

DELIVERABLE 6.1

INVENTORY OF LEGAL AND INSURANCE ASPECTS, RISK AND RISK MANAGEMENT OPTIONS AND THE WIDER GOVERNANCE CONTEXT OF RISK MANAGEMENT

Work Package 6 Legal, Policy and Governance

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Author(s)	Anemoon Soete, Frank Maes, Trond Selnes, Maarten Visscher, Sander van den Burg							
Editor								
Approved by	Ghada El Serafy							
Project Officer								
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ACRONYMES

EEZ	Exclusive economic zone
EIA	Environmental impact assessment
H2O20	Horizon 2020 (European Commission funding programme)
H&S	Health and safety
MARIBE	Marine Investment for the Blue Economy (Horizon 2020 funded project, 2015-2016)
MU	Multi-use
MSP	Maritime spatial plan
Natura2000	Network of core breeding and resting sites for rare and threatened species, and some rare natural habitat types which are protected under both the Birds Directive and the Habitat Directive
0&M	Operations and maintenance
OWF	Offshore wind farm
SOMOS	Technical Standards for Safe Production of Food and Feed from marine plants and Safe Use of Ocean Space (Lloyd's Register Foundation funded project, 2016-2018)
UNITED	Multi-Use offshore platforms demoNstrators for boostIng cost-effecTive and Eco-friendly pro- Duction in sustainable marine activities (Horizon 2020 funded project, 2020-2023)
WP	Work package





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EXECUTIVE SUMMARY

This deliverable is the result of work done under Work Package (WP) 6, Task 6.1 **Inventory of legal aspects, risk** aspects and governance aspects.

This report is the result of an assessment of legal and insurance issues as found in deliverables 1.1 **Challenges, risks** and barriers for large scale commercial roll out and 1.2 Review of existing or developed solutions, as well as those discovered via consultations with the pilot stakeholders. This report reflects an inventory of all these legal and insurance issues, in relation to the wider governance context. This inventory will directly assist task 6.2 Legal aspects and governance and task 6.3 Health and safety which will further analyse the issues found per pilot in this report and culminate in a workshop for all pilots in 2022. This inventory highlights that many legal and insurance issues are shared by all the pilots, thereby reinforcing the opportunities UNITED offers via cooperation and comparative study of legal and insurance issues.





1. INTRODUCTION AND OBJECTIVE OF THIS DELIVERA-BLE

The concept of multi-use (MU) presents a radical change from the concept of exclusive resource rights to an inclusive sharing of resources by multiple users. Given that maritime policy and regulation has traditionally developed in silos, on a sector by sector basis, the application of the MU concept, cross-sectoral in nature, carries possible implications for the existing regulatory system.

Nevertheless, since 2007, the European Union (EU)'s overarching Integrated Maritime Policy seeks to provide for increased coordination between different policy areas. The Maritime Spatial Planning Directive required all EU Member States to develop Maritime Spatial Plans up to 2021 and thus to strategically consider the best location for maritime uses and conditions for their co-location. However, according to the MUSES project (2018), multiple barriers related to regulatory, financing, liability and insurance issues are still stalling the transfer of MU from concept to implementation.

Significant funds have been devoted to MU research to date but, in many cases, there is still no solid legal and regulatory framework under which the MU concept could flourish. Several EU and national research projects (e.g. MUSES, SOMOS, MERMAID) have explored the regulatory and policy barriers to MU of the ocean. Nevertheless, the assessment in these projects have mainly focused on the perceived barriers rather than concrete operational issues advised by concrete pilot developments. For example, permitting procedures are often complicated for boat tours in the vicinity of the offshore wind farm (or within a safety zone) and could entail high insurance premiums due to safety risks. At present, there is very little information about overall interaction between the two activities and associated risks within the zone that could advise the insurance premiums. Moreover, the question remains on who is to cover the insurance premium and who will be liable in case of any accidents within the zone. Thus, examination of real world pilot examples, such as the UNITED Danish pilot for instance, may help clarify and advise regulatory frameworks and such developments in other countries and regions.

Advised by five UNITED pilots and discussions with stakeholders involved in each pilot development, this report sets the baseline for the further investigation of legal, insurance and risk management challenges in the context of ocean MU.

Deliverable 6.1 Inventory of legal and insurance aspects, risks and risk management options and the wider governance context of risk management is the first report under WP 6 Legal, Policy and Governance.

This task identifies all legal and insurance issues and risks and risk management options and the wider governance context of risk management for all partners of each pilot in an inventory based on the needs of the relevant stakeholders. This inventory will be used for further activities of WP 6 under tasks 6.2 **Legal aspects and governance** and 6.3 **Health and safety**.

Deliverables 1.1 **Challenges, risks and barriers for large scale commercial roll out** and 1.2 **Review of existing or developed solutions** were used as an initial set of concerns expressed by the pilot partners. All pilots were subsequently asked to comment on the specific legal and insurance-related issues they are dealing with today and in the foreseeable future of the project. Attention was also given to a potential transformation of several of the pilots, more specifically from a research project to a commercial endeavor at the end of the research project.

There are different issues for the various pilots. Therefore, each pilot's specific issues are separately addressed below. These issues include tangible *challenges* both present-day or in the foreseeable future, as well as *risks* which may be regarded as potential future challenges of which it is unsure that they will present themselves.

For more information on the UNITED project, reference is made to deliverable 1.1 **Challenges, risks and barriers** for large scale commercial roll out as well as the UNITED website (<u>www.h2020united.eu</u>).

Following this introduction, this report consists of the methodological approach to the task. This is followed by the results of the consultations with the pilots and their stakeholders in which the relevant legal and insurance related issues are discussed per pilot. In the conclusion of these results an overview is provided of all issues. The common issues for all pilots are extrapolated. Finally, the relevance of these findings for the UNITED project and the way forward are set out.





2. METHODOLOGICAL APPROACH

This task has been completed taking the following steps.

Firstly, a preliminary inventory of legal and insurance issues was gathered from deliverables 1.1 and 1.2 of the UNITED project (Annex 1 on legal and insurance issues). The schematic overview of this preliminary inventory was provided to the pilots. In addition, UGent made a list of questions on what might be potential outstanding legal (Annex 2) and insurance issues (Annex 3) for the pilots. In particular, this aimed to scope the issues that were less reflected in detail in deliverables 1.1 and 1.2, or remained unclear or were not mentioned by a particular pilot. These questions were used as a tool to help the pilots reflect on their legal and insurance issues in a MU and a broader MSP and governance context. Not all items on the list were relevant for each separate pilot due to the different nature of the pilots and due to the level of detail of some questions, which were going beyond the mere purpose of feeding the content of D6.1 (inventory).

Secondly, both the preliminary inventory of legal and insurances issues identified by the pilots in deliverable 1.1 (*Challenges, risks and barriers for large scale commercial roll out*) and deliverable 1.2 (*Review of existing or developed solutions*), as well as the questionnaire of potentially outstanding issues, were forwarded to the pilot leads. All pilots were given sufficient time to reflect on the questions and to prepare their team for answering the questions during separate pilot interviews and consultations. The pilot leads were requested to invite all stakeholders deemed relevant considering the preparatory documents sent in advance of the consultation (Annexes 1, 2 and 3). Due to the restraints imposed by Covid-19, all consultations were held via an online platform. The consultations did not remain confined to the preparatory documents as stakeholders were explicitly invited to go beyond the preparatory documents and to bring in any other additional legal or insurance issues to the table they believed were not yet addressed.

The online interviews and consultations, which lasted for approximately two hours or more per pilot, took place on 26 February 2021 (Belgian pilot and stakeholders), 2 March 2021 (Greek pilot and Danish pilot) and on 5 March 2021 (German pilot and stakeholders). All pilots were very well prepared to answer the questionnaires. The Dutch pilot and stakeholders chose to reply via e-mail on 11 March 2021. In addition, the pilots were invited to provide any supplementary comments after the consultations via e-mail. This option was taken up by the Belgian and Danish pilot. The results of the consultations and additional comments have led to the inventory of legal and insurance issues identified below per pilot.

