e – workshop: Regulatory framework for the development of wind offshore in Greece

Review of Frameworks

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Purpose of review / countries examined / topics covered

Purpose: To collect, and understand practices of (advanced) countries about critical issues that should be be tackled in order to develop a robust offshore wind framework.
Countries: Belgium, Denmark, France, Germany, Netherlands, United Kingdom.
Topics: elaborated:

- Zone planning and site allocation for the development of OWF
- Seabed rights to developers
- Preparation of the necessary environmental studies
- Tendering
- Permits
- Support schemes
- Grid connection of OWF to the electricity transmissions systems

The way each country follows influence the **speediness of the development**, the **cost of the system**, the **investment environment**, the **interest of the developers**.

The understanding of alternative approaches regarding the above will be extremely useful to the documentation and evaluation of the suitable model for Greece

Sources / Deliverables

- European Commission
- Data from HWEA
- CRES data / results from Interreg Med projects "PELAGOS" & BLUE DEAL
- Offshore Wind Worldwide Regulatory Framework in Selected Countries, Hogan Lovells, World Forum Offshore Wind, 2020
- Global Offshore Wind: Key markets and prospects, Norton Rose Fulbright, 2019
- East Anglia ONE Offshore Windfarm, Environmental Statement, APFP Regulation 5(2)(a), The Crown Estate, 2012
- Global and Regional Outlooks, Pinpointing Opportunities: Tenders &Project Pipelines, REUTERS EVENTS, New Energy Update

- report in Greek language,
- executive summary in English

Status of OWF in terms of installed capacity

Belgium	**6 wind parks of total power 1, 6 GW and 2 new offshore wind parks of total power 706 MW planned for 2020, and provisions for a new zone of 2 GW planned for 2030 is among the country leaders**
Germany	the **target of 6,5 GW set for 2020** has been **already achieved**. **Target for 2030** is to increase of the total installed capacity of OWFs to **20 GW**.
Denmark	first park in 1991. The installed capacity is expected to be around **2,5 GW in 2020**. And **3 additional large-scale offshore wind parks** of total power **2,4 GW are planned until 2030**
France	Despite the good potential and the expressed for many years political will no offshore wind park is currently installed. This ia mainly due to the complex licensing procedures and the **strong oppositions by environmental organisations**. Now after changes in the framework, three rounds of bidding were conducted for OW and to date in total **3.5 GW of power are distributed to different operators to different locations**. **Tagret 2030: 10GW** France is pretty much interested in **floating wind turbines**, and 4 pilot projects, of **24 MW in total**, were chosen from the French government to be installed in the Mediterranean and Bretagne and are awaited to be operational in 2021. Till now only one with a capacity amounting to 2MW, was inaugurated in October 2017
Netherlands	1 GW installed & additional 4,5 GW, therefore in total **5,5 GW are expected by 2023**. **Target by 2030 : 11,5 GW**
U.K	the largest offshore wind market in the world, with more than 30 OWFs, **target:40 GW until 2030** and installation of floating wind turbines

Different models for OWF development

Centralized Model

the State:
- **selects the zones and the sites and the time of implementation based on its RES and Marine Spatial planning (territorial waters in the zone of 12 nm, and Economic Exclusivity Zones)**
- **prepares all the required environmental studies, including studies on their interconnection**
- **grants the sites to individuals based on the results of a tender process where the one who offers the lowest price per kilowatt hour is selected.**

Belgium: 100% centralized model

Intermediary Model

Combination

The State
- identifies extended zones

Developers
- implement zone and site planning, as well as the project development: get the rights to study and propose, within the defined large zones, their projects (all measurements, studies etc. are done by them) providing they can demonstrate that they, or their partners, have the necessary financial strength and technical competence to deliver
- have the opportunity to bid for projects,

the final decision on project allocation, is made based on the option fee value, proposed by the Bidders

Denmark and the Netherlands adopt models closer to the centralized one with the public authority undertaking the entire development phase, which includes the selection of the installation site, the design of the OWF and the interconnection, their study and licensing as well as and the granting of the connection right and the right to use the area. All permits are secured by the state, public authorities pay and build the connection network, public authorities handle important investment issues such as development, the connection

Germany the Federal Maritime and Hydrographic Authority is responsible for the development and initial examination of offshore areas for the construction and operation of the OWFs. The determination of OWF positions is done through the "Position Development Plan" which is prepared by the Organization, where exactly the positions.
The Federal Maritime and Hydrographic Agency then conducts a pre-examination of the sites in order to determine their suitability and to provide interested parties with all the information required for the bidding procedures during the bidding process.

