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Opinion of the Chief Expert on Energy of the Union of Entrepreneurs and Employers: EU's Renewable Energy Directive RED III vs the possibilities of the Polish energy sector

- **The European Renewable Energy Directive (RED III) was adopted at the beginning of October this year by the Council of the European Union.**
- **The document introduces both indicative and binding targets, some of which may turn out to be unrealistic in Polish conditions.**
- **Poland has 1.5 years to transpose RED III. It is worth using this time to conduct a detailed feasibility study of the document in national conditions and further possible negotiations with the EU in this regard.**

Energy transformation comes down to a systemic reconstruction that involves basing the entire energy sector in Europe on renewables. This is the target that the European Commission is pursuing: a global economic process that will revolutionise European industry. It means a metamorphosis of the lifestyle of the citizens of countries where the efficiency of energy use increases along with the progress of electrification. Of course, this mainly applies to countries that are highly developed in terms of technology and possess the ability to finance extensive modernisation and innovate in the area of consumption of energy resources, meaning energy and heat generation.

After the outbreak of the war in Ukraine and following the observed energy problems in almost every European country, it seemed as if the European Commission would slightly revise the transformation pace to enhance the energy security of the continent. On the one hand, this could mean an increase in RES investments. On the other, it might translate into the use of European fossil fuel resources, as well as the return in some countries to nuclear energy. Such an energy mix also seems to be the most rational way to guarantee Europe's energy security.

Meanwhile, the recently adopted by the Council of the European Union directive known as RED III clearly defines the direction of development of the European energy sector as preferably based on renewable sources. Increasing the obligatory share of green energy in the European energy balance to 42.5% with the option to increase this level to 45% by 2030 is a realistic

scenario only for some EU member states, such as Denmark. The entire Polish energy sector produces 175 terawatt hours of electricity per year – green energy accounts for less than 30 TWh, the equivalent of approx. 21% of the country's energy balance. While we are observing a very promising share of renewable energy generation this year in Poland and the year might end with a new record in this respect, the Polish energy sector under the current regulations is unable to double its installed green capacity by 2030. And this relates to sectoral law and regulations defining general investment requirements alike. Presently, we have approx. 26 GW of renewable generation capacity installed in wind farms, photovoltaics, hydropower, and biomass installations.

By 2030, offshore wind farms with an installed capacity of 5-6 GW can be expected to be launched, which should translate into the production of approximately 15-20 terawatt hours of green energy. With favourable legislation facilitating RES investments (onshore wind energy and large-scale photovoltaics), we can count on an additional production of approx. 10 TWh of energy from these sources by 2030.

Thus, in 2030, with a favourable investment policy towards renewables, the Polish state can expect to produce 60-65 TWh a year. Considering the expected consumption of ca. 180-200 TWh, will constitute only 25-28% of the country's overall energy balance. This in no way implies a lack of faith in the RED III having sense – on the contrary. Nevertheless, this does not directly impact the enforceability of its provisions within the expected time limit.

To meet the assumptions of RED III, Poland should have roughly 60 GW of renewable generation capacity installed by 2030, which is more than the entire Polish energy sector currently. Such power, counting on average 1,500 hours of full operation (a large part of which are going to be photovoltaic sources with lower efficiency) translates into 90 TWh of energy produced. And only in such a scenario will we be able to fulfil the assumptions of the Directive.

Assuming an average production of onshore wind farms at the level of 2,000 hours of full power (due to the anti-windfarm law, we do not have high-efficiency installations of this kind in Poland, with a capacity of over 3,000 hours of full power, and operating farms often do not even achieve 2,000 hours of full power) and a total of 10-12 GW of generating capacity, we should achieve ca. 20 TWh of production from this source by 2030. Offshore wind farms will produce 18-20 TWh by 2030 according to the 3,500-hour model, multiplied by an installed capacity of 5-6 GW. By then, photovoltaic installations should reach the level of 20-25 GW of installed power, which,

with an average production of 700-800 hours of full power, will result in 17-20 TWh of energy produced. Constantly operating sources such as hydroelectric power plants, biomass or biogas power plants, even with significant investment facilitations, will not produce more than 8-10 TWh of green energy annually by 2030.