The approach selected in UNITED for risk identification, assessment and mitigation is based on the framework described by van Hoof et al (2020).¹ This framework explicitly mentions the need to engage stakeholders in identifying and assessing risks of multi-use as these risks are often of an uncertain or ambiguous nature. This deliverable therefore identifies the relevant wider governance context of the pilots as a stepping stone to inviting stakeholders in subsequent assessments. We used the information provided by the pilots and we placed the collected input in a figure per pilot. Each figure visualises which segments of the wider governance context are deemed relevant per pilot. The colour green is used in the top side of the figure to reflect certainties, i.e. relevant known and identified elements of governance. The colour orange is used in the bottom half of the figure for uncertainties, i.e. it is acknowledged that there are likely to be relevant elements, but it is uncertain what and who these elements would be.

The relationships between the activities and the deliverables are visualized in Figure 1.

¹ Van Hoof, L., van den Burg, S. W. K., Banach, J. L., Röckmann, C., & Goossen, M. (2020). Can multi-use of the sea be safe? A framework for risk assessment of multi-use at sea. *Ocean & Coastal Management*, *184*, 105030. https://doi.org/10.1016/j.ocecoaman.2019.105030





Figure 1: Workflow for preparing the legal and insurance deliverable 6.1







3. INVENTORY OF LEGAL AND INSURANCE ISSUES BASED ON PILOT CONSULTATIONS

3.1. GERMAN PILOT

3.1.1. Legal issues

The German marine spatial plans are currently under revision. There exist regional plans for the territorial sea (Länder) (<u>https://www.bsh.de/EN/TOPICS/Offshore/Sectoral planning/ Anlagen/Downloads/SiteDevelop-mentPlanDraft_english.pdf?_blob=publicationFile&v=2</u>). The activities of the German pilot are confined to the exclusive economic zone (EEZ) of Germany. The German pilot is located close to the platform FINO3. FINO3 is not located within an existing offshore wind farm but on the edge of the concession zone in an area in the North Sea which is also open to wind farms, in the vicinity of three offshore wind farms (Butendiek, DanTysk and Sandbank). MU is permitted in zones which are also open to wind farms.

For the EEZ there exist federal plans since 2009, one for the North Sea and one for the Baltic Sea. Currently, the federal plans do not mention or otherwise take into account MU of the seas. Therefore, other uses within offshore wind farms are not prohibited, nor approved, which fuels uncertainty and appears to leave much of the decision on MU with the concession holder of the wind farm.

There are entry limitations with respect to the offshore wind farms which may in practice hinder MU.

Finally, it is unclear what would happen to successful aquaculture farms once wind farms would be completely removed as required in the decommission phase. It is unclear whether the new and updated marine spatial plan will provide clarity with respect to these issues. Therefor all these issues remain outstanding for projects which would be located within wind farms.

3.1.2. Insurance issues

All insurance policies were reviewed to ensure all aspects of the pilot project were insured. The relevant insurances have been obtained from the start of the project by all stakeholders. Loss of aquaculture products, such as mussels, cannot be insured.

3.1.3. Wider governance context for risk management

The BSH (The Federal Maritime and Hydrographic Agency; Bundesamt für Seeschifffahrt und Hydrographie, BSH): is responsible for the maritime safety, hydrographic survey, maritime pollution monitoring, and approvals of offshore installations. But in Germany the Marin Spatial Plan is under revision, and the current plan, and also the EEZ, does not mention MU, which leads to uncertainty, also regarding future regulation and usage. Multiuse is however allowed in zones for windfarms. All activities are now insured, although loss of aquaculture produce is not insured.







3.2. DUTCH PILOT

3.2.1. Legal issues

MU is currently allowed in several of the Dutch offshore wind farms areas under strict conditions. The wind farm areas have been opened up to smaller vessels for safe passage or for a limited set of activities such as recreational fishing. However, it is currently legally not possible to feed energy from floating solar farms into the grid of an offshore wind farm. Therefore, this regulatory framework presents great difficulties for offshore solar (or other energy sources) farm development. Greater clarity from governmental authorities on any (future) need for concessions and/or leases for MU areas within wind farms would be beneficial to MU users.

MU is not considered as a relevant factor in wind farm tendering processes, which is a missed opportunity to promote and support MU in the North Sea. Finally, it is difficult to give a legally protected status to a permitted area (safety zone) making it difficult to persecute offenders under penal law. Civil suits however remain a possibility.

Finally, it is unclear whether long-term permits are available for aquaculture projects. In the past, temporary permits for experimental mussel culture in the North Sea have been provided by the Dutch government for a period of 3 years with possibilities for a 5-year extension (Henrice M. Jansen et.al., 2016). However, commercial (long-term) investment will require long-term permits.

3.2.2. Insurance issues

All parties operating within the test zone have the relevant insurances in place. One particular issue which was raised, pertains to loss of revenues or loss of production in the event of damage to the MU installation by an external event, for example due to collision of an uninsured vessel with the solar farm. This aspect will be particularly relevant in the case of commercially operated farms. It is likely that such losses are not insurable and the question is posed whether this can be resolved in some way. It is suggested that solutions such as national damage





funds as found in land-based agriculture may be useful here as well. This may need the involvement of government backed funds.

3.2.3. Wider governance context for risk management

MU is allowed in the Netherlands under strict conditions. The wider regulation framework is however not very beneficial for solar/energy farms as it is illegal to feed energy from for instance floating solar farms into the grid of an offshore wind farm. In addition, it has proven hard to prosecute offenders due to a lack of legal protection. In general, the current regulation framework thus carries quite some uncertainties. It remains to be seen whether the new MSP will help solving these matters.



3.3. BELGIAN PILOT

3.3.1. Legal issues

The Belgian pilot benefits from the existence of a marine spatial plan (MSP) for 2014-2020 and for 2020-2026 (<u>https://www.health.belgium.be/en/news/something-moves-sea-new-marine-spatial-plan-2020-2026</u>). The latter MSP distinctly foresees multi-use (MU) as the new norm for fixed activities taking place in the same area in the Belgian part of the North Sea, in particular in offshore renewable energy zones (see also MSP vision 2050: http://www.thinktanknorthsea.be/en/reports). In the existing wind farm concession area on the Thornton Bank (zoning plan 2003, MSP 2014-2020, MSP 2020-2026) novel aquaculture developers, passive fisheries or restoration projects wishing to use the concession area must always obtain the agreement of the wind farm concession holder. Entrance of the concession area is prohibited for third parties not involved in maintenance activities related to the wind farms. In the second offshore renewable energy concession zone (Princess Elizabeth area), which is not developed yet, such an agreement will no longer be a requisite and new renewable energy proposals will inter alia be assessed on the basis of MU (MSP 2020-2026). In addition to the offshore renewable energy zones



(untill now only offshore wind energy), five separate zones have been designated where commercial and industrial activities can be developed, such as aquaculture. Sustainable development is the main focus.

The Belgian pilot operates outside (near shore: oyster and seaweed cultivation and oyster restoration) and within the existing offshore wind farm (offshore: oyster and seaweed cultivation and oyster restoration) and therefore operates offshore within the first framework. The partner (UGent), which undertakes the development of oysters and seaweed within the offshore wind farm, has obtained the agreement of the wind farm concession holder Belwind. In order to achieve this agreement three specific conditions were agreed upon: (i) UGent has to order a risk analysis of its planned undertaking by a third party; (ii) UGent, together with its partners, has to provide a project method statement; and (iii) UGent needs to take on an additional insurance in order to insure third party liability emanating from the installed project with respect to the offshore wind farm concession holder.

For the examination of the legal and insurance issues both the present situation (MU within a permitted wind farm concession zone), as well as the future situation (MU in a novel renewable energy zone, not yet tendered to an offshore renewable energy operator) will have to be considered.

Another important distinction to highlight is the scientific nature of the oyster and seaweed production by UGent – as opposed to a commercial exploitation. Once again both distinct situations are taken into account when highlighting the potential legal issues. Furthermore, in case of commercial exploitation additional health and market access requirements will have to be met.

