

Minutes of meeting
Workshop MOGII 01/04/2022
FINAL

List of participants:

Name	First name	Company/association
Ballantyne-Jovene	Cecile	Total Energies
Baudson	Axel	European Commodities
Breton-Godo	Raphaël	Total Energies
Buedts	Nico	Jan De Nul
Canière	Hugo	BOP
Chafaqi	Laïla	Luminus
De Clerck	Tom	Eneco
De Vos	Kristof	Elia
Debacker	Béatrice	Engie Electrabel
Dens	Jan	Jan De Nul
Desmaré	François	Luminus
D'hulster	Aislinn	Cabinet TvdS
Donnay de Casteau	Loic	Engie
Geffroy	Léo	Total Energies
Genêt	Benjamin	Elia
Gervoyse	Pieter	DEME Group
Gommeren	Ward	GE
Haase	Torsten	Orsted
Harlem	Steven	Luminus
Hendrix	Stijn	Parkwind
Juhani Koivisto	Matti	DTU
Kormoss	Aymeric	Eoly Energy
Laleman	Ruben	Engie
Leroux	Amandine	Elia
Libert	Brice	CREG
Maenhoudt	Marijn	CREG
Matthys-Donnadieu	James	Elia
Nonneman	Hendrik	DEME Group
Pieck	An	CREG
Reichling	Alain	GE

Rietjens	Damien	Elia
Robbelein	Jo	FOD Economie
Rosseau	Jan	Yuso
Schulz	Johannes	RWE
Souto	Paula	Parkwind
Suykens	Cathy	Parkwind
Van Bossuyt	Michael	Febeliec
Van Campenhout	Steve	Elia
Van Der Biest	Piet	Siemens Energy
Van Nuffel	Margot	Otary
Van Thielen	Elmo	Elia
Vanbuggenhout	Pieterjan	Parkwind
Vandercammen	Dirk	Parkwind
Verbeurgt	Daan	Virya Energy
Verrydt	Eric	BASF

Agenda of the workshop

- 1. Introduction**
- 2. Balancing integration**
- 3. Market integration**

The meeting was chaired by James Matthys-Donnadieu. All agenda items were supported by presentations prepared by Elia. The slides serve as background for these minutes and can be found on the Elia website under <https://www.elia.be/en/users-group>

Minutes of Meeting

1. Introduction (presented by Benjamin Genet)

BOP and Febeliec ask if the presentations will be based on a 8 GW scenario. Elia explains that at this point, the presentations during this workshop assume a 5.8 GW scenario, based on the latest information formally shared by the government. Elia is aware that a scenario of 8 GW is being discussed by stakeholders, but does not dispose of sufficient detailed information to initiate analyses or conduct simulations. As Elia needs to start the analysis, Elia will launch the calculations for a 5.8 GW scenario and if needed, and in discussion with stakeholders, re-scope the scenarios if new information would become available during the study. Elia is aware that the existing uncertainty will require an agile way of working.

2. Balancing integration (presented by Kristof De Vos)

Elia introduces the context for the study update. Regarding the planning, Elia explains that the current planning is based on a retro-planning to be ready for the tender in Q4 2023. In case of evolutions in scope of the study (e.g. 8 GW) or planning of the tender, Elia will discuss and agree with the stakeholders on how to amend the process.

Elia summarizes the methodology and results of the original study published in 2020. Stakeholders requested to be mindful during the study to clarify abbreviations and acronyms. BOP reminded the importance of compliancy of the proposed mitigation measures with European legal requirements. BOP specifies that they formally oppose the mitigation measures related to the offshore wind parks (i.e. preventive curtailment, ramping rate restrictions and cut-in coordination) as proposed in the 2020 study, as it violates the rights of renewable energy producers obtained from the EU legislation (EU Regulation 2019/943). Elia takes note of the comment, and confirmed it has received the letter of BOP concerning this point. Elia explains that it is willing to continue the discussions on legal compliancy of the proposed measures in the framework of this study and task force.

