

PSE calls for electricity market design facelift

In the opinion of PSE, the Polish transmission system operator (TSO), current European market design does not facilitate optimization of generation and grid, resulting in increase of costs of energy for consumers. It also contributes to higher CO2 emissions. PSE states that introducing Locational Marginal Pricing market (nodal pricing) would be a more adequate solution for the future. PSE plans to pilot a similar solution on the Polish market within the next few years. PSE's position on electricity market re-design was presented by Professor Leszek Jesień, Director for International Cooperation in PSE at POLITICO event ["Giving the EU's Electricity Market a Facelift"](#) organized in Brussels.

Today's European energy market is divided into bidding zones and is based on "copper plate" assumption that the physical capacity of electric power transmission is unlimited. This model proved effective at the initial stage of energy market liberalisation in Europe and in the early period of development of renewable energy sources; yet, today, it is by no means flawless.

European market design does not facilitate optimization of generation and grid to the benefit of consumers. TSO has to ensure the secure supply of energy. When demand for transmission exceeds physical capabilities of power lines, TSOs intervene to prevent the risk of emergency disconnections, or even blackouts, by means of re-dispatching, i.e. increasing the generation that sits downstream of congestion, and decreasing it by the same amount upstream. It results in additional payments to generators. The problem with this market-and-re-dispatching sequence is that it treats power generation and grid resources separately, instead of optimizing them together. As a consequence, the energy is not priced at individual points of the system, and the price does not include the real costs of generation, transmission and distribution. Furthermore, the higher RES penetration in the system, the more energy volume is needed for re-dispatching.

According to PSE, these flaws in European market design can be overcome with fundamental changes. We believe that the best solution is to implement market mechanisms which would optimize generation and grid capacity within a single process, and the final energy prices would reflect the entire energy supply cost chain. **In our opinion, the adequate solution for Polish electricity market is the nodal pricing approach, also called Locational Marginal Pricing.**

The LMP model, already operating in the United States, allows generation units to be continuously optimized in a way that minimizes energy supply costs, given the available transmission grid. Current and expected system conditions are fed into the market engine, so that generation set points are updated and implemented every five minutes. Harmony between market and system operations allows for trading up to very real-time, without endangering security of supply. This model also

translates into savings on electricity generation; CO2 emissions are likely to decrease regardless of the generation mix.

We kindly invite you to watch [the video](#) with PSE's position on electricity market re-design presented by Professor Leszek Jesień, Director for International Cooperation in PSE; followed by the debate "Giving the EU's Electricity Market a Facelift" organized by POLITICO in Brussels.

Additional information on the topic may be found in PSE's publication "[EU electricity market: the good, the bad and the ugly](#)" by Konrad Purchała, Ph.D., Director for European Integration Policy, PSE.

PSE is a power transmission system operator (TSO) in Poland. PSE is a State Treasury company of a particular importance for Poland's economy. The scope of its responsibility is laid out in energy law.

PSE transmits electrical energy to all regions of the country. The Company is responsible for the power system balancing and for the maintenance and development of the grid infrastructure and interconnections. The Company also provides cross zonal capacity for the purpose of cross-border exchange on an arm's length basis.

PSE owns 14,195 kilometers of power lines and 106 top-voltage power substations.

WEC Poland is an association which is the local body of World Energy Council (WEC), international organization with offices in more than 90 countries. WEC objective is to support a development and peaceful exploitation of the energy sources, to the greatest benefit of all member countries and of the whole mankind.