Today only single use permits have been obtained for offshore wind, aquaculture projects, engineering projects and sand extraction, often in separate areas. Scientific aquaculture projects taking place in an offshore wind concessions zone (e.g. Belgian pilot) require a separate permit. Due to the distinct permitting procedures of different single uses within the same maritime area, the conditions of the permits differ. For one, the duration of the permits may differ (e.g. maximum 20 + 10 years for an offshore wind farm and maximum 50 years for an aquaculture project). It is unclear what happens to one single use in a MU context, when another one comes to an end, in particular if both are interdependent. It is uncertain whether all activities and permits can be transferred from one party to another.

Related hereto, it is uncertain whether it is desirable to remove all installations at the end of the concession or permit period as part of the decommission phase set out in law that departs from full removal. It is unsure whether the characteristic of a project, which is beneficial to nature conservation (e.g. oyster bed restoration), will influence the legal necessity of full removal of an aquaculture project or part of an offshore wind mill. Legislation that warrant a permit for partial removal only and the conditions for such partial removal, does not exist yet.

Vessel traffic in existing offshore wind farms is severely restricted today, based on the prohibition to enter the concession zone, as indicated as a safety zone. Only the operator of the offshore wind farm, services rendered on his behalf, governmental vessels and scientific vessels engaged in monitoring operations can enter the concession zone. Other uses within the concession zone, such as fisheries are not allowed. The latter will be a challenge for MU.

The permitting process is different for a scientific development within the wind farm zone as opposed to a commercial project. The pilot partners have reported a swift procurement of the necessary agreement for their scientific project. However, additional permissions and certificates had to be obtained from several administrations for the introduction of the European flat oyster (a special import regulation proving that the oyster seed is certified free from parasites such as *Bonamia* and *Marteilia*, special precautions when temporarily stocking the oysters on land such as in a closed, disinfected system, following NORA guidelines for transportation/stocking of the animals to avoid e.g. translocation of exotic species, ...). For a commercial project an exploitation/concession permit and an environmental permit is required, which includes an environmental impact assessment and if relevant a Natura2000 authorisation. Therefore, this is in any event a lengthier process. In addition, regulations on food safety, regulations on the prohibition to introduce exotic species, transport regulations,... apply. A commercial project may therefore potentially encounter more obstacles.

Finally, it is uncertain how a multi-use permitting procedure looks like. It is unclear whether distinct, yet linked, permits are needed or a single permit is needed. It is unclear whether distinct environmental impact assessments are needed or a single impact assessment is needed, especially taking into account cumulative effects of MU. So





far the Belgian authorities have no experience with a tendering procedure restricted to MU projects as a single project in the same concession area.

3.3.2. Insurance issues

All insurance policies were reviewed to ensure that all insurance aspects of the pilot project will be covered. From this exercise it was apparent that the UGent needed to take up two additional insurances: one to insure its assets once they were installed, and one to insure itself for third party liability from damages potentially incurred by its installed assets. In agreement with the wind farm concession holder, the latter liability was financially capped. All other partners within the project already had the relevant insurance policies for their activities contributing to the Belgian pilot.

One issue which was notified was the need to commence the consultation of the market for insurance policies in a timely fashion. Specifically for the Belgian pilot, it must be taken into account that the partner in need of a novel insurance policy (UGent) is a public institution. In contrast to other scientific institutions, UGent does not insure scientific offshore activities undertaken by its staff. This entails, it must adhere to the legal tendering process which can be time-consuming – especially in the event the contract is a high value contract. There are no further reported issues with the insurance policies which are required. Novel insurances must simply be budgeted for and taken up in due time.

3.3.3. Wider governance context for risk management

For the Belgian pilot the central Belgian Federal Government is the Federal Public Service Health, Food Chain Safety and Environment. Belgium does have a new Marine Spatial Planning Plan 2020-2026 and the plan foresees multi-use. Still, the demands for a multi-use permit procedure are still uncertain. Belwind as the wind farm concession holder, will have to deal with issues of multiuse and a number of government regulations on food safety, environmental matters and commercial usage. These matters are currently rather uncertain. UGent is the partner that will order the risk analysis for oyster and seaweed, and also third-party liability.







3.4. DANISH PILOT

3.4.1. Legal issues

The Danish marine spatial plan is still being developed by the Danish Maritime Authority (Søfartsstyrelsen). It will enter into force in 2021. The plan currently does not cover MU, nor does it exclude it. When additional activities making use of the foundations of the wind farm are to be deployed in a wind park area, a permit will be required for this activity.

Given the lack of clear MU procedures, most likely, there exists a need for different concession and permit approvals, as some of the activities can be brought under different governance regimes. There is a one stop shop rule since 1996: all negotiations are coordinated by one administration: the energy agency (<u>https://ens.dk/sites/ens.dk/files/Vindenergi/offshore wind tendet thor marketing.pdf</u>). This agency has to handle all other public bodies (ministry of environment, ...).

The longevity of permits is not unified and may differ per activity which can lead to issues at the end of life of one of the MU activities where one activity relies on the presence of another leading to uncertainty as to whether the remaining activity can continue its operations.

It is the responsibility of the permitting authority to consult with the wind farm operator in the permitting process. Wind park operators are free to deny access to other users – regardless whether their planned activity would require a permit or not. It is however unclear on which grounds the wind park operators can decide to disallow an activity, such as tourism in the case of the Danish pilot.

It is furthermore unclear which effect the safety zone around the wind farms has on these activities. Current safety regulations may indeed inhibit certain uses. For example, trawling in offshore wind park concessions (e.g. Middelgrunden) is not allowed due to the shallow waters.

It is furthermore unclear whether the Energy Agency, which is the permitting government for offshore wind farms, must or can assist in multi-use activities within or near the wind farm, including the activity of tourism.

3.4.2. Insurance issues

Thus far, no specific issues have been notified pertaining to insurance policies. For the planned tourism activities in the wind turbines, the tourism operator will take out the needed additional insurances with respect to potential damage to tourists as well as to the turbines.

3.4.3. Wider governance context for risk management

In Denmark the Maritime Spatial Plan is still being developed. Under the current plan MU is not mentioned and as such there are no clear procedures for MU. Stakeholders that are especially relevant to the Danish pilot are the Danish Maritime Authority (Søfartsstyrelsen) and The Energy Agency. The latter handles all contact, including negotiations, with the government in an approach called One Stop Shop.







3.5. GREEK PILOT

3.5.1. Legal issues

There exists no legally binding national marine spatial plan for Greece. There is therefore no overarching framework enabling or promoting MU of the seas. The relevant aquaculture site in the Greek pilot has an exploitation permit for 10 years obtained through a process which included an environmental impact assessment procedure. This permit defines the borders of the aquaculture site. It is however unclear whether legislation allows or prohibits additional use of the same site. Though it appears to be an existing practice to notify the aquaculture company of the dive path to be used by the divers, it is unsure whether this is legally required and whether this would entail the exclusion of other users not adhering to this notification. What is more, it is unclear on what grounds the aquaculture producer may in such a case refuse access.

The commercial exploitation of the aquaculture site and the production of sea bass and sea bream bring along a slew of regulations on health and safety rules, environmental guidelines, sampling, physio-chemical treatment,... (e.g. HACCP certification) It is unclear whether the diving activities may influence the application of these regulations.

3.5.2. Insurance issues

The diving company is highly experienced with diving in difficult areas and a zero accidents track record. What is more, it has the proper tools to ensure safety at all times. For this, remotely operated vehicles are used which are able to monitor the divers. Therefore, in case of damages, there will be video material available to ensure both the diving company as well as the aquaculture producer by documenting any incidents. In addition, the diving company has all the necessary certificates, provided by Bureau Veritas. This gives great reassurance to the aquaculture site that there is a very minimal risk of damage. There appear to be no issues with insurance as insurances already in place appear to cover the MU.





