geological resources which are not included under sections A and B and which are subject to exploitation in accordance with this Law.
- iv. **Section D.-** Coals, radioactive minerals, geothermal resources, bituminous rocks and any other mineral deposits or geological resources of energy interest which the Government agrees to include in this section under the proposal of the Ministry of Industry, Energy and Tourism, after hearing the report of the Instituto Geológico y Minero de España (Spanish Geological and Mining Institute).

The Law on Mines and the Regulation on Mining stipulates the form and conditions under which these kind of mines deposits and geological resources can be explored and exploited by the State or transferred to a third party. The main legal regime for those activities requires:

- a) an “exploitation authorization” for Section A mineral deposits and resources.
- b) an “authorization” or an “exploitation (use) concession” for Section B mineral deposits and resources.
- c) an “exploration permit”, an “investigation permit” or “exploitation concession” for Section C and D mineral deposits and resources.

We will analyse the conditions and procedures to explore, investigate and exploit mineral deposits and resources, but before it is useful for a better understanding to identify the competent authorities and the role of the State in deep-sea mining.

The competent authority for issuing deep-sea mining authorizations, permits and concessions is DG for Energy Policy and Mining of the Ministry of Industry, Energy and Tourism (Art. 6, Regulation on Mining). The Deputy DG for Mines (<http://www.minegob.es/energia/mineria/Paginas/Index.aspx>) depends on this DG. In addition, this DG implements the Mining legal regime in Spain³⁰⁶.

The Instituto Geológico y Minero de España (IGME) is the principal Government mineral-resource agency and offers assistance in the fields of geology and mining to the private and public sectors through the production of maps and scientific publications (www.igme.es)

³⁰⁶ Article 3 of Real Decreto 344/2012, de 10 de febrero, por el que se desarrolla la estructura orgánica básica del Ministerio de Industria, Energía y Turismo provides in detail the competences of this DG.

Following the procedures and conditions provided by the mining legislation, the Spanish State can establish **reserve zones** of any extension in the Spanish territory, including in the territorial sea and continental shelf in which the exploitation-use of any or several mineral deposits and the rest of geological resources of Sections A, B, C or D can have special interest for economic and social development and for national defence. The establishment of a reserve zone implies the consideration of the resource(s) found within that zone of national interests (public interest).

The reserve zones can be (Art. 8 of Law on Mines and Art. 10 of Regulation on Mining):

- a) Special, for one or several determined resources found in all terrestrial territory, territorial sea and continental shelf. This reserve must be declared by Decree for a period of five years.
- b) Provisional for the exploration and investigation in zones or areas defined by mining grids of all or any of their resources. The provisional reserve zones for exploration have one year validity and those for investigation have three years validity.
- c) Final for the exploitation of assessed resources found in concrete zones or areas of a provisional reserve.

The reserve of zones in favor of the State do not limit the rights acquired by the applicants or title holders of exploration, investigation permits or of concessions of direct or derived exploitation of resources under Sections C and D and of authorizations of exploitation of resources under Sections A and B before the inscription of the reserve zone proposal.

In the reserve zones exploration, investigation and exploitation operations can be developed depending on the existing level of knowledge about those zones. Those operations can be carried out by the State itself or by third parties. The procedures to carry out them are regulated by Law on Mines (Arts 13-15) and by Regulation on Mining (Arts. 13-26).

To exploit and use Section A mining resources found in lands under public domain and public use the mining legislation requires a previous "exploitation authorization" (Arts. 16-17 Law on Mines and 27-35 Regulation on Mining). Given that the deep-sea mining takes place in the continental shelf which is an area under public domain as we have seen, the exploitation of Section A mining resources found in the continental shelf requires such an authorization.

Resources under Section B are mineral waters which are divided into medicinal waters and industrial water, thermal waters, underground structures which are geological deposits of a natural origin as well as those artificially produced as a consequence of activities regulated in the Law on Mines when they allow the in-depth retention of any product or waste discharged or injected.

To obtain an authorization or concession to exploit mineral and thermal waters it is a condition *sine qua non* that the condition as mineral of those is declared by the Minister of Industry, Energy and Tourism and it is published in the BOE.

The Law on Mining provides that for granting an investigation permit and a direct concession for the exploitation of resources under Section C it is a *sine qua non* condition that the land on which the permits and concession are granted are clear³⁰⁷ and registrable. The availability to be registered under the Law on Mining means that has the minimum extension to be delimited. The procedures and conditions are provided for by Title V of the Law on Mining (Arts. 37-81) and by Title V of the Regulation on Mining (Arts. 56-104). It is important to take into consideration that conditions and procedures for exploration, investigation and exploitation of Section D resources are the same as those for Section C resources.

³⁰⁷ A clear land is that outside a perimeter of a State reserve zone or of the perimeters of a requested or granted exploration or investigation permit or of a requested or granted exploitation concession (Art. 56 Regulation on Mining).

The Ministry of Industry, Energy and Tourism can grant an **exploration permit** that confers upon the holders the following rights:

- a) the right to conduct studies and surveys in certain areas by applying techniques of any kind that do not substantially alter the configuration of the terrain, being able to extend this work in terms of earth works.
- b) priority during the validity of the request of investigation permission or direct exploration concessions on the terrain that, included in its perimeter, would be direct and registrable at the moment of presentation of exploration application.

The exploration permit will be granted for a period of one year, and can be extended, taking into consideration the context of geological area, one year at the most counting from the termination of initial time limit, if it had been requested extension one month before, at least, the expiration date.

The investigation permit grants the holder the rights to carry out this the studies and work aimed to highlight and define one or various resources of the Section C) within the delimited perimeter and during the validity of, and that, once it is defined by the accomplished investigation and it is demonstrated that is susceptible of rational use, confers the right of being granted the corresponding exploitation concession.

The investigation permit will be granted for the requested period, which cannot be longer than three years, can be extended by the same authorities who granted previously, up to maximum of three years.

The rights of exploitation of mineral resources of the Section C) will be granted by the State through mineral exploitation concession. The mineral exploitation concession will be granted for the period of thirty years, extendable for other two periods of the same time, up to the maximum of ninety years.

The granting of exploitation concession confers the holder the right to use all the resources of the Section C) that is included within his perimeter, except those which were previously reserved to the State.

As soon as the investigation demonstrates sufficiently the existence of a resource or resources of the Section C), and always within the validity of the period of the investigation permit, the holder can apply for the concession of exploitation on whole or part of terrain included in the perimeter of investigation.

15.3 Legislation on deep-sea mining in the Area

Spain does not currently have specific legislation in force governing deep-sea mining in the Area.

15.4 Environmental protection legislation of potential relevance to deep-sea mining

*Ley 21/2013, de 9 de diciembre, de evaluación ambiental*³⁰⁸ (Law 21/2013, of 9 December, on environmental assessment) has merged existing legislation on Environmental Impact Assessment and on Strategic Environmental Assessment³⁰⁹.

³⁰⁸ BOE núm. 26 of 11.12.2013. Text available at: http://www.boe.es/diario_boe/txt.php?id=BOE-A-2013-12913

³⁰⁹ Thus, this Law repealed Real Decreto Legislativo 1/2008, de 11 de enero, por el que se aprueba el texto refundido de la Ley de Evaluación de Impacto Ambiental de proyectos (Royal Legislative Decree 1/2008 of 11 January, approving the

Article 7 of Law on Environmental Assessment provides for the scope of EIA and establishes two kinds of EIA procedures: the ordinary EIA and the simplified EIA.

Projects subject to **ordinary EIA** procedure are:

- a) those listed in its Annex I as well as those which submitted as fragmented projects reach the thresholds of Annex I through the accumulation of magnitudes or dimensions of each of the projects under consideration.
- b) Those which are subject to simplified EIA- which are those listed in Annex II- when the environmental body on case by case basis decides so in the environmental impact report in accordance with criteria listed in Annex III. This is the screening procedure.
- c) Any modification of the characteristics of a project listed in Annex I or II when such a modification reaches by itself the thresholds provided in Annex I.

