PÖYRY INDEPENDENT MARKET REPORT

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# Baltic Wholesale Electricity Market Report - understanding and market insight delivered to you

## Pöyry Independent Market Reports are the definitive source for long-term wholesale electricity price projections for the Baltic States

### KEY BENEFITS

Relied upon and trusted by utilities, banks, funds and independent players, the Pöyry Independent Market Reports (PIMR) for the Baltics:

- Covers Estonia, Latvia and Lithuania.
- Presents our price projections out to 2040 for each Baltic country; underpinned by the most powerful market modelling available, Pöyry's BID3 model. BID3 properly reflects the thermal-driven Baltic markets and the evolution in its capacity mix, transmission capacity and demand dynamics.
- Identifies and provides understanding on the current market and regulatory issues relevant for those with existing Baltic power assets or considering developing/acquiring new ones.

### PRICE DYNAMICS ARE DEPENDENT ON INTERCONNECTION

The Baltic States together consume more electricity than they produce and are part of an energy deficit region reliant on electricity imports from neighbouring countries. The region turned abruptly into a power import market in 2010 following the closure of the Lithuanian nuclear power plant, a condition for the region's accession to the European Union. In 2016, the Baltic generation was around 19TWh while demand represented 27TWh. Only 70% of demand was therefore met through domestic generation. This energy deficit and the high level of interconnection to the Nordic, Polish, Russian and Belarus markets make Baltic price dynamics highly dependent on its interconnection.

### THERMAL PLANTS ARE STRUGGLING AND THE CAPACITY IS EXPECTED TO DECREASE

The Baltic thermal capacity is expected to decrease in the medium-term as planned new builds are not able to balance announced closures in Estonia and Lithuania. Looking ahead this gives a potential for adequacy issues. As there is no market-wide capacity market in the Baltic region, incentives for keeping plant online, or building new plant, mostly comes through the wholesale price which has been increasingly influenced by cheap Nordic imports. This could in the long-term drastically reduce the Baltic thermal generation and increase the Baltic energy reliance on its neighbours.

### THE BALTIC INTERCONNECTION PICTURE WILL CHANGE

A combination of interconnection developments will impact future Baltic price dynamics. The Nordic annual generation will increasingly exceed demand due to a high growth in renewables and a limited growth in demand. This energy surplus has to be exported which will develop the Baltic interconnection to the Nordics. Development of the Baltic interconnection with Continental Europe will partly be driven by the planned desynchronisation of the Baltic States from the Integrated/Unified Power System of Russia, which will affect Baltic exchanges to the East and the South.

### BALTIC WIND INVESTMENTS SHOULD RISE

0.5GW of new wind-asset capacity was financed in the Baltics since 2000. Wind capacity in the Baltics represents a small fraction of the total European capacity due to the small geographical size of the region but also the competition with other renewable sources. However, the combination of continuing falling turbine costs and favourable wind conditions on the Baltic Sea make the Baltics attractive for market-based wind investments going forward.

### PÖYRY INDEPENDENT MARKET REPORTS FOR THE BALTIC STATES

The Baltic Wholesale Electricity Market Report contains:

- comprehensive review of the market physical characteristics, structure, players and key energy trends;
- projections of the wholesale electricity price out to 2040 defined by three energy scenarios (High, Central and Low) representing a plausible range of outcomes; and
- optionally: capture price assessments for market-wide or asset-specific renewable generators.

### MODELLING APPROACH

BID3 is our power market model which analyses each hour across the year, based on historically consistent patterns of electricity demand, wind speed and other variables. It is used to project wholesale electricity prices.

BID3 is also used to model plant-specific load factors, renewable capture prices and merit orders, and its hourly resolution is essential for assessing the operation of plant which requires wind and solar intermittency to be assessed with greater granularity (for example low load factor plant or storage technologies).

## PÖYRY INDEPENDENT MARKET REPORTS

Pöyry Management Consulting produces Pöyry Independent Market Reports for electricity, gas and green certificate markets across Europe, the Americas and Asia.

Pöyry Management Consulting provides leading-edge consulting and advisory services covering the whole value chain in energy, forest and other process industries. Our energy practice is the leading provider of strategic, commercial, regulatory and policy advice to Europe's energy markets.

Our team of energy specialists, located across 12 offices and 10 countries, offers unparalleled expertise in the rapidly changing energy sector.

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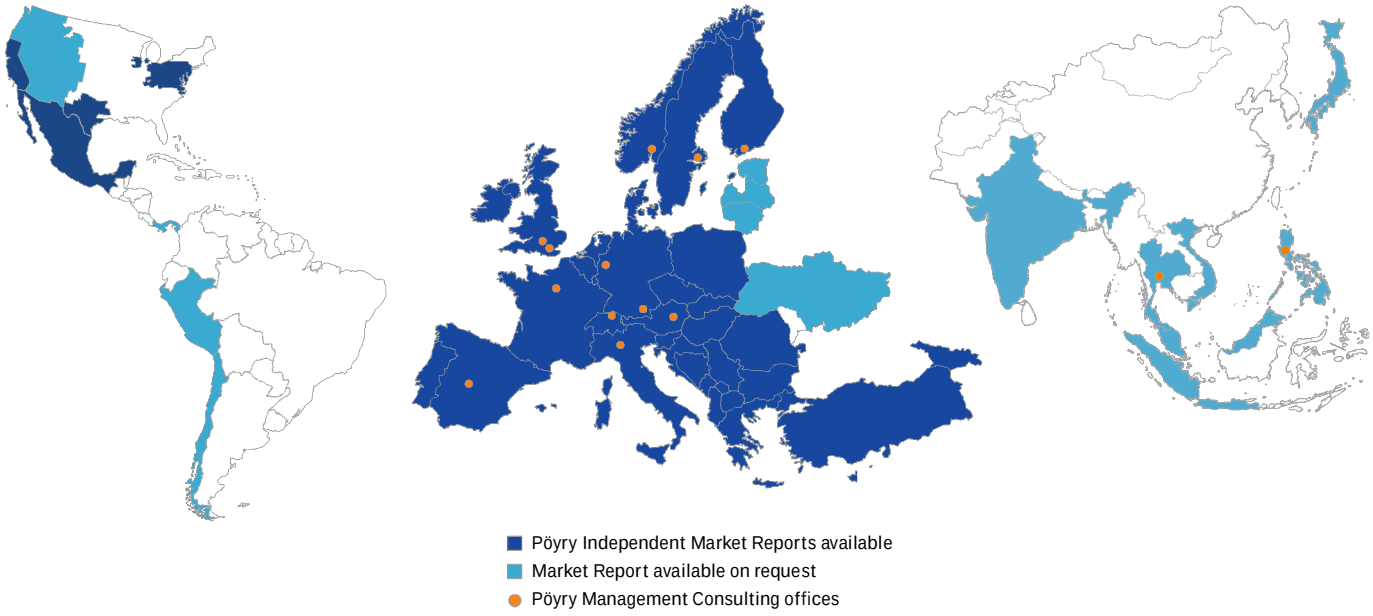


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