3.5.3. Wider governance context for risk management

For the Greek pilot there is no binding National Marin Spatial Plan; no overarching policy framework. Besides, a large amount of regulation and safety standards are of potential influence, although it is not clear how that will work out, and because of that much uncertainty, in particular for the commercial exploitation. It is for example not clear whether divers could enter the area on their own initiative. These are sources of uncertainty. But on the other hand, the aquaculture site does have an exploitation permit for 10 years, based on an environmental impact assessment. The diving company also possess all the necessary certificates by Bureau Veritas and have a strong security track-record, with its own camera-based monitoring. It also has all the necessary insurances.



3.6. Pilot crossing observations

It can be observed from previous chapters that none of the pilots mention the EU policies as important for the MU developments in the pilot. In addition, we see that the status of the national MSPs are not always brought forward. Also, the main stakeholders involved are not always covered in the material. All pilots do however describe the permit and insurance conditions.





4. CONCLUSIONS AND RELEVANCE FOR UNITED

4.1. Conclusions

From the consultations with the pilots, it is apparent that the legal and insurance issues have become more specific in nature and have increased in numbers as compared to the issues included in deliverable 1.1 (*Challenges, risks and barriers for large scale commercial roll out*) and deliverable 1.2 (*Review of existing or developed solutions*). Whereas some legal and insurance issues identified in deliverables 1.1 and 1.2. have been resolved, others have appeared during the pilots development process.

It can be concluded that, firstly, several general issues can be discerned which may potentially be relevant for every pilot. Secondly, several pilot-specific concerns can be singled out as well (*infra* table 1).

These issues can be sorted in the phase of the project in which they are most relevant (pre-operational phase, operational phase or post-operational phase). It is noticeable that most issues present themselves from the very conception of the project and that most legal and insurance issues have the potential to present themselves in every pilot. (*infra* table 1: general).

	Pre-operational phase	Operational phase	Post-operational phase
General	Explicit permission of the concession holder or permit holder for an additional activity in the context of MU Lack of a clear national MU framework and trans- parent access rights Legally induced power imbalance between multi- users Different regulations related to the scientific vs. commercial nature of a project Uncertainty related to the need for a single vs. multiple permits and lack of MU permit proce- dures (incl. single or MU EIA) Potential necessity of taking up novel insurance policies to cover MU Lack of focus on MU in tendering regulations Potential lack of availability of long-term (as op- posed to short-term) permits for MU activities Unclear role of permitting authorities with re- spect to MU	Transferability of per- mits Lack of focus on MU in case of safety zone reg- ulations Lack of insurance pro- tection schemes for loss of aquaculture reve- nues (production loss)	Uncertain conse- quences related to the end of life of one of the multi-uses ac- tivities Lack of focus on MU in decommissioning regulations Unclear decommis- sioning require- ments (complete re- moval, partial re- moval,)
Pilot specific	Time constraints due to tendering process to ob- tain insurance (BE) Legal inability to use the existing offshore wind energy grid for novel offshore energy sources, such as solar energy (NL) Unclear relevance of role of MU with respect to health and safety regulations (GR)		

Table 1: General and pilot-specific legal and insurance issues





Long duration to obtain a permit for commercial	
offshore aquaculture (Germany)	

4.2. Relevance for UNITED and the way forward

This deliverable lists the legal and insurance issues with which the various pilots are confronted within UNITED.

The characteristic of many of the legal and insurance issues being shared by all the pilots, highlights the added value of cooperation between the various pilots within UNITED and demonstrates an opportunity to learn from one another.

In addition, this inventory will serve as a direct basis for tasks 6.2 and 6.3 in which every issue in the inventory will be analyzed in detail. The inventory of this task furthermore serves as a guidance to answer all issues deemed relevant by the pilots. This is crucial in the preparation of the workshop on legal and insurance issues which will take place in 2022 and in which the pilots will be able to further comment on the legal and insurance issues relevant for their specific pilot.

Finally, for each pilot we have, following the substance and core principles of the framework used, identified the wider governance context, describing the actors, rules, conventions, processes, and mechanisms concerned with the pilots. This is a stepping stone to further involvement of wider stakeholder in the identification and assessment of risk, as well as developing risk mitigation options.





ANNEX 1 – PRELIMINARY INVENTORY OF LEGAL AND INSURANCE ISSUES BASED ON DELIVERABLES 1.1 AND 1.2

	PHASE 1 - Initiation	PHASE 2 – Pre-operation	PHASE 3 - Operation	PHASE 4 – Post-operation
BELGIUM NETHERLANDS GERMANY	 Identifying applicable regulations (national /EU) MSP (MU) 	 Obtaining permits Distinction existing / new project Joint / separate Consequences of failing to obtain one? Change of characteristics of project (research vs commercialization) ElAs Joint / separate Cumulative risks? Includes offsetting negative impacts by establishing positive impacts? (e.g. oyster restoration) Safety assessment procedures 	 Insurance Collisions (vessels); extreme weather Damage to one installation Increased traffic (e.g. collision, anchoring damage) Sharing of insurance costs? Liability As public/private partnership Between stakeholders Towards third parties 	 Decommissioning Shared cost? Legal status of remaining activity Longevity and transferability of permits End of both projects Different new projects possible?





		Identifying applicable regulations (na-		Obtaining permits		Insurance		Decommissioning
		tional /EU)		Distinction existing		 Sharing of insur- 		• Legal status of re-
		• MSP (MU)		/ new project		ance costs?		maining activity
		 Access rights to concession 		• Joint / separate	-	Liability	-	End of both projects
		area		Consequences of		• As Public/pri-		Different new pro-
		• Offshore energy installation (wind)		failing to obtain		vate partner-		jects possible?
		Security		one?		ship	-	Longevity and transfera-
DENMARK		 incl third party safety 	-	EIAs		Between stake-		bility of permits
		Environmental		• Joint / separate		holders		
		Permitting procedure		• Cumulative risks?		• Towards third		
		• Shipping	-	Safety assessment proce-		parties		
		• Tourism (incl transport)		dures				
	•	Identifying responsible administrations						
		and interconnectedness						
	•	Cross-border cooperation in MU						
	•	Identifying applicable regulations (na-	-	Obtaining permits	•	Insurance	-	End of one project
		tional /EU)		Distinction existing		Increased traffic		Legal status of re-
		 MSP (MU) 		/ new project		(e.g. collision,		maining activity
		 Access rights to concession 		 Joint / separate 		anchoring dam-	-	Longevity and transfera-
		area		Consequences of		age)		bility of permits
		 Aquaculture (fish farm) 		failing to obtain		Sharing of insur-	•	End of both projects
		Food safety		one?		ance costs?		Different new pro-
GREECE		Security	-	EIAs	•	Liability		jects possible?
UNLLUL		 incl third party safety 		 Joint / separate 		Between stake-		
		Environmental		Cumulative risks?		holders		
		 Permitting procedure 	-	Safety assessment proce-		 Towards third 		
		Shipping		dures		parties		
		 Tourism (incl transport) 		 Tourist transport 				
	•	Identifying responsible administrations		on aquaculture				
		and interconnectedness		vessels				
	-	Cross-border cooperation in MU						





General Legal and Insurance Issues

Based on the answers of the pilots to a questionnaire, the following concerns were deemed as important by all pilots:

- Unclear and fragmented regulations for MU on national level.
- Unclear and fragmented regulations for MU on European level.
- Strict security regulations that discourage setting up MU initiatives (e.g. safety zones around wind farms installations)
- The set of constraints related to safety distance to other users or distance from shore.
- Separate environmental impact assessment processes (permitting) for each of the (hybrid) technologies and lack of guidance on cumulative impact assessment of combined uses.
- Lack of established permitting procedures for multi-use projects.
- Lack of dialogue between public institutions and difficulties in identifying the administrative offices responsible for issuing permits.
- Lack of cross-border cooperation in MUP projects.
- Lack of established procedures focussing on the interests of different stakeholders within MSP
- Uncertainty about the ability of one party to continue operations if the other enters its decommissioning phase (e.g. legal status of the activities; the share of decommissioning costs).
- Lack of established safety assessment methods for MU.