Elia presents the new scope and planning of the study. BOP asks on which basis the offshore bidding zone entered the discussion. Elia refers to the debate of hybrid interconnectors on EU level which is also relevant for MOG 2. And explains that this will be dealt with in the next presentation on market integration.

Otary remarks that the installed capacity scenarios of 3.0 GW, 4.4 GW and 5.8 GW represent each time an increase of 1400 MW each while the evolutions will go more gradual in reality. Elia explains that at this point, no more detailed scenarios exist to increase the resolution of the installed capacity evolution over time. In addition, there is also no need to do so as the proposed approach is sufficient to determine the final impact on the system and proposed mitigation measures.

BOP remarks on the wind park topology assumptions that Federal Public Services (FPS) is refining the topology of the zone of the new offshore wind park, which might take into account 'gravel beds'. Elia explains it will take the latest available information into account until April 22, 2022 due to the importance of starting the simulations in time and not jeopardizing the final timing. It will ask FPS for the latest information that can be used.

GE Renewable asks if it possible to schedule a specific meeting on the technology assumptions for the offshore generation profile. Elia confirms it can organize such a workshop if there would be an interest from the stakeholders, and asks which concrete information / input GE Renewable is planning to share. GE answers it will contact Elia first bilaterally to organization of such a workshop. DTU Wind energy and Siemens-Gamesa confirm to be willing to participate in the workshop as well. Elia confirms it will send an invitation for a workshop to be organized before April 22, the date on which the simulations are to be launched [*In view of the short timing to prepare the workshop, as well as the confidential nature of the information, GE and Siemens-Gamesa, clarified after the meeting to prefer sharing their feedback bilaterally to Elia. Consequently, no specific technology workshop will be organised*].

BOP also mentions that the turbine size needs to be discussed as 17 MW turbines may also need to be considered. Elia explains it is open to discuss this during this technology workshop but also stresses that the impact on the system operation and mitigation measures is mainly determined by the power curves, and to less extent by the turbine size (which is more relevant for the business case of the wind farm). This is confirmed by DTU Wind, the consultant supporting Elia by means of modelling the future wind power generation profiles.

Febeliec explains that it is important to be able to provide feedback based on results. Elia explains this will be possible during the 2nd workshop where DTU will present the results of its simulations. However, Elia also explains that it is the objective to start at that moment of the system simulations so that it is not the intention to put into questions the assumptions if not strictly needed (it is for this reason presents the assumptions today together with an invitation to stakeholders to provide input). Febeliec also explains the need to analyze the system impact and mitigation in terms of costs. Elia explains that it will go in more detail on the approach to assess the system operation impact and mitigation measures during the 2nd and 3rd workshop when kicking off the system simulations based on the wind power generation created by DTU

BOP asks to which extent the wind power generation models take into account effects such as wind gusts and fast wind direction changes. DTU explains that the models do take into account such effects to a very detailed matter, and that it can share some references on the modelling approach. Elia also refers to the report of the first study which also specified the modelling approach to detailed extent:

MOG 2 system integration study 2020, Full report, Annex A, [20200608 Public consultation on the integration of additional offshore capacity \(elia.be\)](#)

1) *Paper related to the Elia 2020 study:*

J. P. Murcia Leon, M. J. Koivisto, P. Sørensen, P. Magnant, “Power Fluctuations In High Installation Density Offshore Wind Fleets”, Wind Energy Science, vol. 6, pp. 461–476, 2021. (<https://doi.org/10.5194/wes-6-461-2021>).

2) *About validating the sub-hourly simulation capabilities:*

M. Koivisto, G. M., Jónsdóttir, P. Sørensen, K. Plakas, N. Cutululis, “Combination of meteorological reanalysis data and stochastic simulation for modelling wind generation variability”, Renewable Energy, vol. 159, pp. 991-999, October 2020 (<https://doi.org/10.1016/j.renene.2020.06.033>).