Projects subject to a **simplified EIA** procedure are:

- a) Projects listed in Annex II.
- b) Projects not included in Annex I or II which might, directly or indirectly, significantly affect to Natura 2000 protected sites.
- c) Any modification of the characteristics of an Annex I or II project different from the modifications listed in paragraph c) above which has already been authorized, executed or in execution process and that can have significant adverse effects on the environment. It is understood that this modification has a significant adverse effect on the environment when represents:
 1. A significant increase of emissions to the air.
 2. A significant increase of discharges to the water public domain or to offshore.
 3. A significant increase of waste generation.
 4. A significant increase of the use of natural resources
 5. An impact to Natura 2000 protected sites.
 6. A significant impact to cultural heritage.
- d) Fragmented projects which reach thresholds in Annex II through the accumulation of the magnitude or dimension of each of the projects under consideration.
- e) Projects in Annex I serving exclusively or mainly to develop or rehearse new methods or products when the time-expand of the project is not more than two years.

Thus, to check whether the scope of EIA under Spanish Law also covers deep-sea mining it is necessary to examine Annexes I and II of Law on Environmental Assessment.

Group 2 of Annex I covers extractive industries. It lists different kind of mining activities. Paragraph a) of that group contains a series of open sky mining projects which must be subject to EIA. Deep-sea mining is not an open sky activity. Paragraph b) lists subsoil mining projects carried out in exploitations in which a series of circumstances take place. These include:

1. That their paragenesis can, by oxidation, hydration or dissolution, produce acidic or alkaline waters leading to changes in pH or release metallic or non-metallic ions involving an alteration of the natural environment.
2. Exploiting radioactive minerals.

In addition, paragraph d) of group 2 refers to the projects consisting on the drilling for exploration, research and exploitation of hydrocarbons, CO₂ storage, gas storage and geothermal of medium and high enthalpy which require the use of hydraulic fracturing techniques. This section does not

consolidated text of Law on Environmental Impact Assessment), a 1988 Regulation on EIA and Ley 9/2006, de 28 de abril, sobre evaluación de los efectos de determinados planes y programas en el medio ambiente (Law 9/2006, of 28 April, on the assessment of the effects on the environment of certain plans and programmes).

include drilling research surveys aimed at making witness pre-drilling projects requiring the use of hydraulic fracturing techniques. It is worthwhile to emphasise that while drilling for exploration, research and exploitation of all those activities are included there is no such a requirement when the activity relates to deep-sea mining.

In all sections of this group 2 facilities and structures necessary for the extraction, processing, storage, use and transport of ore, stockpiles sterile, rafts, and power lines, water supply and treatment and new access roads are included.

Annex II includes projects which are subject to simplified EIA procedure although through this procedure it might be decided that they must be subject to an ordinary EIA procedure taking into consideration their impacts (see below). Among the projects listed in Annex II we found some which might relate to deep-sea mining:

Group 3. Drilling, dredging and other mining and industrial facilities. Paragraph a) of this group lists deep drillings with the exception of drillings for investigating the stability or the stratigraphy of the soil and subsoil, in particular those which might entail deep-sea mining are:

1. Geothermal Drilling of over 500 meters.

Point 4 lists oil and gas drilling for exploration or research purposes. Again only oil and gas drilling for exploration or research purposes are covered and not the drilling carried out for exploration or research for deep-sea mining.

Paragraph c) of this group lists those projects using marine seismic exploration. Paragraph d) lists the extraction of materials through marine drilling except when the purpose of the project is to keep hydrodynamic or navigational conditions. Finally, paragraph i) lists outdoors industrial installations for the extraction of coal, oil, natural gas, minerals and oil shale not included in Annex I.

In Spain, two kinds of administrative body participate in an EIA procedure³¹⁰ namely the EIA substantive body and the EIA environmental body.

The EIA substantive body is in charge of authorizing the project and to which the application for authorization must be submitted to. When the EIA substantive body is simultaneously the project developer it has to comply with all the obligations of a developer. In the case of deep-sea mining this may happen because, as described above, the mining legislation allows the State to reserve zones. The substantive body in the case of deep-sea mining will be the DG for Energy Policy and Mining.

The EIA environmental body is in charge of producing the Environmental Impact Statement. In the case of deep-sea mining the EIA environmental body is the Ministry of Agriculture, Food and Environment (MAFE), specifically DG for Environmental Assessment and Quality and Nature Protection.

15.4.1 *The ordinary EIA procedure*

The ordinary EIA procedure is regulated in Articles 33 to 44 of the Law on Environmental Assessment. It starts when the environmental body receives the complete file of the EIA. Before submitting to the environmental body that file, the substantive body which has received the authorization application has to carry out a consultation to interested administrations and persons and to the public. It may also request to the environmental body to prepare a document on the scope of the Environmental Impact Study when the developer asks for it.

³¹⁰ Article 9, Law on Environmental Assessment.

The developer has to submit an Environmental Impact Study whose main content is provided by Article 35 of the Law on Environmental Assessment. This EI Study in addition to the project itself must be subject to a public consultation period which cannot be less than 30 days and must be announced in the BOE. In addition, interested public administrations and persons must be consulted. Once the consultation phase is finished the substantive body will facilitate within 30 days the results of the consultations on which the developer can submit allegations. Then the developer must submit to the substantive body an application to initiate the EIA procedure, which must contain:

- a) The project technical document
- b) The EI Study
- c) The allegations and reports received from the public consultation and the consultations to interested administrations and persons
- d) The comments which the substantive body considers appropriate, if any.

Then, the substantive body submits that application to the environmental body which will analyze the documents and issue after that analysis the Environmental Impact Statement. This Statement can be positive or negative and must be published in the BOE. The Statement cannot be challenged through administrative review procedure or judicial review procedure until a final decision on the authorization of the project is reached. Therefore, when the authorization is challenged the Statement can be challenged.

15.4.2 *The simplified EIA procedure*

This procedure is regulated from Articles 45 to 48 of the Law on Environmental Assessment. The developer of the project must submit to the substantive body when submitting the authorization application a request to initiate a simplified EIA together with the following documents:

- a) The reasons why it is applying for a simplified EIA
- b) The definition, characteristics and location of the project.
- c) An explanation of the main studied alternatives and the main reasons of the submitted solutions taking into consideration its environmental impacts.
- d) An assessment of the foreseen direct and indirect cumulative and synergic effects on the population, the human health, flora and fauna, biodiversity, soil, air, water, climate change, landscape, material goods, including the cultural heritage and the interaction among those factors during the execution, exploitation phases including also during the demolition or abandoning of the project.
- e) If the project may affect directly or indirectly to Natura 2000 sites a section on the assessment of the effects on the site shall be included taking into consideration the conservation objectives of the site.
- f) The measures allowing to prevent, reduce or compensate and, as far as possible, to correct any relevant negative impact in the environment during the execution of the project.
- g) The manner to carry out a follow up which guarantees the compliance with protection and correction indications and measures contained in the environmental document (document listed under d)).

The substantive body submits those documents to the environmental body. The environmental body has to open a consultation period on the environmental document to interested administrations and interested persons. There is no public consultation open to the public in general. Then, three months after receiving the application for a simplified EIA and taking into consideration the consultation results, the environmental body has to issue an EI Report where it can resolve:

- a) The project must be subject to an ordinary EIA procedure for having a significant effect on the environment. In such a case, the developer must prepare an EI Study.
- b) The project has no significant effects on the environment in the terms stated in the EI Report.

The EI Report has to be published in the BOE which as in the case of the EI Statement cannot be challenged through administrative review and judicial review procedures until an authorization on the project is issued.

15.4.3 Environmental Legislation and Deep-sea Mining

The two most important pieces of legislation which might potentially apply to deep-sea mining are:

- Ley 41/2010, de 29 de diciembre, de Protección del Medio Marino³¹¹ (Law 41/2010, of 29 December, on the Protection of the Marine Environment) which transposed Directive 2008/56/EC of the European Parliament and of the Council of 17 June 2008 establishing a framework for community action in the field of marine environmental policy (Marine Strategy Framework Directive) into Spanish Law, and
- Ley 42/2007, de 13 de diciembre, del Patrimonio Natural y de la Biodiversidad³¹² (Law 22/2007, on Natural Heritage and Biodiversity).

15.4.4 MPAs and other instruments to protect marine areas

The protection of a marine area is without doubt an issue to take into consideration by deep-sea mining operations. In accordance with Law 42/2007 on Natural Heritage and Biodiversity, the State through the MAFE and specifically the DG for the Sustainability of the Coast and the Sea³¹³ is competent in the field of conservation, sustainable use and improvement and restoration of the marine environment when³¹⁴:

- a) It deals with areas, habitats or critical areas located in marine zones under the sovereignty or jurisdiction of Spain, except in the case where there is ecological connectivity between the marine ecosystem and terrestrial area to be protected³¹⁵.
- b) It affects those species whose habitats are found in the areas previously referred to or to highly migratory species.
- c) In accordance with International Law, Spain has to manage areas located in the Straits subject to international law or the high seas.

