

## Polish Wind Energy Association (PWEA) Position Paper on the draft Minister for Economy Regulation on the reference prices in 2016 for offshore wind

PWEA would like to draw attention to the incomprehensibly low reference price proposed by Ministry of Economy for offshore wind energy, very different from the actual market rates.

First it has to be stressed that **support for offshore wind energy – what many times has been stressed in its Position Papers by PWEA – shall be separated from auctions for other RES**. This means that a “separate basket” with funds allocated for the purposes of development of offshore projects is necessary. Offshore wind energy de facto needs a separate act, comprehensively regulating the development of this technology. It has to be clearly stressed that no investor will spend PLN 100 million on project development without certainty that he will gain support at the relevant level. To this end the current RES Act does not meet the expectations. Due to the initial development phase of offshore wind energy in Poland it is legitimate to apply the fixed feed-in premium or capital subsidies scheme to the first, commercial large-scale offshore wind farm projects. The instruments would guarantee the development of offshore wind energy, enabling Poland to benefit from one the highest offshore wind development potentials in the Baltic Sea, stemming from the coastline length as well as substantial area of the territorial sea and the exclusive economic zone.

Such an exemption is compliant with the Guidelines published by the European Commission, which clearly stipulate that separate support schemes may be applied to selected technologies in legitimate circumstances. The European Commission’s Guidelines on state aid for environmental protection and energy 2014-2020<sup>1</sup> (the Guidelines) allow for the application of different rules for selected technologies, entailing privileges for the technologies in legitimate cases.

In the opinion of Polish Wind Energy Association offshore wind energy fulfils the premises for such a different approach (Article 126: From 1 January 2017, the following requirements apply:

*Aid is granted in a competitive bidding process on the basis of clear, transparent and non-discriminatory criteria (66), unless:*

- a) Member States demonstrate that only one or a very limited number of projects or sites could be eligible; or*
- b) Member States demonstrate that a competitive bidding process would lead to higher support levels (for example to avoid strategic bidding); or*
- c) Member States demonstrate that a competitive bidding process would result in low project realisation rates (avoid underbidding).*

In the case of offshore wind farms the condition a) applies, for the location decision and connection conditions issuance was subject to different procedures, which complied with competitiveness conditions when granted. Therefore, no more projects than acquired

<sup>1</sup> Communication from the Commission – Commission guidelines on State aid for environmental protection and energy 2014-2020, 28/06/2014, 2014/C 200/01.



location decisions and connection conditions may compete. Competition is possible only between projects within that group. Therefore, the situation is very different from other RES technologies.

The analysis of economic parameters of offshore wind farm projects in other countries enables presentation of actual, current electricity production costs exhibited by the technology (the so-called LCOE - *Levelized Cost of Energy*). The data for the first half of 2015 quoted by Bloomberg New Energy Finance (the analysis covers Denmark, Germany, UK, the Netherlands, France and Belgium) demonstrate that **electricity production costs in the offshore wind sector fall in the 580 – 730 PLN/MWh (115 - 175 €/MWh)<sup>2</sup> range**. Among the countries analysed by Bloomberg France exhibits support scheme most closely resembling the Polish one, where connection costs also are to be incurred by the investor. Bloomberg estimates LCOE for the country at 173 €/MWh, i.e. approximately **720 PLN/MWh**. The table below presents the range of key variables determining LCOE for offshore wind energy in particular European Union countries. The values are substantially different from the figures presented in the statement of reasons to the draft Regulation.

**Table. A comparison of CAPEX, OPEX and productivity in the offshore wind energy sector in particular EU countries.**

Country	CAPEX (mPLN/MW)	Capacity factor (%)			Fixed O&M (PLN/MW/yr)
		Average	High	Low	
Denmark	16.92	45	38	42	451200
Germany	16.5816	44	37	41	451200
UK	18.4992	49	37	41	451200
The Netherlands	18.2736	48	36	40	451200
France	18.048	48	37	41	451200
Belgium	17.5968	46	35	39	451200

Source: PWEA own work on the basis of Bloomberg, New Energy Finance, H1 2015 OFFSHORE WIND MARKET OUTLOOK

It has to be stressed that despite dynamic growth in Europe the offshore wind energy sector shall be considered as a new, innovative sector with rather substantial initial cost of produced electricity, but with very high potential for reduction of these costs.