The enumerated general concerns were recognized by all pilots. The level of concern differed per obstacle. All pilots distinctly expressed concern about the lack of established safety assessment methods for MU activities. All pilots except Belgian one furthermore especially highlighted the following three concerns: (i) unclear regulations on all levels, (ii) highly strict security regulations discouraging MU and (iii) the difficulty in recognizing and bringing together all relevant levels of administration. Belgium (together with Germany and the Netherlands) on the other hand expressed much concern about the ability of one party to continue if the other enters its decommissioning phase. Finally, the German, Dutch and Greek pilots also expressed a high level of concern regarding the lack of procedures for spatial planning of the sea with a focus on the interests of different stakeholders and linked thereto the lack of a suitable permitting procedure (including unclear EIA procedures) as well as the presence of constraints related to safety distance to other users or distance from the shore.

From the more detailed concerns expressed by all pilots and found hereafter, it is furthermore clear that another crucial element in need of clarification, and related to the safety concerns highlighted above, consists of all matters related to insurance.

Detailed Legal and Insurance Issues

German pilot

- Unclear and fragmented regulation for MU on national/European level.
 - The lack of the definition of standards and standard procedures (e.g. assessment of (environmental) impacts, selection of the MUCL scheme suited to a given site) complicates a unified procedure for permissions and leads to unclear and lengthy permitting procedures.
 - o Resolved for pilot: all permits and official approvals were already obtained for GER pilot
- Lack of established permitting procedures for multi-use projects.





- Lack of knowledge "who is responsible" for the permits and long time to obtain them for future multi-use scenarios
- Difficulty in getting permissions to exploit the ocean space for aquaculture production due to regulatory/institutional restrictions.
- o permit procedure needs to be faster
- Resolved for pilot: all permits and official approvals were already obtained for GER pilot
- Separate environmental impact assessment processes (permitting) for each of the (hybrid) technologies and lack of guidance on cumulative impact assessment.
 - Determination analysis that there is no negative environmental impact of mussel and algae aquaculture due to sedimentation has not been done (this was subsequently investigated under Deliverable 4.1 and 7.2)
- Uncertainty about the ability of one party to continue if the other enters its **decommission** phase (e.g. legal status of the activities or the share of decommissioning costs):
 - Most OWF are permitted for around 25 years, after which all infrastructure has to be completely removed. If the aquaculture farm is successful, this requires consideration of what will happen when OWF are to be decommissioned
- Insurance and liability issues
 - Property rights to production sites, balancing the access for the different activities (i.e. energy extraction and aquaculture), and uncertainty with respect to insurance and liability issues at multiuse sites

Dutch pilot

- Unclear and fragmented regulation for MU on national/European level.
 - Laws and regulations do not foresee in such combinations. Until recently, the concessions granted to offshore wind park operators made co-use illegal. Since 2015, it is now under discussion whether wind park operators should be obliged to study the possibilities for co-use
 - o No area designated for aquaculture in the spatial plans for the North Sea
 - Long term concession for commercial exploitation to be agreed with the government
- Lack of established permitting procedures for multi-use projects
 - Most activities at the Dutch EEZ are subject to permitting procedures, in order to protect nature and environment, and to guarantee safety at sea. Aquaculture activities are not subject to a formal Environmental Impact Assessment based on Directive 2014/52/EU, but culture sites, whether experimental or commercial, are subject to permits based on the Fisheries Act. In 2011, temporary permits for experimental mussel culture in the North Sea were provided by the Dutch government (Henrice M. Jansen et.al., 2016). The size of such an experimental site should not exceed three hectares, and permits were provided for a period of 3 years with possibilities for a 5-year extension. Industrial and investors participation in new activities are generally based on





a long-term strategy for the development of sites and technologies to enable a return on investment. This <u>requires</u> the support of long-term investment potential, and <u>long-term permits and</u> <u>policies</u>.

- Insurance policies
 - Potential structural risk that could occur from accidental collision with aquaculture equipment
 - In general, the current practice for offshore wind parks is to forbid other vessels to enter the designated parks in order to avoid questions on risks and responsibilities. As a result, risks associated with third-party access cannot be assessed.
- Other sectorial policies
 - Presence of incentive systems (eg financial benefits for MU?)
- Governance
 - Lack of trust between offshore wind sector and the fishery community

Belgian pilot

- Unclear and fragmented regulation for MU on national/European level
 - The development of an offshore wind farm requires an environmental impact assessment (EIA).
 An EIA for the aquaculture part of the Belgian pilot is not required since it is a research pilot.
 <u>Commercial exploitation</u> in the future, however, will have to conduct an <u>EIA</u>.
 - There are regulations concerning the introduction of aquaculture species and associated pathogens/diseases, defined by <u>different institutions</u>, including the Federal Agency for the Safety of the Food Chain (*Federaal Agentschap voor de veiligheid van de voedselketen*). Interestingly, a risk analysis needs to be conducted before installation on the demand of the concession holder of the wind farm in which the pilot will be set up. This analysis also includes an evaluation of possible impacts on the environment of the pilot.
 - No multi use assessment has been made yet for this or any other pilot
 - o Lack of established **safety** assessment methods for multi-use of space
 - Strict regulations on food safety analysis, testing of food quality is very expensive and time-consuming
- End of project decommissioning
 - It may conflict with the use of nature-inclusive scour protection which acts as a reef and enhances biodiversity.
 - Uncertainty about the ability of one party to continue if the other enters its decommission phase (e.g. legal status of the activities or the share of decommissioning costs)
- Lack of established permitting procedures for multi-use projects
 - The permit system and procedures in case of multiple use projects (single permit or multiple permits system)





- One of the main challenges to aquaculture is the difficulty in getting permissions to exploit the ocean space for aquaculture production due to regulatory/institutional restrictions:
 - On EU level: lack of the definition of standards and standard procedures (e.g. assessment of (environmental) impacts, selection of the multi-use scheme (suited to a given site) complicates a unified procedure for permissions and leads to unclear and lengthy permitting procedures
 - Resolved for pilot
- Clarity about the permit requirements in case of a scientific project combined with a private partner project
- Insurance policies:
 - Damage due to extreme environmental events (i.e. earthquakes or extreme storms)
 - Additional attraction of seabirds to the aquaculture installation might increase the risk of collision with a wind turbine (whereas oyster reef restoration however, might increase biodiversity by providing valuable feeding, breeding and refugee areas for a range of species)
 - Increased risk (not present for single use): unwanted introduction of pathogens, diseases and non-native (fouling) species when introducing aquaculture individuals.
 - Determination analysis that there is no negative environmental impact of oyster and seaweed aquaculture due to sedimentation has not been done
 - Liability for damage in case of a public/private partnership

Danish pilot

- Unclear and fragmented regulation for MU on national/European level
 - Lack of established safety assessments;
 - Lack of dialogue between institutions;
 - Unclear and fragmented regulation
- Insurance policies
 - High insurance premiums due to safety risks and little information about the Interaction between activities that could advise insurance premiums; who is to cover the insurance premium and who will be liable in case of accidents?
 - o NOT viewed as an issue: risk of damage due to extreme environmental events
- other sectorial policies
 - o e.g. incentive systems

Greek pilot

- Unclear and fragmented regulation for MU on national/European level
 - Lack of established procedures
 - o Unclear and fragmented regulations





- Strict security regulations that discourage multi-use
- o No known restrictions in legislation regarding scuba-diving close to aquaculture units.
- Frame-work of this business model in potential commercial roll-out should also be examined if it is according to national law.
- Restrictions in legislation or in its interpretation, which regulate the possibility of hosting tourists on board aquaculture vessels, was identified as a major barrier. Only regional legislation in Emilia Romagna, Italy referred to and defined this MU (<u>https://www.msp-platform.eu/sites/de-fault/files/download/italy_0.pdf</u>). There is absence of adequate regulations related to insurance against accidents. The development of the combination is also hampered by the fact that existing vessels used for aquaculture are not often suitable for touristic use
- Insurance policies:
 - o Scuba diving near aquaculture
 - Risk of damage to the power supply cables from anchoring vessels
 - Potential accidental damage to boats and aquaculture installations.
 - It has been determined that even though the aquaculture owners are not covered legally to use vessels for tourism, vessels for transferring divers is covered with proper insurance by the diving company and this must be the way to be provided to diving-tourists. Regarding health and safety and insurance in case of accidents, this still needs to be investigated.
- Governance:
 - Lack of acceptance of the multi-use combination by the local community

General concerns from past projects

- Insurance policies
 - Fish aquaculture has high maintenance requirements, increasing traffic around the site, while the impacts on the OWF installation (i.e. fouling) are still unknown. This increases insurance premiums how will costs be shared?
- Governance
 - o Power imbalance
 - E.g. the German Federal Marine Facilities Ordinance allows for the development of aquaculture at already existing wind power installations, as long as the aquaculture site does not become an obstacle for general maintenance. This gives the OWF operators a de-facto veto right against any development deemed hindering or detrimental to their activities in the area.