According to Law 42/2007, a MPA can be designated through this specific category or through any other of the existing categories for the protection of natural areas (see below). Article 32 of Law 42/2007 provided the possibility to include MPAs in the Spanish Network of MPAs. The legal requirements and specifications for this Network have been established by Title III on "The MPAs Network and the conservation of marine species and habitats" of Law 41/2010.

According to Article 26.1 of Law 41/2010, it can be part of the Network of Spanish MPAs a series of protected sites the most relevant are:

- a) MPAs as provided in Article 32 of Law 42/2007
- b) SCAs and SPAs which are part of Natura 2000 Network.
- c) Other categories of protected sites as provided in article 29 of Law 42/2007³¹⁶.

³¹¹ BOE núm. 317, of 30.12.2010. Text available at : http://noticias.juridicas.com/base_datos/Admin/41-2010.11.html

³¹² BOE núm. 299, de 14.12.2009. Text available at: http://noticias.juridicas.com/base_datos/Admin/42-2007.html

³¹³ Art. 5. I) of Royal Decree 401/2012, of 17 February, developing the organic structure of the MAFE (BOE núm. 42, of 8.02.2012). According to paragraph k) of the same article this DG is also competent for the marine strategies, the Network of MPAs of Spain, habitats and species, and dumping in accordance with Law on the Protection of the Marine Environment.

³¹⁴ Art. 6 L 42/2007.

³¹⁵ Art. 36.1. L 42/2007.

- d) Protected sites under international conventions.
- e) Marine reserves provided in article 14 of Law 3/2001, of 26 of March, on Fisheries.

To protect MPAs and its natural values management plans and instruments are adopted. They must contain the necessary conservation measures and the appropriate limitation to the exploitation of resources (Art. 32.2 Law 42/2007). The establishment of MPAs under the competence of the State is done through Royal Decree (Art. 27.1 Law 41/2010).

The declaration establishing a National Park must contain the prohibitions and limitations to those uses and activities which alter or endanger the achievement of the objectives of the Park in the Network of National Parks (Art. 12.d) of Law 5/2007, of 3 April, on the National Parks Network, among other elements. For each National Park a Use and Management Plan must be adopted (Art. 17 Law 5/2007).

The exploitation of natural resources can be limited in Parks and those uses incompatible with the purpose which justified their establishment must be prohibited (Art. 30.3 Law 42/2007). A Use and Management Plan must be also adopted for Parks (Art. 30.5 Law 42/2007).

In Natural Reserves the exploitation of resources is limited except in those cases in which the exploitation is compatible with the conservation of the values to be protected. It is prohibited the collection of biological or geological material from natural reserves unless it is collected for research, conservation or educative purposes and in such a case an administrative authorization is required (Art. 31.2 Law 42/2007).

Previously to the establishment of Parks and Natural Reserves a Natural Resources Planning Document must be developed and approved (Art. 35.1 Law 42/2007).

In Natural Monuments the exploitation of resources is prohibited although it can be allowed for research, conservation or educative purposes and in such a case an administrative authorization is required (Art. 33.3 Law 42/2007).

In the statements establishing protected sites protected peripheral areas might be establish with the purpose of avoiding ecological or landscape impacts from outside. In such cases, the legal instrument creating the site shall establish the necessary limits (Art. 37 Law 42/2007).

The General Administration of the State through MAFE without prejudice to the competences falling within the remit of the Ministry of Foreign Affairs and Development³¹⁷ has the following functions in relation to the MPAs Network³¹⁸:

- a) Managing of MPAs under the competence of the State and ensuring its conservation and coordinating the Network of MPAs.
- b) Proposing to international organizations and European institutions the inclusion in international networks of those marine areas of the Spanish Network of MPAs which comply with the requirements provided for their respective protection categories.
- c) Declaring and managing SACs and SPAs in the marine environment, in those cases provided in Article 7 of Law 42/2007.
- d) Preparing together with the coastal CC.AA competent to declare and manage MPAs the proposal to establish minimum common criteria for a coordinated and coherent management of the Network of MPAs which shall be approved by the Environment Sectorial Conference as well as the Guiding Plan for the Network of MPAs.
- e) Carrying out the follow-up and assessment of the Network and of their common guidelines.

³¹⁶ At the State level these categories are: National park, Park, natural reserve, natural monument and protected landscape.

³¹⁷ These are the competences when the areas are under a category of protection being part of the Network are included in an international convention or in the EU legislation.

³¹⁸ Art.28, Law 41/2010.

- f) Fostering and proposing cooperation instruments to achieve the objectives of the Network of MPAs of Spain.
- g) Representing the Spanish Government at international networks of MPAs and establishing international cooperation mechanisms allowing the external promotion of the Spanish Network of MPAs.
- h) Adopting and implementing the Marine Species Plans for Recovery and Conservation included in the Spanish Catalogue of Threatened Species which are under the competence of the State in accordance with Law 42/2007.
- i) Adopting and implementing the Strategies and Plans for the conservation and restoration of marine habitats included in the Spanish Catalogue of Critically Endangered Habitats under the state competence according to Article 6 of Law 42/2007.
- j) Preparation of an annual memorandum providing a follow-up of the activities within the Network of MPAs and of triennial reports on the situation of that Network.

15.4.5 Other environmental aspects to take into consideration

It is important to recall the aim of the Marine Strategy Framework Directive (MSFD): to achieve the good environmental status of the EU's marine waters by 2020, and its main instrument to achieve it: the marine strategies. One of the descriptors of that status is sea-floor integrity. For this reason, the marine strategies prepared by Spain for the five Spanish marine subregions are documents to take into consideration³¹⁹. The five marine subregions are³²⁰:

- North Atlantic
- South Atlantic
- Gibraltar Strait and Alborán
- East-balearic
- Canary

Map of the Spanish marine subregions



In addition, Article 35 of Law 41/2010 establishes conditions and prohibitions to place matters in the seabed. It bans the deposit of matter and any other object when the purpose is its discharge and abandonment. It also bans the placement of vessels of any kind and of oil and gas platforms in the sea bed except when the purpose of placing a vessel is creating an artificial reef and counts with an

³¹⁹ Once the marine strategies are finalized they will be approved by the Government through a Royal Decree (Art. 15, Law 41/2010).

³²⁰ Art. 6.2, Law 41/2010.

authorization. To place and deposit of matters and any other substances on the seabed and its subsoil requires a project which shall be authorized by the competent administration after receiving a favorable report from MAFE with the purpose of determining its compatibility with the applicable marine strategy without prejudice to any other reports required by legislation in force. The authorization can be granted only in the case that the application justifies that the matters have been assessed following the applicable procedures in accordance to the legislation applicable to the nature of those matters or if none, with the criteria, guidances and appropriate procedures adopted by applicable marine conventions. The project shall include an assessment of the seabed where the placement or deposit will take place as well as of the impacts that it can have on the marine environment and the human activities in the sea. When the monitoring programmes or any marine environment follow-up shows that the deposited matter or substances in the seabed are provoking non-foreseen impacts or are not complying with its aims, the competent body to authorize its placement shall determine the corrective measures to apply or if needed shall order its withdrawal.

15.5 Draft legislation/policy proposals relevant to deep-sea mining

Taking into consideration that the object of marine strategies are to achieve good environmental status of marine waters, the existing draft legislation which will have to be considered in deep-sea mining operations is the amendment to *Ley 26/2007, de 23 de octubre, de Responsabilidad Medioambiental* (Law 26/2007, of 23 October, of Environmental Liability). This amendment will transpose into Spanish Law Article 38 of 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.

16 United Kingdom

16.1 Legislation on maritime zones

The breadth of the United Kingdom (UK) territorial sea, is 12 nm in accordance with the Territorial Sea Act 1987. Beyond the territorial sea, for many years the UK relied on its continental shelf claim in terms of offshore seabed activities such as oil and gas exploration in the North Sea and an ‘exclusive fishing zone’ as regards fisheries jurisdiction. The establishment of a UK EEZ is a relatively recent development.

Turning to the legislation, the Continental Shelf Act 1964, as amended, provides that

Any rights exercisable by the United Kingdom outside territorial waters with respect to the sea bed and subsoil and their natural resources, except so far as they are exercisable in relation to coal, are hereby vested in Her Majesty.