France applies an intermediate model with more proportions to the "decentralized" model. The procedure followed first involves the selection of wider marine areas suitable for OWF by the authorities and then, through a screening process involving a discussion with the industry and the local community, the determination of the final location for which compensation is being tendered

U.K 100% decentralized model

Common in all examined countries: *independently from who is responsible for the specification of projects (state or developers) the prerequisite for the launching of a competition procedure is the spatial designation of zones in the sea, where the necessary amounts of OWF capacity will be installed*

Rights over land to be secured–seabed rights

Belgium	The rights over the land of the zones for OW development, are granted to offshore wind developers by Ministerial Decree
Denmark	The **developer must negotiate with, and compensate, local landowners, if the onshore cable routing runs through their land**. **No offshore land rights** shall be secured for the construction and operation of the OWFs. **The licenses granted for construction and operation of the OWFs** in Danish territorial waters, the continental shelf, or in the EEZ **do not confer any ownership rights of the territories concerned to the license.**
France	the **developer / operator's rights over offshore land are secured through a lease of the seabed concluded with the State,** allowing it to use the maritime public domain On the contrary, **rights over onshore and nearshore land are given to the TSO.** Therefore, **TSO itself manages the securing of these rights** (FOR CONNECTION WORKS)
Germany	In the **German EEZ**, **no particular land rights need to be secured** since this area is not owned by anyone **(no man's land** according the territorial law) The **permission** to use the respective land in the EEZ **is included in the planning approval** issued under the Offshore Wind Energy Act. The seabed **within the 12nm** zone technically is a land plot or consists of multiple land plots which are **owned by the Federal Republic of Germany**. The **respective right to use such property for WTG or cable system installations is included in the respective planning approval. Onshore rights , over necessary land for substations / cables, are managed by the TSO**
Netherlands	A **seabed lease has to be established between the wind farm operator and the Dutch government**. **Apart from the seabed lease for the wind turbines, a rental agreement** for the infield cabling **between the wind turbines and the TSO platform has to be signed**.
United Kingdom	in England and Wales: 1. **seabed rights for the site of the OWF i**n the form of an Agreement for Lease and then **Lease granted by The Crown Estate**; **2. seabed rights for the corridor of the OWF transmission cable** in the form of a Transmission Agreement for Lease and then **Transmission Lease granted by The Crown Estate**; and 3. **land rights for the onshore corridor of the transmission cable and the substation connection** of the transmission cable to the Great Britain transmission network, typically in the form of a **lease granted by the freeholder or leaseholder of the relevant land**

Rights over land to be secured–seabed rights (possible risks for developers)

Belgium (low risks)	**domain concessions are granted by Ministerial Decree and could be amended over time but any such amendments will be accompanied by compensation due by the government.**	
Denmark **(low risks)**	The **developer must contact commercial fishermen in the area concerned for the purpose of negotiating potential compensation for the fishermen's documented loss of earnings** pursuant to the Danish Fisheries Act. The organization, Danish Fishermen PO, handles the compensation negotiations on behalf of its members, but it does not represent all commercial fishermen in Denmark.	
France **(high risks)**	There **are high risks that the rights of use of the public domain are challenged before the courts.** The authorization to use the maritime public domain is indeed one of the authorizations required for the projects and there is a regular habit for environmental associations to challenge such authorizations, so the risks of delays due to the occurrence of this scenario are substantial	
Germany **(no risks)**	In general, there **is no risk regarding possible successful challenges of the rights to use the land,** because in the EEZ and within the 12nm zone, the right to use the land is included in the **planning approval** which becomes final and binding upon expiry of the respective remedy periods. The responsibility for the construction and operation of the GCS is with the relevant TSO; in case of interruptions in the operation or delays in completion of the GCS, the OWF owner is entitled to receive a compensation (see above).	
Netherlands **(no risks)**	**No risks regarding possible successful challenges to the right to use the land**, because the right to use the land is included in the planning and tender approval which becomes final and binding upon expiry of the respective objection periods, or the final rejection of any objections	
UK **(no risks)**	The **rent payable in respect of an operational OWF** in England and Wales is typically equal to 2 % of gross developer turnover, subject to a floor, if the wind farm is generating below a minimum output level. Once awarded, a lease of seabed rights granted by The Crown Estate may only be terminated in accordance with its terms.	