Other potential concerns

- Regulations
 - Entry to area: who can enter concession areas besides stakeholders? Influence of shipping lines or safety zones?





- End of project
 - o open up concession area to all again? Assume again available for similar projects only?
- Insurance policies
 - Do all stakeholders have separate insurance policies?²
 - Power imbalance: Is the insurance premium not disproportionate for the smaller stakeholder?³

² M.F. Schupp et al., Fishing within offshore wind farms in the North Sea: Stakeholder perspectives for multi-use from Scotland and Germany, *Journal of Environmental Management 279 (2021) 111762*, 7.

³ M.F. Schupp et al., Fishing within offshore wind farms in the North Sea: Stakeholder perspectives for multi-use from Scotland and Germany, *Journal of Environmental Management 279 (2021) 111762*, 7.





ANNEX 2 – QUESTIONNAIRE ON POTENTIAL ADDITIONAL LEGAL ISSUES

German, Dutch and Belgian pilot

First of all, we are interested in the <u>national legislation</u> dealing with

- MSP,
- offshore renewable energy projects,
- offshore aquaculture and
- shipping, the latter in relation with safety zones in and around those projects, as well as
- concession and permit legislation,
- EIA regulations and
- safety regulations

(reference to a website is ok at this stage).

Secondly, in terms of <u>governance</u>, <u>which governments/authorities</u> are involved in the decision-making process, such as

- the approval of the location for the offshore activity,
- the issuing of permits for MU activities,
- the assessment of EIAs and the control of those activities once operational?
- Are there various authorities involved depending on the type of activity?

Thirdly, is stakeholder participation and public participation part of this process embedded in law?

Fourthly, are there examples of resistance/opposition against permitted offshore activities? If this is/was the case, is/was this contested in an administrative procedure or before a court? (if possible references to websites).

Specific questions:

- Are the zones for renewable energy and aquaculture indicated in your <u>MSP</u>?
- Does your <u>MSP</u> explicitly allow or recommend <u>MU</u> for offshore activities?
 - What is the legal basis?
 - Which activities are envisaged or excluded for MU, if any?
- In case of MU of offshore renewable energy and aquaculture, does the law require: two different concession and permit approvals, and consequently two EIA's or can MU be approved by a <u>single concession</u> for the same area, a single permit and one integrated EIA's dealing with environmental effects in a multiple use context (cumulative impact assessment)?
- Are there <u>limits</u> in the number of different <u>MUs</u> in the same concession area? And if there are, what is the reason and the legal basis therefore?





- Is the <u>duration of the activity</u> depending on the project (e.g. offshore windfarm: 30 years; aquaculture farm: 50 years)? Are activities in a MU setting mutually dependent on the duration of one activity?
- What are precisely the <u>security regulations</u> for MU? Are there <u>restrictions to enter</u> the MU zone for fisheries, tourism (pleasure crafts), commercial shipping, ... and which ones (temporary, conditional, complete closure for third parties, ...?
- Are there (fixed) <u>distance requirements</u> between two or more MU activities in the same area?
- What are the <u>various steps in the permit procedure</u> for an offshore activity and what is the duration of the whole process? Is the <u>duration of this process</u> fixed in the law or is it dependent on administrative priorities in case the law is unclear or not specifying any duration?
- Are there <u>different permit procedures depending on the scale</u> of the proposed offshore activity or is the scale of the activity irrelevant?
- Are there <u>decommissioning regulations</u> (such as complete removal, partial removal, no removal), and are these different for renewable energy projects and for aquaculture projects, or is this still unclear?
 - Is there a <u>guarantee system to cover the cost for a (partial) removal</u> of the renewable energy installation or the aquaculture installation?
- <u>Can the concession holder of an offshore windfarm solely decide</u> with whom and what activity the area will be shared? If this is the case, what are the main arguments for accepting or excluding?
- Are there different permit requirements or conditions in case of a <u>scientific</u> and in case of a <u>commercial</u> <u>aquaculture</u> project? If there is a differentiation, can a scientific project be up scaled to a commercial project without a new permit?

Are the responsibilities of the MU parties clear in case <u>one party steps down before the end of the permit period</u>? Can in that case another party step in and take over the responsibility of the previous partner?

Danish pilot

Can you clarify or be more precise about:

- lack of or unclear approval procedures/assessments to be followed
- lack of dialogue between institutions (no dialogue, contradictory decisions, delay in decisions-making, unclear regulations,)
- unclear and fragmented regulation(s) regarding ... permits, EIA, responsibilities, insurance requirements (own damage, third party damage, extreme weather events, terrorism, ...)
- lack of authority support, stakeholder support, public support, ... if the case.

Greek pilot

Kastelorizo: aquaculture company; partner

Does the Greek pilot (aquaculture + additional activities) fit in the Greek MSP: dedicated area, ...

Where does the activity take place? In the territorial sea (innocent passage) (12 nautical miles in sea), exclusive economic zone, ...

Can you clarify or be more precise about:





- Governance (Luc): lack of acceptance of MU by the local community (authorities, the public in general, particular groups, ...?)
- lack of or unclear approval procedures/assessments to be followed
- fragmented regulation according what lines of divide?

<u>How strict are the security regulations</u>? Do they have an effect on the time for approval or do they result in withdrawing the request, or do they require adjustment during the application/approval process?

What are precisely the insurance issues? What are the potential risks? Own damage, damage to third parties, third parties causing damage, ...?

Specific questions:

- Are the zones for renewable energy and aquaculture indicated in your <u>MSP</u>?
- Does your <u>MSP</u> explicitly allow or recommend <u>MU</u> for offshore activities?
 - What is the legal basis?
 - Which activities are envisaged or excluded for MU, if any?
- In case of MU of offshore renewable energy and aquaculture, does the law require: two different concession and permit approvals, and consequently two EIA's or can MU be approved by a <u>single concession</u> for the same area, a single permit and one integrated EIA's dealing with environmental effects in a multiple use context (cumulative impact assessment)?
- Are there <u>limits</u> in the number of different <u>MUs</u> in the same concession area? And if there are, what is the reason and the legal basis therefore?
- Is the <u>duration of the activity</u> depending on the project (e.g. offshore windfarm: 30 years; aquaculture farm: 50 years)? Are activities in a MU setting mutually dependent on the duration of one activity?
- What are precisely the <u>security regulations</u> for MU? Are there <u>restrictions to enter</u> the MU zone for fisheries, tourism (pleasure crafts), commercial shipping, ... and which ones (temporary, conditional, complete closure for third parties, ...?
- Are there (fixed) distance requirements between two or more MU activities in the same area?
- What are the <u>various steps in the permit procedure</u> for an offshore activity and what is the duration of the whole process? Is the <u>duration of this process</u> fixed in the law or is it dependent on administrative priorities in case the law is unclear or not specifying any duration?
- Are there <u>different permit procedures depending on the scale</u> of the proposed offshore activity or is the scale of the activity irrelevant?
- Are there <u>decommissioning regulations</u> (such as complete removal, partial removal, no removal), and are these different for renewable energy projects and for aquaculture projects, or is this still unclear?
 - Is there a <u>guarantee system to cover the cost for a (partial) removal</u> of the renewable energy installation or the aquaculture installation?
- <u>Can the concession holder of an offshore windfarm solely decide</u> with whom and what activity the area will be shared? If this is the case, what are the main arguments for accepting or excluding?
- Are there different permit requirements or conditions in case of a <u>scientific</u> and in case of a <u>commercial</u> <u>aquaculture</u> project? If there is a differentiation, can a scientific project be up scaled to a commercial project without a new permit?
- Are the responsibilities of the MU parties clear in case <u>one party steps down before the end of the permit</u> <u>period</u>? Can in that case another party step in and take over the responsibility of the previous partner?