The establishment of an exclusive fishing zone was provided for in the Fishery Limits Act, 1976.

The legal basis for the establishment of the UK EEZ is contained in Part 2 of the Marine and Coastal Access Act, 2009 ('M&CA Act'). Section 41(3) of the M&CA Act provides for the designation in subordinate legislation of an EEZ in which the rights that may be claimed by the UK on the basis of Part V of UNCLOS, which is concerned with the EEZ, are to apply. This designation took place in 2013 on the basis of the Exclusive Economic Zone Order 2013, SI No. 3161 of 2013. For the purposes of the M&CA Act the UK territorial sea, EEZ and continental shelf, including the bed and subsoil of the sea in those areas, form the ‘UK marine area’.

16.2 Legislation on deep-sea mining in areas under national jurisdiction

Unlike the other EU countries considered in this study, the UK does not have a single comprehensive mining act. This is because with the exception of coal, gold and silver, the Crown (in other words the state) does not own mineral rights in the UK. Instead minerals, and thus the mining rights relating to them, are generally held in private ownership based on land tenure rights. Coal is subject to a specific legislative regime, while the rights to gold and silver are held by the Crown. The effect of the Continental Shelf Act 1964, mentioned in the previous section, was to vest ownership of oil and gas as well as minerals on or below the continental shelf in the Crown.

The potential for deep-sea mining in the UK marine area is probably limited. If it were to take place in the maritime areas off England and Wales it would be a licensable activity under section 66(1)(b) of the M&CA Act and therefore subject to the marine licensing regime contained in Part 4 of the act.

The M&CA Act, which is implemented by a special body set up under the act called the ‘Marine Management Organisation’ (MMO) is to create a new and comprehensive system of marine management for the UK marine area that *inter alia* includes a marine planning system, a comprehensive licensing system for marine activities and the designation of conservation zones.

In accordance with section 65(1) of the M&CA Act, no person may carry on a licensable activity except in accordance with a marine licence granted by the ‘appropriate licensing authority’. The list of licensable activities is set out in section 66(1) and includes the following:

To use a vehicle, vessel, aircraft, marine structure or floating container to remove any substance or object from the sea bed within the UK marine licensing area.

Subsequent provisions set out the procedures for licensing, including as regards the form and content of applications (section 67), the giving of notice of applications (section 68) and the determination of applications (69). Among the factors to be taken into account by the decision maker are: (a) the need to protect the environment; (b) the need to protect human health; and (c) the need to prevent interference with legitimate uses of the sea, and such other matters as the decision maker considers relevant. Any licences that are granted must be subject to conditions that specify how the activity is to be undertaken and in any event a licence may not be granted to carry on an activity that is contrary to international law.

In other words the licensing regime potentially applicable to deep-sea mining in the UK marine area under the M&CA Act applies to a broad range of activities and does not refer to deep-sea mining in particular.

In Scotland a separate act applies in the form of the Marine (Scotland) Act 2010. Although the institutional arrangements for the implementation of the Scottish Act are different, it is implemented by the Scottish Government and not the MMO, its overall approach including as regards its potential application to deep-sea mining in the waters off Scotland is broadly similar to that of the M&CA Act.

16.3 Legislation on deep-sea mining in the Area

In contrast to deep-sea mining in the UK marine area, the issue of deep-sea mining in the Area is subject to specific legislation in the form of the Deep-sea Mining (Temporary Provisions) Act, 1981 (the '1981 Act') as recently amended by the Deep-sea Mining Act, 2014 (the '2014 Act').

The 1981 Act was enacted before the adoption of UNCLOS in 1982. Apart from setting out a licensing regime (for exploration licences and exploitation licences) for mining in the 'deep-sea bed', defined as that part of the sea bed beneath the high seas in respect of which sovereign rights over the natural resources there are not claimed by the UK or any other State ('sovereign power') a key function of the 1981 Act was to recognise a deep-sea mining licence over an areas of the deep-sea bed issued by another State with similar legislation, recognised by the UK as a 'reciprocating country', by: (a) ensuring that deep-sea mining licences are not issued for the UK in respect of such areas; and (b) to prohibit exploration or exploitation of the 'hard mineral resources' in that area. 'Hard mineral resources' were defined in section 1 of the 1981 Act to mean deposits of nodules containing manganese, nickel, cobalt, copper, phosphorous and molybendum.

The basic purpose of the 2014 Act is to expand the scope of the 1981 Act, which is to be cited as the 'Deep-sea Mining Act 1981', so that it applies to the other mineral resources of the Area and to ensure that companies seeking to exploit mineral resources of the deep-sea bed obtain licences from and are regulated through the ISA, in line with the legal framework for deep-sea mining in the Area created UNCLOS and the Part XI Implementation Agreement. To this end the 1981 Act, as amended, uses the language of the legal regime for deep-sea mining in the Area as well as ensuring that licences issued by the UK authorities give effect to contracts concluded by ISA with UK citizens and companies as well as contracts concluded between ISA and others.

16.4 Environmental protection legislation of potential relevance to deep-sea mining

When EU EIA legislation was first transposed into UK law, the approach taken was to link EIA into land use planning procedures under the Town and Country Planning Act. In outline the scope of that act was limited to land-based development meaning that offshore activities, such as those relating to oil and gas extraction were not subject to EIA. Following enforcement action taken by the EU in respect of this omission, regulations specific to the oil and gas sector and other specified offshore activities were adopted to ensure compliance with EU law.³²¹ In other words the UK regulations are very specific in terms of describing activities that are subject to EIA. Given that the EIA Directive does not explicitly refer to deep-sea mining it appears that there are currently no UK requirements for EIA in respect of this activity.

As regards the establishment of marine protected areas (MPAs), Part Five of the M&CA Act contains detailed provisions on the establishment of Marine Conservation Zones. A Marine Conservation Zone (MCZ) may be established in cases where this is desirable for the purpose of conserving: (a) marine flora or fauna; (b) marine habitats or types of marine habitat; (c) features of geological or geomorphological interest. MCZs must be managed in to achieve the conservation functions stated for that MCZ. To date considerable progress has been made in terms of establishing MCZs under the M&CA Act.³²²

16.5 Draft legislation/policy proposals relevant to deep-sea mining

Following the adoption of the 2014 Act there are currently no policy proposals relating to deep-sea mining, other than as regards the possible extension of the 1981 Act, as amended, the UK overseas territories (see below).

³²¹ In the form of the Offshore Petroleum Production and Pipe-lines (Assessment of Environmental Effects) Regulations 1999 and the Offshore Petroleum Production and Pipe-lines (Assessment of Environmental Effects) (Amendment) Regulations 2007.

³²² See <https://www.gov.uk/government/publications/marine-protected-areas-strategic-management-table>

17 UK overseas countries and territories

17.1 Legislation on maritime zones

The UK overseas territories (OTs) of relevance to this study are the following: Anguilla, Bermuda, the British Antarctic Territory, the British Indian Ocean Territory, the British Virgin Islands, the Cayman Islands, Falkland Islands, Montserrat, Pitcairn, Saint Helena and Dependencies, South Georgia and the South Sandwich Islands and the Turks and Caicos Islands. With the exception of the British Antarctic Territory, all of the other OTs are islands. Some of the OTs are very small and remote. Others such as Bermuda and the Cayman Islands are relatively wealthy. The potential for deep-sea mining in the waters adjacent to the OTs is variable. In some cases, such as the Falkland Islands and the Turks and Caicos Islands it seems unlikely. Elsewhere there may be potential for deep-sea mining.

In terms of possible deep-sea mining two of these OTs can be ruled out from further discussion at the outset. First, the British Antarctic Territory, which is uninhabited apart from scientists based at research stations, lies within the area subject to the Antarctic Treaty System, to which the UK is party. Deep-sea mining may not take place there. Second the maritime zones of the British Indian Ocean Territory have been declared a marine protected area and deep-sea mining is not foreseeable there either given its apparent conflict with the policy intention of this declaration, which was to ban commercial extractive activity in the Marine Protected Area.³²³ Moreover by reason of its harsh climate the possibility of deep-sea mining in the South Georgia and South Sandwich Islands seems remote.³²⁴

As regards all of the OTs, a common feature is that in most cases, the applicable legislation provides only for the delineation of the territorial sea and the establishment of exclusive fisheries zones rather than EEZs. This is because fisheries is the only power that many of the OTs have implemented domestically. Moreover many of the OTs have yet to delineate their maritime boundaries with neighboring countries.