CAPEX of offshore wind farms is higher than onshore for several reasons. First – due to substantial technological differences. Offshore wind farms require larger and more expensive foundations; wind farm construction is carried out in complex, often very difficult offshore conditions; and component transport costs are much higher than in case of onshore transport, primarily due to the need to charter very large vessels. More importantly, **offshore wind energy is a maturing technology**. This means that **new, innovative solutions**

<sup>2</sup> Bloomberg, New Energy Finance, H1 2015 OFFSHORE WIND MARKET OUTLOOK

**whose fundamental purpose is to increase energy production efficiency and decrease costs, are being developed and tested.**

International Energy Agency stresses that learning and experience curves of offshore wind energy demonstrate decrease of capital costs with each doubling of installed capacity. **Obviously, this means that costs decrease as we “learn” the technology; however, it has to be remembered that the process is individual for each country due to differences in support schemes and investment environment.<sup>3</sup> This requires increased investment expenditures at the beginning of the technology development in a particular country.**

Furthermore, it has to be noted that the Polish law requires wind farms to be located within the exclusive economic zone, which means that the distance of the Polish projects from the shore will amount to minimum 12 nautical miles (approximately 22 km). The 2015 study of the American Delaware University demonstrates substantial cost differences between projects implemented closer to the shore (a study on 9 nautical miles, i.e. approximately 16 km) and those located further away (i.e. 12 nautical miles). **CAPEX of the projects differed by approximately 1.5%, whereas OPEX by as much as 14% (obviously to the disadvantage of projects located further away from the shore)<sup>4</sup>. The distance to the shore also affects the increase in LCOE – projects located further away from the shore exhibit energy production costs higher by approximately 3%.<sup>5</sup>**

The Polish government, deciding to specify maximum prices for offshore wind energy at such a low level as proposed in the draft Regulation, sent a clear message that the sector will not develop in Poland. It seems contradictory with the goals of the Energy Policy of Poland, the National Renewable Energy Action Plan and the decisions made to date (including concerning the issuance of location permits or concluded interconnection agreements). We would like to stress the very high potential of the offshore wind energy sector to produce value added for the Polish economy amounting to almost PLN 74 billion in the 2025 perspective. The development of the sector may create 31 thousand new jobs in Poland and satisfy electricity demand post-2020 while reducing atmospheric emissions and increasing the country's energy security.<sup>6</sup> However, implementation of offshore wind farm projects is related to substantial financial expenditures at an early stage. Therefore, investors facing such a low reference price will not decide to develop such projects in Poland. Hence the decision concerning the reference price for offshore wind energy directly translates into investments expected post 2020.

Therefore, we would like to stress the danger related to the specification of the reference price at a too low level. There are no projects in Europe capable of producing energy below that level. It is also impossible to achieve such a level in Poland.

<sup>3</sup> IEA Technology Roadmap - Wind energy, 2013 edition

<sup>4</sup>This translates into approximately 300 kPLN/MW of additional CAPEX and 63 kPLN/MW/yr of additional OPEX (estimated for values provided by Bloomberg for France – CAPEX 18 mPLN/MW, OPEX 415 kPLN/MW/yr).

<sup>5</sup> New York Offshore Wind Cost Reduction Study, University of Delaware, Special Initiative on Offshore Wind, 2015

<sup>6</sup> A report developed by Ernst&Young for Polish Wind Energy Association entitled “Offshore wind energy: analysis of benefits for the Polish economy and development determinants”, Warsaw, 28 February 2013.



The first auction in France has been announced in 2011 and should result in 3 GW of offshore wind energy in 5 different sites by 2020. Auction participants had to comply with minimum eligibility criteria, such as equity level (>20% of total costs) or technical expertise. The auction proposed the minimum and maximum reference price, different depending on the project's location (115 – 175 €/MWh and 140 – 200 €/MWh). The prices proposed for particular locations considered distance to the shore and water depth. The analysis of Round 1 in France demonstrated that prices bid by tenderers were above the maximum thresholds. As a result the maximum price of 22 €/MWh (i.e. approximately 900 PLN/MWh) was specified for all sites.

In PWEA opinion in accordance with the above the reference price for offshore wind energy shall currently be set at the actual cost level in France, i.e. 720 PLN/MWh. The price specified by Ministry of Economy at the level of 470 PLN/MWh is substantially understated and, if left at the current level, will result in the loss of a number of benefits such as new jobs, the development of coastal regions, reclamation of post-shipyard areas, central budget revenues and the establishment of energy security of Poland.