ANNEX 3 – QUESTIONNAIRE ON POTENTIAL ADDITIONAL INSURANCE ISSUES

German pilot

GERMAN PILOT									
OWN ASSET INSURANCE									
Insured by	Offshore Wind Park	Aquaculture producer	Aquaculture producer	Scientists	Relevant actor	Other relevant	Other relevant		Relevant
Damage done to	operator	(seaweed)	(mussels)			actor?	actor?		for pilot?
Assets during transport on land									
Assets stored on land (seaweed, mussels)									
Vehicles transporting assets (seaweed) on land									
Vehicles transporting assets (mussels) on land									
Assets in wind park (e.g. wind turbines, cables)									
Assets (seaweed and needed infrastructure) during transport and installation at sea									
Assets (mussels and needed infrastructure) during transport and installation at sea									
Vessel used for installing seaweed infrastructure									
Vessel used for installing mussels infrastructure									
Seaweed and relevant infrastructure after installation at sea									
Mussels and relevant infrastructure after installation at sea									
Vessels used for sampling seaweed									
Vessels used for sampling mussels									
Vessel used for diving missions (checking infrastructure and restoration)									
Vessel used for decommissioning seaweed infrastructure									
Vessel used for decommissioning mussels infrastructure									
Other?									
Other?									
Other?									
OCCUPATIONAL ACCIDENT INSURANCE (for personnel)									
Insured by						Other	Other		Relevant
Damage done to	Relevant actor	Relevant actor	Relevant actor	Relevant actor	Relevant actor	relevant	relevant		for pilot?
						actor?	actor?		
Employees transporting assets (mussels) on land									
Employees transporting assets (seaweed) on land									
Crew placing seaweed and relevant infrastructure									
Crew placing mussels and relevant infrastructure									
Crew used for sampling									
Divers used for diving missions (checking infrastructure and restoration)									
Crew decommissioning seaweed infrastructure									
Crew decommissioning mussels infrastructure									
Other?									
Other?									
Other?									



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THIRD PARTY LIABILITY INSURANCE									
Insured by (+ type of liability) Damage caused by	Relevant actor	Other relevant actor?	Other relevant actor?		Relevant for pilot?				
Transport of seaweed on land									
Transport of mussels on land									
Placing screw seaweed infrastructure (incl work, vessel and crew)									
Placing screw mussels infrastructure (incl work, vessel and crew)									
Installed seaweed infrastructure									
Installed mussels infrastructure									
Installed wind park assets									
Maintenance and other activities of wind park operator									
Activity of sampling of seaweed									
Activity of sampling of mussels									
Sampling vessel									
Divers and vessels used for diving missions									
Decommissioning of seaweed infrastructure									
Decommissioning of mussels infrastructure									
Other?									
Other?									
Other?									

Legend
El: covered by existing insurance policy
EI+: additional clause to be added to existing insurance policy
ESI: covered by existing insurance policy of subcontractor
ESI+: additional clause to be added to existing insurance policy of subcontractor
EPI: covered by an existing policy provided by a governmental body
NI: to be covered by novel insurance policy
When contemplating the presence or lack of insurance,
please also consider and add the following:
1. Does the policy have limitations?

These limitations (L) can be quantitative (i.e. there is a financial cap) or

qualitative (i.e. certain activities are excluded from the policy such as e.g. acts of god or $% \mathcal{A}(\mathcal{A})$

extraordinary activities)

2. For third party liability: is this fault-based liability (F) or strict liability (S)?





Dutch pilot

DUTCH PILOT									
OWN ASSET INSURANCE									
Insured by Damage done to	Stichting Noordzeeboerderij	The Seaweed Company	Vattenfall	Ventolines BV	TNO	Oceans of Energy BV	Scientists	Other relevant actor?	Relevan for pilot
Assets during transport on land (solar infrastructure)									
Assets during transport on land (seaweed infrastructure)									
Vehicles transporting solar infrastructure on land									
Vehicles transporting seaweed infrastructure on land									
Assets in wind farm (turbines, cables,)									
Assets (solar infrastructure) during transport and installation at sea									
Assets (seaweed infrastructure) during transport and installation at sea									
Vessel used for taking out floating solar infrastructure into sea									
Vessel used for taking out seaweed infrastructure into sea									
Assets (solar infrastructure) after placement at sea									
Assets (seaweed infrastructure) after installation at sea									
Vessels used for field assessments of solar infrastructure									
Vessels used for sampling of seaweed?									
Vessel used for diving missions (checking infrastructure and restoration)?									
Vessel used for decommissioning solar infrastructure?									
Vessel used for decommissioning seaweed infrastructure?									
Other?									
Other?									
Other?									
OCCUPATIONAL ACCIDENT INSURANCE (for personnel)	1								
Damage done to	Stichting Noordzeeboerderij	The Seaweed Company	Vattenfall	Ventolines BV	TNO	Oceans of Energy BV	Scientists	Other relevant actor?	Relevan for pilot
Employees transporting solar infrastructure on land						57	+		
Employees transporting seaweed infrastructure on land				1			+		
Crew placing solar infrastructure				1			<u>├</u> ───		
Crew placing seaweed infrastructure				1			<u>├</u> ───		

Crew placing seaweed infrastructure					
Crew used for sampling seaweed?					
Crew used for inspecting / maintaining solar infrastructure					
Crew used for inspecting / maintaining wind farm					
Divers used for diving missions (checking infrastructure and restoration)?					
Crew decommissioning solar infrastructure?					
Crew decommissioning seaweed infrastructure?					
Other?					
Other?					
Other?					



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THIRD PARTY LIABILITY INSURANCE									
Insured by (+ type of insurance) Damage caused by	Stichting Noordzeeboerderij	The Seaweed Company	Vattenfall	Ventolines BV	TNO	Oceans of Energy BV	Scientists	Other relevant actor?	Relevant for pilot?
Transport of assets (seaweed and relevant infrastructure) on land									
Transport of assets (solar panels and relevant infrastructure) on land									
Transport over sea and installing solar infrastructure (incl work, vessel and crew)									
Transport over sea and installing seaweed infrastructure (incl work, vessel and crew)									
Installed assets (solar infrastructure)									
Installed assets (seaweed infrastructure)									
Installed assets of wind farm									
Maintenance and other activities of wind farm operator									
Field assessments of solar infrastructure (wave effects)									
Activity of sampling aquaculture?									
Sampling vessel?									
Vessels and divers for diving missions?									
Decommissioning solar infrastructure?									
Decommissioning seaweed infrastructure?									
Other?									
Other?									
Other?									