Thus for example a 12 nm territorial sea has been claimed for Anguilla³²⁵, Bermuda³²⁶, the Cayman Islands,³²⁷ the Falkland Islands,³²⁸ the Turks and Caicos Islands³²⁹ on the basis of the Colonial Boundaries Act 1895.

Pitcairn claimed a Fisheries Zone Ordinance in 1997 of 200 nm. Similar zones have been claimed by Bermuda³³⁰ and the Falkland Islands.³³¹

³²³ Proclamation No. 1 of 17 September 2003 establishing the Environment (Protection and Preservation) Zone for the British Indian Ocean Territory

³²⁴ In any event in February 2012 the Government of South Georgia and South Sandwich Islands passed legislation that established the South Georgia and South Sandwich Islands Marine Protected Area, which encompassed the entire Maritime Zone north of 60° S.

³²⁵ Anguilla (Territorial Sea) Order, 2007.

³²⁶ Bermuda (Territorial Sea) Order, 1988.

³²⁷ The Cayman Islands (Territorial Sea) Order, 1989.

³²⁸ The Falkland Islands (Territorial Sea) Order, 1993.

³²⁹ The Turks and Caicos Islands (Territorial Sea) Order, 2007.

³³⁰ Proclamation Extending the Limits of the Fisheries Zone of Bermuda, 1977.

³³¹ Proclamation No. 1 of 1994.

17.2 Legislation on deep-sea mining in areas under national jurisdiction

None of the UK OTs have adopted specific legislation on deep-sea mining in areas under national jurisdiction. Indeed it appears that few of the OTs have their own mining legislation in place at all. The Anguilla Minerals (Vesting) Act vests all minerals in Anguilla (on land and in the territorial sea) in the Crown while the Cayman Islands has a Mining Law from 1977. However this only applies to mining activities on land.

17.3 Legislation on deep-sea mining in the Area

None of the UK OTs have legislation in place on deep-sea mining in the Area. During the debates in the UK Parliament on the Deep-sea Mining Act 2014, a Ministerial commitment was given to consult with the OTs with a view to possibly extending the Bill to them. This exercise is likely to happen later in 2014. Under such a scenario the UK would effectively act as sponsor in terms of the legal regime for deep-sea mining in the Area.

18 United States of America

18.1 Legislation on maritime zones

The U.S. Outer Continental Shelf is defined in the Outer Continental Shelf Lands Act, 1953 (OCSLA) as “all submerged lands lying seaward and outside of the area of lands beneath the navigable waters...and of which the subsoil and seabed appertain to the United States and are subject to its jurisdiction and control...”³³² Consequently, OCSLA only applies to the offshore subsoil and seabed areas of the territorial sea, the EEZ, and the continental shelf.³³³

The U.S. Constitution and laws and civil and political jurisdiction of the United States also extend to the subsoil and seabed of “artificial islands, and all installations and other devices permanently or temporarily attached to the seabed...or any such installation or other device (other than a ship or vessel) for the purpose of transporting such resources, to the same extent as if the outer continental shelf were an area of exclusive Federal jurisdiction....”³³⁴ Federal OCSLA authority applies only to the coastal states of the United States; it does not extend to the waters under the jurisdiction of U.S. territories, such as Saipan in the Commonwealth of the Northern Mariana Islands, Guam, Puerto Rico, the U.S. Virgin Islands, and American Samoa. These territories have authority to issue their own seabed mining licenses on their submerged lands within three nm of shore.

The United States appears to have geographical extended or outer continental shelf areas beyond 200 nm that are formed by the natural prolongation of the continental margin. In accordance with Article 76 of the United Nations Convention on the Law of the Sea (UNCLOS), the United States may be able to claim an extended continental shelf (ECS) along the Atlantic Margin, in the Arctic Ocean, the Gulf of Alaska, the Bering Sea and the western end of the Aleutian Islands, off the west side of Guam and Northern Mariana Islands, two areas in the Gulf of Mexico, beyond Hawaii’s Necker Island, near Johnston Atoll, Kingman Reef and Palmyra Atoll, and three areas off the U.S. west coast. The likely total area of the U.S. ECS is at least one million square kilometers—an area about twice the size of California, or nearly half the area of the Louisiana Purchase.

Although the United States is not a party to UNCLOS, it nonetheless is collecting seabed multi-beam bathymetry to support such a claim. The United States has engaged in identifying its extended continental shelf through a national-level Extended Continental Shelf Task Force that directs and coordinates the Extended Continental Shelf Project. The Task Force is an interagency body, chaired by the Department of State with co-vice chairs from the National Oceanic and Atmospheric Administration and the Department of the Interior. Ten additional agencies participate in the Task Force.³³⁵

Since 2003, the United States has collected more than one million square kilometers of bathymetric data from thirty-four cruises: Arctic Ocean (2003, 2004, 2007, 2008, 2009, 2010) Gulf of Alaska (2005), Gulf of Mexico (2007), Atlantic Ocean (2004, 2005, 2008), Northern Mariana Islands and Guam (2006, 2007), the Bering Sea (2003), Hawaii (2009), and U.S. West Coast/ Pacific Ocean (2009). Cruises for 2010 included the Northern Mariana Islands, Kingman Reef and Palmyra Atoll,

³³² 43 U.S.C. § 1331(a).

³³³ 43 U.S.C. § 1332(1). The United States declared its EEZ in Presidential Proclamation No. 5030, 48 Federal Register 10605 (March 14, 1983).

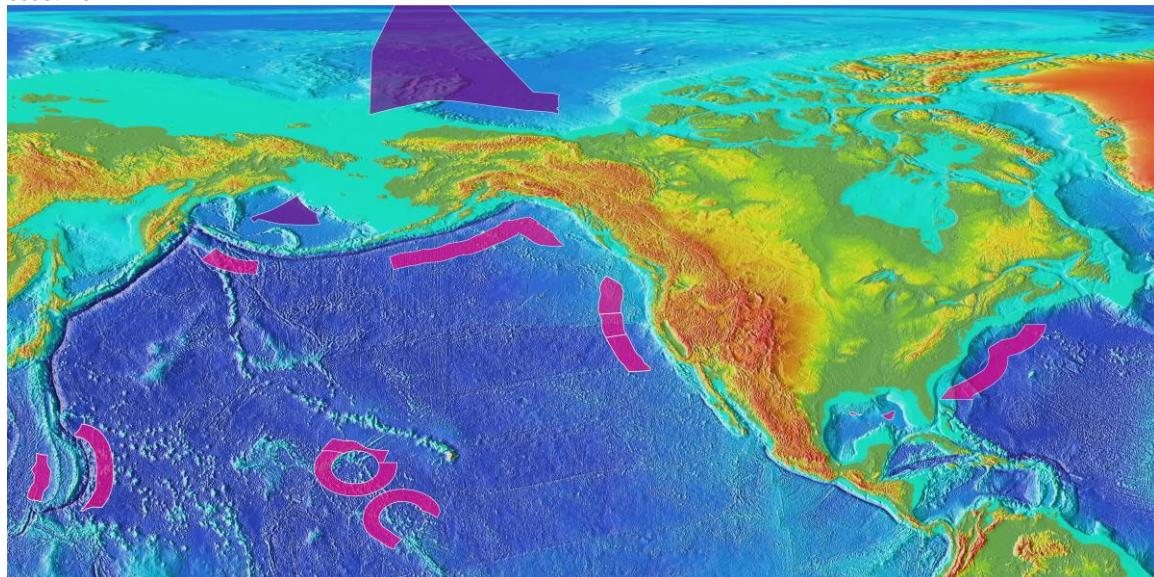
³³⁴ 43 U.S.C. 1333(a)(1).

³³⁵ These are: the U.S. Geological Survey, the Executive Office of the President, the Joint Chiefs of Staff, the U.S. Navy, the U.S. Coast Guard, the Department of Energy, the National Science Foundation, the Environmental Protection Agency, BOEMRE, and the Arctic Research Commission.

and the third joint expedition with the United States and Canada in the Arctic Ocean.³³⁶ The U.S. Coast Guard Cutter Healy and the Canadian Coast Guard Ship Louis S. St.-Laurent, for example, have operated together, with the Healy conducting bathymetric mapping and the St.-Laurent fathoming seismic-reflection profiling in order to help each country determine the limits of its extended continental shelf in the Arctic Ocean.