3) *About the newest reanalysis data we use (ERA5):*

J. P. Murcia, M. J. Koivisto, G. Luzia, B. T. Olsen, A. N. Hahmann, P. E. Sørensen, M. Als, “Validation of European-scale simulated wind speed and wind generation time series”, Applied Energy, vol. 305, 117794, January 2022 (<https://doi.org/10.1016/j.apenergy.2021.117794>).

3. Market integration (presented by Steve Van Campenhout)

Why an offshore bidding zone?

Elia introduces the concept of an offshore bidding zone (OBZ), explaining that an OBZ comes into the picture as part of MOG II's scope is to enable the integration of a hybrid interconnector:

- To integrate hybrid interconnectors into the market, the application of an offshore bidding zone is assessed as being a more efficient solution compared to a home market solution;
- Nautilus is planned as second interconnector between UK and BE.

Otary and BOP ask what is the rationale / benefit of doing Nautilus as a hybrid interconnector. Elia refers to:

- Policy objectives being shaped in European / North Sea context, which materialized in the Federal Government's decision regarding the energy island / MOG II;
- The new European Ten-Year Network Development Plan (TYNDP 2022) and the new Belgian Federal Grid Development Plan (FDP 2024-2034) where more information including quantified analysis (CBA) will be available. The consultations of these development plans are planned for the second half of 2022.

Otary furthermore asks if on the UK side there also plans to combine Nautilus with UK offshore wind. Elia replies this is part of the ongoing studies, no decisions have been made.

GE Renewable asks how the cable to DK fits into this set-up. Elia replies that Triton (name of the DK-BE cable) in the long run might be connected to the DC part of MOG II, yet this requires also technological evolutions like DC circuit breakers.

Challenges related to offshore bidding zones

A first challenge is the lower and more volatile revenues for the offshore wind farm developers, reflected as both a price risk and volume risk.

Price risk: in an OBZ setup, the OWF will obtain the DA reference price from the OBZ which will convert to the lowest DA price of the 2 onshore bidding zones. Through some examples it is illustrated that under a CfD the price risk is neutralized.

Eoly asks why the OBZ price is always equal to the price of the exporting country. Elia explains the interconnector between the importing bidding zone and the offshore bidding zone will be congested (as it transport flow coming from the exporting bidding zone + offshore wind) whilst on the interconnector between the exporting bidding zone and the offshore bidding zone there is still capacity left (it transports 'only' the flow coming from the exporting bidding zone).

Otary agrees with the principle (CfD hedges risk), but it obviously means the CfD mechanism must be designed correctly; i.e. electricity reference price must be correctly defined. Therefore crucial that any details on OBZ are available before CfD mechanism is designed. BOP commented that it seems contradictory that an OBZ is presented as a superior market design solution, but on the other hand might requires addition support via for instance a CfD scheme. The support could alternatively be used to build out more transmission capacity between the energy island and the load centers in Belgium, in order to reduce or eliminate congestion. BOP feels that this aspect is to be further investigated.

Febeliec states that a 2-sided CfDs hedges the risk for the developer, but that there is clearly an important potential cost impact from a consumer perspective. Parkwind asks if a definite choice has already been made between a 2-sided CfD versus zero-bid support scheme. Elia clarifies this question is to be directed to the Cabinet of Energy being in charge of the design of the support mechanism. The representative of the Cabinet of Energy replies no definitive choice has been made at this stage.

Totalenergies asks what the impact of offshore bidding zones is on the occurrence of negative prices. Elia replies negative prices represent a volume risk for the OWF in an OBZ, yet it is not the concept of an offshore bidding zone itself that is causing negative prices. The existence of negative prices is driven by support schemes leading to RES having a negative short run marginal cost instead of a zero short run marginal costs, and by an inflexible production park. Moving forward, Elia expects future support schemes to be less distortive and the electricity mix to become more flexible, hence negative prices to become less frequent.

Elia briefly introduces the second challenge, related to solving imbalances. This will come back in more detail in future workshops.

4. Closure and next steps

Participants thank Elia for the interesting presentations. Elia will circulate the presentations acknowledging that for future workshops it is welcome to have them circulated ahead of the workshop.

Placeholders for next workshops will be sent out by Elia.