Permits required to construct, operate and connect the OWF

Belgium: 1 permit	• **From the Federal Minister of Energy**	
Denmark: 4 permits	• for **preliminary investigations** (valid for one year) • for **construction of the OWTGs** • for **the utilization of energy**; • to **produce electricity** (for capacities above 25 MW).	
Netherlands: 1 permit	as defined in the Offshore Wind Energy Act, a license can only be **granted by the Minister if the construction and operation of the OWF is economically,** economically and technically feasible. In addition, operation and construction must begin within four years of the date on which the permit became irrevocable. Finally, the application for authorization must comply with the Wind Farm Site Decision	
Germany: 1 permit	The type of **permit** required is **planning permission**, which unlike other types of public permits has a centralized character (i.e. all required public licenses are collected and granted by this planning permission).	
France: 3 permits	the regulatory system holds a strong link to the French Energy Regulatory Authority (CRE). The construction and installation of an OWF requires 3 licenses: • a license to **operate an electricity production unit** granted by the Minister in charge of energy at the end of the tender to the successful bidder. • an authorization **to use the maritime public domain** by means of the conclusion of a lease of the seabed with the State. This authorization is granted by the Prefect, • **an environmental authorization**	
UK: 5 permits	• **generation license** • **EIA may be required where there may be a significant environmental impact, and any DCO or planning consents cannot be issued until it has been taken into account** • **The 3 seabed / land rights (mentioned before)**	

OWF grid connection costs / responsibilities

Belgium	TSO	TSO	TSO
Denmark	Developer (subject of the tender)	Developer (subject of the Tender)	Responsibility of the TSO Cost paid by the Developer
France	TSO	TSO	TSO
Germany	TSO	TSO	TSO
Netherlands	Responsibility of the TSO Developers are charged a certain amount to the TSO which varies depending to connect to the land network		TSO
United Kingdom	Developer	Developer	Responsibility of the TSO Cost paid by Developer

Submarine Cable
Offshore Substation

Onshore cable
Land substations

Tenders / support mechanisms

The **support mechanisms for OWF** in Europe are mainly the:

- Feed in Premium scheme / Contract for Difference – CfD
  and in lesser degree the:
- Power Purchase Agreement (PPA)/ FiT feed-in tariff scheme,
- Green certificates and the guarantees of origin
  which are issued for the quantities of offshore electricity energy generated by OWF and then either sold to the network operator at a minimum guaranteed price or at the energy market at a higher price.

During the **bidding process**, bidders offer a sale price of electricity for OWF (which includes and any grid connection costs and by which any cable subsidy is deducted if available, eg Belgium) and the lowest bidder wins the competition. Then for the different schemes:

- For CfD, a contract is signed and the difference between the current market price at which it sells and the price at which the tender was awarded, is returned
- For PPA it signs a contract with a fixed selling price of this offer,
- For green certificates their minimum selling price is set,

Germany: precondition for making bids in the auction is the provision of a security in the amount of EUR 200 per KW of installed capacity

Clauses

In all countries the legal framework ensures the compensation of the owner of OWF in case of:
a) delays in the grid connection works projects, under the responsibility of the TSO
b) poor maintenance of the network or power transmission restrictions that forces the producer to interrupt or reduce its production

Belgium	**The Connection Agreement and the Access Agreement govern the liability of the TSO. In the Connection Agreement, the OWF operator is protected against delays in completion of the GCS and against unavailability of the GCS due to technical failure or poor maintenance.**	
Denmark	If TSO does not meet the deadlines and comply with conditions for grid connection of the OWF according to the terms of the tendering procedure, TSO will be objectively liable for damages and for any consequential loss suffered by the developer.	
France	The producer/operator of the OWF is protected against the consequences of delays as well as disruptions of the GCS by the transport network operator.	
Germany	The OWF owner is protected against a delay in completion of the GCS and against unavailability of the grid due to failures or maintenance works. The operator of the OWTG is entitled to a compensation of 90 % of the lost feed-in income in case of an interruption of the GCS during or more than 10 consecutive days as from the 11th day or in case of interruptions on more than 18 days per calendar year as from the 19th day. The same compensation entitlement applies in case the GCS is not completed on time as from the 11th day of the delay. The compensation is calculated dependent on the actual loss of feed-in income, which is to be proven by the OWF owner on the basis of WTG and wind data. One main requirement of all compensation claims is that the interruption or delay of the GCS is the (only) cause for the lack of feed-in.	
Netherlands	An OWF owner shall be entitled to compensation for damage caused by the TSO of the offshore grid if this TSO produces all or part of the offshore grid necessary to open up the OWF later than scheduled. There is also a right to compensation when there is a disruption of the onshore grid connection or an unavailability of the network at sea. Consequently, it is important to unambiguously mark this moment in order to prevent unnecessary discussion about the period for which damages can be claimed.	
United Kingdom	The CfD contains some limited protections against the consequences of delays and disruptions to the GCS.	


Thank you for your attention!