Much of the U.S. data collection effort was coordinated through the Joint Hydrographic Center, a partnership between NOAA and the University of New Hampshire. The current effort involves data acquisition through 2015 in acquisition for multi-beam bathymetry and seismic reflection/refraction data in the Arctic Ocean, and off the Atlantic seaboard, the Gulf of Alaska, the western Aleutian Islands, in the vicinity of the Marianas, and Johnston Atoll, Kingman Reef, and Palmyra Atoll in the mid-Pacific.

Figure 1: Areas of likely (purple) and probable (pink) U.S. extended continental shelf beyond 200 nautical miles from the coastline.



18.2 Legislation on deep-sea mining in areas under national jurisdiction

The Minerals Management Service (MMS) in the Department of the Interior (DOI) was founded on January 19, 1982, to serve as the lead regulatory authority for leasing activity related to offshore recovery of oil and gas, hard minerals, and gravel and sand. Since its inception, the MMS lead three separate lines of effort: (1) Outer Continental Shelf (OCS) resource management, (2) safety and environmental oversight and enforcement, and (3) lease revenue collection. Throughout its history, most of the activity of MMS related to offshore oil and gas and the collection of revenues for leases. During the 1980s, MMS investigated the possibility of issuing offshore leases for seabed mining of cobalt-rich manganese crusts in Hawaii and seafloor massive sulfide deposits off Oregon and California.³³⁷ The proposed sites were at depths between 10,000 and 11,000 feet of water. In both cases, however, the projects did not go forward due to the adequacy of existing land-based supplies.

Soon after the Deepwater Horizon oil spill incident in the Gulf of in 2010, the Obama Administration reorganized MMS to address perceived conflicts among these three missions. MMS was renamed the Bureau of Ocean Energy Management, Regulation, and Enforcement (BOEMRE). On October

³³⁶ Extended Continental Shelf Summary of Missions, <http://continentalshelf.gov/missions.html>

³³⁷ The Marine Mineral Resource Potential of the Pacific Outer Continental Shelf, 9 BOEM Ocean Science, October/November/December 2012, p. 15, http://www.boem.gov/uploadedFiles/BOEM/Newsroom/Publications_Library/Ocean_Science/OS_12_oct_nov_dec.pdf.

1, 2011, BOEMRE itself was replaced by two separate agencies—the Bureau of Safety and Environmental Enforcement (BSEE) and the Bureau of Ocean Energy Management (BOEM). Both of the new agencies reside in the Department of the Interior. BOEM is tasked with managing the extraction of offshore minerals from America's Outer Continental Shelf. So far, this work involves review and approval of leases only for offshore extraction of oil and natural gas and recovery of sand and gravel.

The largest component of BOEM's mission is regulation of offshore oil and gas resources, yet the Bureau is also responsible for "non-energy minerals," such as sand and gravel, as well as hard minerals, although BOEM has no active or pending leases for such minerals.

18.2.1 1.2.3 Regulation in areas under national jurisdiction

The OCSLA authorizes the U.S. Secretary of the Interior to approve leases³³⁸ for the exploration,³³⁹ development³⁴⁰ and production³⁴¹ of seabed minerals in areas under U.S. jurisdiction.³⁴² The Secretary is authorized to

grant to qualified persons offering the highest cash bonuses on a basis of competitive bid leases of any mineral other than oil, gas, and sulphur in any area of the outer Continental Shelf not then under lease for such mineral upon such royalty, rental, and other terms and conditions as [he] may prescribe at the time of offering the area for lease.³⁴³

Operations involving seabed mining for hard minerals (any subsea minerals other than oil, gas, or sulphur) on the U.S. continental shelf are regulated under the OCSLA in three distinct parts: prospecting;³⁴⁴ leasing;³⁴⁵ and operations, including royalties.³⁴⁶ An initial hard mineral lease lasts at least 20 years, and a lease may remain in effect as long as mineral production continues.³⁴⁷ A typical lease for minerals includes rights to all minerals within the leased area (except oil, gas, and sulphur).³⁴⁸ Leases for oil and gas and other minerals are possible in the same area.³⁴⁹ A mineral lease, however, may not unreasonably interfere with or endanger operations under an existing oil and gas lease.³⁵⁰ The Department of the Interior identifies areas offered for offshore mineral lease, and it determines the size of the lease tracts.³⁵¹ The sizes of the tracts offered are designed to be large enough to include potentially minable orebodies, meaning that lease tracts may be quite expansive.³⁵²

The royalty due to the U.S. government for mining offshore minerals under a lease on the U.S. continental shelf varies, and will be specified in the government's leasing notice.³⁵³ The royalty may be based on a percentage of the value or amount of the minerals produced, a sum assessed per

³³⁸ "The term "lease" means any form of authorization...which authorizes exploration for, and development and production of, minerals." 43 U.S.C. § 1331(c).

³³⁹ "The term "exploration" means the process of searching for minerals, including (1) geophysical surveys where magnetic, gravity, seismic, or other systems are used to detect or imply the presence of such minerals, and (2) any drilling, whether on or off known geological structures...." 43 U.S.C. § 1331(k).

³⁴⁰ "The term "development" means those activities which take place following discovery of minerals in paying quantities, including geophysical activity, drilling, platform construction, and operation of all onshore support facilities, and which are for the purpose of ultimately producing the minerals discovered." 43 U.S.C. § 1331(l).

³⁴¹ "The term "production" means those activities which take place after the successful completion of any means for the removal of minerals, including such removal, field operations, transfer of minerals to shore, operation monitoring, maintenance, and work-over drilling." 43 U.S.C. § 1331(m).

³⁴² "The term "minerals" includes oil, gas, sulphur, geopressured-geothermal and associated resources, and all other minerals which are authorized by an Act of Congress to be produced from "public lands...." 43 U.S.C. § 1331(q) and 43 U.S.C. § 1331(a).

³⁴³ 43 U.S.C. § 1337(k)(1).

³⁴⁴ 30 Code of Federal Regulations (C.F.R.) § 580, et. seq.

³⁴⁵ 30 C.F.R. § 581.

³⁴⁶ 30 C.F.R. § 582.

³⁴⁷ 30 C.F.R. § 581.19.

³⁴⁸ 30 C.F.R. § 581.8.

³⁴⁹ 30 C.F.R. § 581.8(c).

³⁵⁰ 30 C.F.R. § 581.8(c).

³⁵¹ 30 C.F.R. §§ 581.14, 581.15.

³⁵² 30 C.F.R. § 581.15.

³⁵³ 30 C.F.R. § 281.28.

unit of product, or different method if included in the leasing notice. In the event that the regulations do not address the specific minerals to be produced, the method of royalty calculation will be specified in the leasing notice and subsequently issued lease.³⁵⁴ Royalties also may be waived, suspended, or reduced in cases in which such preference promotes the national interest, economic development, or the mine cannot successfully be operated under existing conditions.

The provisions of the royalty management regulations regarding methods of valuation do not apply to all potential commodities produced by hard mineral mining operations on the outer continental shelf.

18.3 Legislation on deep-sea mining beyond areas of national jurisdiction

The Deep-seabed Hard Minerals Resources Act (DSHMRA) governs deep-seabed mining in areas beyond national jurisdiction.³⁵⁵ The law was designed to apply in the aftermath of the U.S. decision not to join the United Nations Convention on the Law of the Sea (UNCLOS), and only until such time as the nation joined a comprehensive international treaty governing the oceans. Although UNCLOS was revised by the Part XI Implementation Agreement (relating to seabed mining), the United States still has not joined the Convention. Consequently, the DSHMRA continues to govern U.S. nationals (citizens, vessels, and others subject to U.S. jurisdiction) that engage in exploration for, and commercial recovery of, hard mineral resources on the deep-seabed outside of areas of U.S. jurisdiction.³⁵⁶

18.3.1.1 U.S. seabed mining leases beyond areas of national jurisdiction

The United States has rather limited practice in the application of the NOAA regulations.³⁵⁷ In 1984, the United States issued four exploration licenses under the DSHMRA, which were processed and approved by NOAA.³⁵⁸ These Exploration Licenses were for seabed areas in the Clarion-Clipperton zone (CCZ) of the South Pacific Ocean. The licenses did not confer any security of title internationally, and only carry security of title as against U.S. citizens and companies. No commercial U.S. deep-seabed mining is currently conducted, nor is such activity anticipated in the near future.