Legend
EI: covered by existing insurance policy
EI+: additional clause to be added to existing insurance policy
ESI: covered by existing insurance policy of subcontractor
ESI+: additional clause to be added to existing insurance policy of subcontractor
EPI: covered by an existing policy provided by a governmental body
NI: to be covered by novel insurance policy

When contemplating the presence or lack of insurance,

please also consider and add the following:

1. Does the policy have limitations?

These limitations **(L)** can be quantitative (i.e. there is a financial cap) or

qualitative (i.e. certain activities are excluded from the policy such as e.g. acts of god or extraordinary activities)

extraordinary activities)

2. For third party liability: is this fault-based liability (F) or strict liability (S)?





Belgian pilot

BELGIAN PILOT								
OWN ASSET INSURANCE								
Insured by						Other	Other	Polovant
Damaga dana ta	UGENT	JDN	BREVISCO	PARKWIND	RBINS	relevant	relevant	for pilot?
Damage done to						actor?	actor?	tor priot:
Assets during transport on land (anchors, longlines)								
Assets on land (oysters)								
Vehicles transporting assets on land								
Assets in park of BELWIND (e.g. wind turbines)								
Assets (anchors, longlines, oysters, seaweed) during transport and installation at sea								
Vessel used for placing screw anchors, long lines, oysters, seaweed								
Vessel used for placing gabions, bags								
Assets (anchors, longlines, oysters, seaweed) after installation at sea								
Vessels used for sampling								
Vessel used for diving missions (checking infrastructure and restoration)								
Vessel used for decommissioning anchors, longlines, gabions, bags								
Other?								
Other?								
Other?								
OCCUPATIONAL ACCIDENT INSURANCE (for personnel)	Ī							
Insured by						Other	Other	Delevent
Insured by	UGENT	JDN	BREVISCO	PARKWIND	RBINS	relevant	relevant	Relevant
Damage done to						actor?	actor?	for phot?
Employees transporting assets on land								
Crew placing screw anchors, long lines, oysters, seaweed								
Crew placing gabions, bags								
Crew used for sampling								
Divers used for diving missions (checking infrastructure and restoration)								
Crew decommissioning anchors, longlines, gabions, bags								
Other?								
Other?								
Other?						1	1	





THIRD PARTY LIABILITY INSURANCE									
Insured by (+ type of liability) Damage caused by	UGENT	JDN	BREVISCO	PARKWIND	RBINS	Other relevant actor?	Other relevant actor?		Relevant for pilot?
Transport of assets on land									
Placing screw anchors, long lines, oysters, seaweed (incl work, vessel and crew)									
Placing gabions, bags (incl work, vessel and crew)									
Installed assets (longlines, gabions, oysters, seaweed, anchors)									
Installed assets of BELWIND									
Maintenance and other activities of BELWIND/PARKWIND									
Activity of sampling oysters, seaweed									
Activity of sampling gabions, bags									
Sampling vessel									
Diving missions (vessel and divers)									
Decommissioning of anchors, longlines, gabions, bags									
Other?									
Other?									
Other?									

Legend
El: covered by existing insurance policy
El+: additional clause to be added to existing insurance policy
ESI: covered by existing insurance policy of subcontractor
ESI+: additional clause to be added to existing insurance policy of subcontractor
EPI: covered by an existing policy provided by a governmental body
NI: to be covered by novel insurance policy
When contemplating the presence or lack of insurance,
please also consider and add the following:

- 1. Does the policy have limitations?
- These limitations (L) can be quantitative (i.e. there is a financial cap) or
- qualitative (i.e. certain activities are excluded from the policy such as e.g. acts of god or $% \mathcal{A}(\mathcal{A})$
- extraordinary activities)
- 2. For third party liability: is this fault-based liability (F) or strict liability (S)?





Danish pilot

DANISH PILOT							
OWN ASSET INSURANCE							
Insured by						Other	Polovant
Damaga dana ta	Operator offshore farm (Middelgrunden Wind)	Boat owners / charterers	Organized tourism: travel agency	Scientists	Occasional tourists	relevant	for pilot?
Damage done to						actor?	for prior:
Offshore farm (incl. Production loss?)							
Vessels used for offshore wind activities							
Vessels used for sampling							
Vessels used for diving missions (checking infrastructure + repair)							
Vessels used for transport of tourists							
Other?							
Other?							
			1		1		
OCCUPATIONAL ACCIDENT INSURANCE (for personnel)							
Insured by						Other	Relevant
Damage done to	Operator offshore farm (Middelgrunden Wind)	Boat owners / charterers	Organized tourism: travel agency	Scientists	Occasional tourists	relevant	for pilot?
						actor?	
Employees offshore wind farm							
Crew placing offshore devices							
Crew used for sampling							
Divers used for diving missions (checking infrastructure and repair)							
Tourist visitors offshore wind mill							
Tourists on boat (incl boarding and leaving vessel before reaching firm ground)							
Other?							
		1	1	1			
THIRD PARTY LIABILITY INSURANCE							
						Other	
Insured by (+ type of liability)	Operator offshore farm (Middelarunden Wind)	Boat owners / charterers	Organized tourism: travel agency	Scientists	Occasional tourists	relevant	Relevant
Damage caused by	operator offonore farm (madelgranden mind)	bout ownersy analterers	organized to another dyency	belefitibes		actor?	for pilot?
Urganized tourist boats							
Iourist visitors offshore wind mill							
Other?							
Other?							



Legend



0	
EI: covered by	y existing insurance policy
EI+: additiona	al clause to be added to existing insurance policy
ESI: covered b	by existing insurance policy of subcontractor
ESI+: addition	nal clause to be added to existing insurance policy of subcontractor
EPI: covered	by an existing policy provided by a governmental body
NI: to be cove	ered by novel insurance policy
When conten	nplating the presence or lack of insurance,
please also c	onsider and add the following:
1. D	oes the policy have limitations?
These	limitations (L) can be quantitative (i.e. there is a financial cap) or
qualit	ative (i.e. certain activities are excluded from the policy such as e.g. acts of god or

are excluded from the extraordinary activities)

2. For third party liability: is this fault-based liability (F) or strict liability (S)?

Greek pilot

GREEK PILOT									
OWN ASSET INSURANCE									
Insured by							Other	Other	Relevant
Demana dena ta	Operator aquaculture farm (Kastelorizo)	Boat owners / charterers	Organized tourism: travel agency	Scientists	Occasional tourists	Planet Blue	relevant	relevant	for pilot?
Damage done to							actor?	actor?	for phot:
Assets during transport on land									
Assets on land (aquaculture products)									
assets (diving equipment)									
Vehicles transporting assets on land									
Assets in aquaculture park									
Vessels used for aquaculture activities									
Vessels used for sampling									
Vessels used for diving missions (checking infrastructure and repair)									
Vessels used for decommissioning activities									
Vessels used for transport of tourists									1
Other?									
Other?									



and Innovation Programme under Grant Agreement no 862915



OCCUPATIONAL ACCIDENT INSURANCE (for personnel)									
Insured by Damage done to	Operator aquaculture farm (Kastelorizo)	Boat owners / charterers	Organized tourism: travel agency	Scientists	Occasional tourists	Planet Blue	Other relevant actor?	Other relevant actor?	Relevant for pilot?
Employees transporting aquaculture assets on land									
Crew placing aquaculture devices								1	
Crew used for sampling								í – – – – – – – – – – – – – – – – – – –	
Divers used for diving missions (checking infrastructure and repair)								, ,	
Crew decommissioning aquaculture devices								1	
Crew tourist boats								· · · · · ·	
Tourists on boat								· · · · · ·	
Tourist divers								<mark>ر</mark>	
							Othor	Other	
Insured by (+ type of liability) Damage caused by	Operator aquaculture farm (Kastelorizo)	Boat owners / charterers	Organized tourism: travel agency	Scientists	Occasional tourists	Planet Blue	relevant actor?	relevant actor?	Relevant for pilot?
Transport of assets on land									
Assets in aquaculture park								· · · · · ·	
Sampling vessels and crew								<u>ا</u> ــــــــــــــــــــــــــــــــــــ	
Maintenance and other activities in aquaculture park								<u> </u>	
Occasional tourist boats								<u> </u>	
Organized tourist boats								<u>ا</u>	
Tourist divers								<u> </u>	
Scientific diving missions								ļ!	
Other?								ļ!	
Other?								!	
Legend									
EI: covered by existing insurance policy									
EI+: additional clause to be added to existing insurance policy									

ESI: covered by existing insurance policy of subcontractor

ESI+: additional clause to be added to existing insurance policy of subcontractor

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These limitations (L) can be quantitative (i.e. there is a financial cap) or

qualitative (i.e. certain activities are excluded from the policy such as e.g. acts of god or extraordinary activities)

2. For third party liability: is this fault-based liability (F) or strict liability (S)?