To sum up energy generation, with a legislative “fast track” for the necessary RES investment laws, Poland might count on reaching the ceiling of 40-45 GW of installed capacity by 2030-2032, which may translate into energy production of approx. 60-70 TWh a year. At the same time, one must not forget that Poland has a large share of industry in its revenue structure, and Polish industry produces many goods for export, mainly to developed countries, including fellow EU member states. Therefore, with the obligatory use of green energy only in production processes (ESG goals), our industry will require over 50 TWh of green energy for its own needs. RED III assumes a 1.6% annual increase in the use of green energy, which is realistic, but would happen in our domestic conditions at the expense of other sectors of the economy.

Challenges that electric transport as well as heat and power face

Thus far, Poland is not a producer of green hydrogen, although in the future it may constitute a principal element of the national economy. In this context, the target of a 42% share of green hydrogen in the industry by 2030, which is assumed by RED III, seems to be completely unattainable. Moreover, the indicative target of 49% of renewable energy used in buildings provided for in RED III is unattainable for us even in 2035, due to the specificity of our energy sector. Even with a significant increase in green energy production, we must direct it first to industry and transport. Power supply for buildings and households will still be based on coal-fired energy in the longest term. Energy from natural gas will in turn be needed as a stabilising factor for the operation of weather-related renewables. And although, of course, a lot of transformational investments in the Polish heating sector are currently planned and implemented, both the financial condition of the sector and several types of administrative and legal barriers mean that for now low-emission installations are heralds of change instead of a commonplace phenomenon.

If, through the development of the prosumer sector, it is possible to achieve to power 15% of households with green energy by 2030 as a result of self-generation and utilisation, it will be a remarkable success for the Polish economy. Let us remember, however, that from 2024 a dynamic tariff will enter into force. As a consequence, without investing in an energy storage

facility, PV panels alone, or worse a heat pump, will become a project of questionable profitability. Support systems will therefore play a huge role here and for that we naturally need funding.

In terms of transport electrification, RED III offers a choice. Either a binding target of 14.5% reduction in greenhouse gas intensity in transport (due to renewable energy use by 2030), or a binding target of at least 29% renewable energy in final energy consumption in the transport sector by 2030. In the context of the great significance of the automotive, transport, and logistics industries in Poland, it seems necessary to confirm that these sectors evaluate these “binding goals” as realistic.

Acceleration of investments in renewable energy is indisputable, but other provisions may need to be adapted to local specificities.

The strengthening of criteria regarding the use of biomass as a source of renewable energy in RED III should be evaluated positively. This is important for the Polish economy not only due to environmental criteria, but also due to the share of the furniture sector in exports and the country’s economy.

The emphasis in RED III on simplifying the process of issuing necessary investment decisions for RES also seems necessary. The concept of “overriding public interest” best suits the interests of the entire Polish economy in this respect, but also of the EU economy in the understanding of the common energy market.

In my opinion, RED III is a positive and necessary document that indicates quite precisely the direction of development of European economies. As a guiding document, it should be adopted without undue delay by decision-makers in the Polish energy sector (Poland has 1.5 years to transpose it into national legislation). It should be subject, however, to verification of individual partial goals and then adapted them to the capabilities of the Polish economy. It seems that it should now be of key importance to reach consensus regarding local specificities in the transposition of the Directive by individual EU member states.

For example, Belgium raised concerns about whether the sectoral partial targets assumed in RED III guarantee the implementation of climate goals in an economically justified way. Ireland recognised the importance of ambitious 2030 renewable energy targets, but stressed the need to comprehensively consider their implications – noting that impacts may be underestimated. Latvia reported the need to consider the country’s economic and social conditions, energy

balance and starting point when setting renewable energy requirements. The aim here would be to ensure that the objectives of RED III are both attainable and beneficial for each EU member state. Therefore, it seems that Poland has a chance to not be alone in its observations and dilemmas regarding the assumptions of RED III, which gives hope for a constructive dialogue at the EU forum.

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