Two of the licenses have expired, although NOAA recently renewed the other two. Until the U.S. becomes a party to UNCLOS, they are unlikely to be utilized. In 2011, NOAA received an application for five-year extensions of Deep-seabed Mining Exploration Licenses USA-1 and USA-4 that are held by the Lockheed Martin Corporation.³⁵⁹ The USA-1 and USA-4 deep-seabed mining licenses were previously issued to Ocean Minerals Company (OMCO), a partnership that included Lockheed. Upon the dissolution of OMCO, all interests in both licenses were conveyed to Lockheed. Lockheed Martin currently holds DSHMRA Exploration Licenses USA-1 and USA-4. Given that DSHMRA Exploration Licenses USA-1 and USA-4 do not confer any security of title at the international level, it is possible that a Party to UNCLOS could sponsor an entity to explore and

³⁵⁴ 30 C.F.R. § 581.29.

³⁵⁵ Title 30 United States Code (U.S.C.) sections §§ 1401-1473 (2012), Public Law 96-283, June 28, 1980, 94 Statute 553, as amended, (Deep-seabed Hard Mineral Resources Act), 30 U.S.C. § 1401 et. seq., and Public Law 99-507, § 1, October 21, 1986, 100 Statute 1847, and Deep-seabed Hard Mineral Resources Reauthorization Act of 1986, as amended, 30 U.S.C. § 1470.

³⁵⁶ Public Law 96-283, June 28, 1980, 94 Statute 553, as amended, (Deep-seabed Hard Mineral Resources Act), 30 U.S.C. § 1401 et. seq., and Public Law 99-507, § 1, October 21, 1986, 100 Statute 1847, and Deep-seabed Hard Mineral Resources Reauthorization Act of 1986, as amended, 30 U.S.C. § 1470.

³⁵⁷ The Assistant Attorney General, Antitrust Division has oversight over Department of Justice reports and recommendations relating to the issuance of licenses for exploration or permits for recovery of deep-seabed hard minerals. 30 U.S.C. § 1413(d) and 28 C.F.R. § 0.40.

³⁵⁸ The companies involved were Ocean Management, Inc., Ocean Mining Associates, and ocean Minerals Company for five-year extensions of their exploration licenses.

³⁵⁹ 77 FR 12245 (2012).

exploit seabed minerals in these geographic areas, and thereby undercut any investment made by Lockheed.³⁶⁰

The initial term for exploration licenses was for ten years, with possibility of renewal for five years.³⁶¹ If the licensee has substantially complied with the license and exploration plan and has requested an extension of the license, NOAA shall extend it for a period of not more than five years.³⁶² As part of its 2011 application, Lockheed Martin submitted an amended exploration plan.

Consistent with exploration plans previously submitted by OMCO in conjunction with earlier extension requests, the exploration proposed by Lockheed will continue to occur in two phases with Phase I being a preparatory stage followed by at-sea exploration during Phase II. Phase I consists of onshore study and analysis, including the selection of suitable survey systems, and the collection of economic, design and environmental data.

Phase II would occur in the future, contingent upon changes in market conditions that would support the substantial investment in at-sea exploration, and on the ability of Lockheed Martin to obtain adequate assurance of security of tenure at the international level. Under both licenses, further NOAA approval is required before Phase II at-sea activities may be undertaken.³⁶³

18.4 Environmental protection legislation of potential relevance to deep-sea mining

The Administrator of NOAA is required to continually assess the effects on the marine environment from the exploration and commercial recovery of seabed minerals, including the effects from sea based processing and disposal of wastes at sea.³⁶⁴ Before issuing or transferring an exploration license, the Administrator must find that the exploration proposed in the application cannot reasonably be expected to result in a significant adverse effect on the quality of the environment.³⁶⁵ In order to make this determination, NOAA must follow the “NEPA process.” The issuance of a permit for seabed mining by the Administrator constitutes a “major Federal action significantly affecting the quality of the human environment” under the National Environmental Policy Act (NEPA). NEPA requires federal agencies to examine the environmental impact of their decisions, and consider reasonable alternatives to those actions.

Under NEPA, NOAA must prepare a detailed Environmental Impact Statement (EIS) of the proposed action. The Environmental Protection Agency (EPA) reviews and comments on NOAA’s EIS. The EPA publishes a “Notice of Availability” each week in the Federal Register that includes all of the Draft EIS’ for that period. The publication of the Draft EIS by EPA triggers a 45-day public comment period in which the public and non-governmental organizations may provide comment on the proposed permit. This notice is also the start of the 30-day “wait period” for Final EISs, in which NOAA is required to wait 30 days before making a decision on issuing a permit for seabed mining.

The application for seabed mining must include information for use by NOAA in preparation of the EIS, to include physical, chemical and biological information for the exploration area.³⁶⁶ Mining

³⁶⁰ U.S. Senate, Committee on Foreign Relations, Nomination of John F. Kerry to be Secretary of State, January 24, 2013 (Senate Hearing 113-163), Government Printing Office (2013), p. 196.

³⁶¹ 30 U.S.C. § 1417 and 15 C.F.R. § 970.515.

³⁶² 15 C.F.R. § 970.515(b).

³⁶³ Except for information deemed to be subject to the confidentiality protections provided under 15 C.F.R. § 971.802, the request for extension and revised exploration plan are available through Joelle Gore, Acting Chief, Coastal Programs Division (NORM3), Office of Ocean and Coastal Resource Management, NOS, NOAA, 1305 East-West Highway, Silver Spring, Maryland 20910; email Joelle.Gore@noaa.gov and Kerry Kehoe, Coastal Programs Division (NORM/3), Office of Ocean and Coastal Resource Management, NOS, NOAA, 1305 East-West Highway, Silver Spring, Maryland 20910; email Kerry.Kehoe@noaa.gov.

³⁶⁴ 30 U.S.C. § 1419.

³⁶⁵ 15 C.F.R. § 970.506, 15 C.F.R. § 970.518, and, 15 C.F.R. § 970.700.

³⁶⁶ 15 C.F.R. § 970.204.

tests, for example, suggest that the destruction of benthos in and near the collector track will be extremely small.³⁶⁷ There is recognition, however, that settling of fine sediments disturbed by tests under a license of scale-model mining systems to simulate commercial recovery could adversely affect benthic fauna by blanketing, dilution of their food supply, or both. Because of the anticipated slow settling rate of the sediments, the affected area could be quite large.

Some activities already have been determined not to pose a significant adverse effect on the environment, and therefore do not require further assessment. These are:

- (1) Gravity and magnetometric observations and measurements;
- (2) Bottom and sub-bottom acoustic profiling or imaging without the use of explosives;
- (3) Mineral sampling of a limited nature such as those using either core, grab or basket samplers;
- (4) Water and biotic sampling, if the sampling does not adversely affect shellfish beds, marine mammals, or an endangered species, or if permitted by the National Marine Fisheries Service or another Federal agency;
- (5) Meteorological observations and measurements, including the setting of instruments;
- (6) Hydrographic and oceanographic observations and measurements, including the setting of instruments;
- (7) Sampling by box core, small diameter core or grab sampler, to determine seabed geological or geotechnical properties;
- (8) Television and still photographic observation and measurements;
- (9) Shipboard mineral assaying and analysis; and,
- (10) Positioning systems, including bottom transponders and surface and subsurface buoys filed in Notices to Mariners.³⁶⁸

Furthermore, the impact of demonstration-scale mining tests during exploration is expected to be insignificant.

18.5 Draft legislation/policy proposals relevant to deep-sea mining

The United States has not acceded to UNCLOS, stating at the time of the adoption of the treaty that Part XI on seabed mining did not comport with six U.S. objectives for such a regime:

- Not deter development of any deep-seabed mineral resources to meet national and world demand;
- Assure national access to these resources by current and future qualified entities to enhance U.S. security of supply, to avoid monopolization of the resources by the operating arm of the international authority, and to promote the economic development of the resources;
- Provide a decision-making role in the deep-seabed regime that fairly reflects and effectively protects the political and economic interests and financial contributions of participating states;
- Not allow for amendments to come into force without approval of the participating states, including, for the U.S., the advice and consent of the Senate;
- Not set other undesirable precedents for international organizations; and
- Be likely to receive the advice and consent of the Senate, e.g. the convention should not contain provisions for the mandatory transfer of private technology and participation by and funding for national liberation movements.³⁶⁹

³⁶⁷ 15 C.F.R. § 970.701.

³⁶⁸ 15 C.F.R. § 970.701.

³⁶⁹ Statement by the President, U.S. Policy and the Law of the Sea, January 29, 1982 and White House Fact Sheet accompanying the Presidential Statement, Department of State Bulletin, March 1982, p. 54-55.

DSHMRA contemplated that negotiations would occur between the United States and other nations to establish mutual recognition for exploration licenses and mining permits, and it authorized the NOAA administrator to designate such nations as “reciprocating states.”³⁷⁰ In this way various nations could issue licenses and permits to their citizens in a manner compatible with DSHMRA, and vice versa. Several nations, including France, Italy, Japan, the United Kingdom, and West Germany, enacted domestic seabed mining legislation during 1981–1983 and were subsequently designated by NOAA as reciprocating states.³⁷¹

During 1982–1991, the United States and the four U.S. consortia negotiated a series of multilateral agreements and bilateral exchanges of notes with reciprocating states to further secure U.S. claims in the CCZ. This series of agreements established mutual recognition of mining claims, committed the respective nations and consortia not to interfere with one another’s exploration and mining activities, set minimum standards that mining companies must meet, and provided procedures for resolving any overlapping claims.

In September 1982, the United States, France, West Germany, and the United Kingdom adopted an agreement “to facilitate the identification and resolution of conflicts” that may arise between the four nations in regard to overlapping claims to the seabed.³⁷² The agreement required the exchange of information between the nations on claims to the seabed, including the coordinates of those claims, for the purpose of identifying conflicts. In the event of overlapping claims, the agreement provided detailed procedures for resolving conflicts through binding arbitration.

In May 1983, the four U.S. consortia and Association Française d’Etude et de Recherche des Nodules océaniques (AFERNOD), a French consortium of government and industry, acting in conformity with a private arbitration agreement, reached a settlement that successfully resolved conflicts from their overlapping claims in the CCZ.³⁷³

In September 1983, the four U.S. consortia, AFERNOD, and Deep Ocean Resources Development Company (DORD), a Japanese consortium of government and industry, signed an arbitration agreement on resolving overlapping claims.³⁷⁴

In August 1984, the four parties to the September 1982 agreement and Belgium, Italy, Japan, and the Netherlands adopted an agreement that further elaborated on mutual cooperation regarding the deep-seabed.³⁷⁵ Similar to the 1982 agreement, the 1984 agreement required the eight nations to notify one another when exploration applications had been approved at the national level, to exchange coordinates to avoid overlapping claims, and to resolve any disputes that arose from conflicting claims. A memorandum attached to the agreement outlined minimum requirements that mining companies must meet to receive approval to explore the seabed, including financial and technological capability. The memorandum also set basic standards that companies must meet during mining operations.

In August 1987, the United States, Belgium, Canada, Italy, the United Kingdom, the Soviet Union, and West Germany adopted a final settlement agreement that officially recognized the coordinates of each other’s claims to seabed areas in the CCZ.³⁷⁶ The agreement listed sets of coordinates for

³⁷⁰ 30 U.S.C. § 1428. The designation is made in consultation with the Secretary of State.

³⁷¹ National Oceanic and Atmospheric Administration, Deep-seabed Mining, December 1989, pp. 11–12.

³⁷² 1982 Agreement Concerning Interim Arrangements Relating to Polymetallic Nodules on the Deep-sea Bed Between France, the Federal Republic of Germany, the United Kingdom, and the United States, September 2, 1982.

³⁷³ National Oceanic and Atmospheric Administration, Deep-seabed Mining, December 1983, p. 11.

³⁷⁴ National Oceanic and Atmospheric Administration, Deep-seabed Mining, December 1983, p. 11.

³⁷⁵ Provisional Understanding Regarding Deep-seabed Matters (with appendices and memorandum of application), August 3, 1984.

³⁷⁶ Agreement on the Resolution of Practical Problems with Respect to Deep-seabed Mining Areas (with annexes), August 14, 1987. The 1987 agreement was adopted by Belgium, Canada, Italy, and the Soviet Union, all of which were signatories to UNCLOS. The United States and two other non-UNCLOS-signatories (West Germany and the United Kingdom) adopted the 1987 agreement by exchanging a series of diplomatic notes with the four UNCLOS signatories. Lee A. Kimball, “Belgium–Canada–Italy–Netherlands–Union of Soviet Socialist Republics: Agreement on the Resolution of Practical Problems with

each nation's claims in the CCZ, including the coordinates for the areas claimed by the four U.S. consortia.

In February 1991, the United States, Belgium, Canada, Germany, Italy, the Netherlands, and the United Kingdom entered into a memorandum of understanding with China and the Interoceanmetal consortium for the purpose of avoiding minesite overlaps and conflicts. The parties to the memorandum made mutual commitments to respect the claims made by all other parties in the CCZ.³⁷⁷

In August 1991, the United States and the other nations party to the February 1991 agreement entered into an identical memorandum of understanding with the Soviet Union, which was the certifying state of an Eastern European consortium called Interoceanmetal Joint Organization.³⁷⁸ The United States has agreements with almost every nation that the Authority has licensed to explore the CCZ (Belgium, China, France, Germany, Japan, Russia, and the United Kingdom), all of which remain in force and effect at the present day.³⁷⁹

The Clinton Administration accepted the changes set forth in the Implementation Agreement as responsive to U.S. objections, and President Clinton signed the Agreement. On October 7, 1994, he transmitted UNCLOS and the Part XI Implementation Agreement to the Senate for its advice and consent in anticipation of U.S. accession.³⁸⁰ For reasons of national politics, however, the U.S. Senate still has not rendered advice and consent necessary to empower the president to ratify the Convention.³⁸¹

The United States has not taken a position on the issue of whether licensing under DSHMRA license or permit to explore or mine polymetallic nodules in the deep-seabed without going through ISA would violate international law.³⁸² A DSHMRA license or permit does not give U.S. companies the security of title to a mine site. A license or permit under DSHMRA gives the holder the exclusive right to explore or mine a specific area of the deep-seabed, but only as against other U.S. citizens—it does not bar a foreign national from exploring or mining the same site.³⁸³ Consequently, there is a vast lacuna in U.S. law, since only UNCLOS provides a basis for obtaining security of title to seafloor areas beyond any nation's jurisdiction at the international level. U.S. explorers and developers may have authority under U.S. law, but they lack legal protection at the international level until the United States joins UNCLOS.

Respect to Deep-seabed Mining Areas, and Exchange of Notes Between the United States and the Parties to the Agreement," International Legal Materials, Vol. 26, No. 6 (November 1987), pp. 1502–1515.

³⁷⁷ Memorandum of Understanding on the Avoidance of Overlaps and Conflicts Relating to Deep-seabed Areas, February 22, 1991, and National Oceanic and Atmospheric Administration, Deep-seabed Mining, December 1991, p. 14, http://www.gc.noaa.gov/documents/gcil_dsm_1991_20110607090801.pdf.

³⁷⁸ Memorandum of Understanding on the Avoidance of Overlaps and Conflicts Relating to Deep-sea-Bed Areas, August 20, 1991. Other parties to the memorandum of understanding included Bulgaria, Czechoslovakia, and Poland. The nations that currently hold an interest in Interoceanmetal are Bulgaria, Cuba, the Czech Republic, Poland, Russia, and Slovakia.

³⁷⁹ U.S. Department of State, Treaties in Force: A List of Treaties and Other International Agreements of the United States in Force on January 1, 2011, pp. 22, 45, 143, 200, 285, and 457.

³⁸⁰ U.S. Congress. Senate. United Nations Convention on the Law of the Sea, with Annexes, and the Agreement Relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea, with Annex. Senate Treaty Document 103-39, 1994, p. vii.

³⁸¹ Presidents George W. Bush and Barack Obama have attempted to secure U.S. Senate advice and consent, but Republican opposition among lawmakers has stymied the effort. In 2013, 34 Republican Senators signed a letter in opposition to the treaty, ensuring that it would not be considered during the current Congress.

³⁸² U.S. Senate, Committee on Foreign Relations, Nomination of John F. Kerry to be Secretary of State, January 24, 2013 (S. Hrg. 113-163), Government Printing Office (2013), p. 196.

³⁸³ U.S. Senate, Committee on Foreign Relations, Nomination of John F. Kerry to be Secretary of State, January 24, 2013 (S. Hrg. 113-163), Government Printing Office (2013), p. 196.



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