Wholesale Electricity Price Projections for the Baltic Market

The Baltic electricity market covers Estonia, Latvia, and Lithuania.

The Baltic countries 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 an import market in 2010 following the closure of the Lithuanian nuclear power plant, a condition for the region’s accession to the EU.

An early decommissioning and mothballing of thermal power plants has been further observed in recent years, as power prices tend to be lower than Continental markets and closer to Nordic levels. Some of the Estonian oil shale plants have been converted to retort gas firing, a decision based on the expected evolution of commodity and electricity prices in light of climate targets.

While demand is expected to continue growing steadily and fossil capacity is closing, new generation in the Baltic region is anticipated to be mostly renewable.

High load factors on the Baltic Sea combined with decreasing technology costs should even open up for a merchant development of onshore wind.

The Baltic governments are focusing their energy policy, at least in part, on the desynchronisation of their electricity transmission systems from the Integrated/Unified Power System (IPS/UPS) of Russia and Belarus. This is a strategic and political decision made in the early 2000s. The process is expected to be completed in 2025. Several elements are however yet to be agreed upon and the desynchronisation is anticipated to be long with possible delays given the amount of investments required, to neighbouring countries and on the Baltic grid.

Therefore, in our latest Baltic report we explore:

- How will the aims and policies of the three Baltic countries shape the Baltic electricity market in the coming years?
- How will the desynchronisation from Russia affect electricity trade with neighbouring countries and price convergence in the Baltic region?

aim.afry.com
Our Offering

**AFRY Independent Market Report**
- Presents our annual projections for wholesale electricity prices out to 2060 for our three internally consistent scenarios (High, Central and Low). AFRY’s modelling of the Baltic countries includes 20 weather variations run for every modelled future year in order to best represent the behavior of Nordic prices. Our model has a detailed treatment of reservoir hydro dispatch under uncertainty of inflows using Stochastic Dynamic Programming (SDP), similar to the method used by producers in the Nordic market.
- Considers the main drivers of electricity prices in each scenario, including:
  - the evolution of generation capacity mix;
  - carbon and commodity prices; and
  - developments in technology costs and electrification.
- Delivers in-depth market intelligence, including insights into:
  - government policy and regulation;
  - renewable subsidy support schemes; and
  - the EU Emissions Trading Scheme.
- Based on highly detailed modelling from our suite of worldwide commodity models, including coverage of the heat and transport sectors.

**Quarterly updates**
- Projections updated on a quarterly basis, ensuring all the latest regulatory and market developments are reflected.
-Quarterly projections are accompanied by a Quarterly Update Note, which summarises the major changes and drivers in prices.

Key data for AFRY projections is provided in a usable Excel format annually, with quarterly updates available.

**Half-day workshop**
- Provides the opportunity to discuss the market, our modelling and price developments.

**Webinar**
- Access to webinars held on a quarterly basis presenting the latest results of our modelling.

**Invitation to our Power Market Conference**
- Hear the latest developments in our modelling, insights into new topics and areas of research every year.

**Subscriber support**
- Prompt access to our experts who have a wealth of experience and constantly follow market developments.

---

**Our reports and projections are:**
- **Independent.** Our reputation is built on providing an impartial view.
- **Trusted.** The ‘AFRY curves’ are the definitive benchmark for the power sector.
- **Bankable.** Relied on by the financing community for over 25 years.

---

**Our Baltic market experts**

<table>
<thead>
<tr>
<th>Name</th>
<th>Email</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kathrine Stene Bakke</td>
<td><a href="mailto:kathrine.bakke@afry.com">kathrine.bakke@afry.com</a></td>
<td>+47 957 59 203</td>
</tr>
<tr>
<td>Clémence Carnerero</td>
<td><a href="mailto:clemence.carnerero@afry.com">clemence.carnerero@afry.com</a></td>
<td>+47 451 74 632</td>
</tr>
</tbody>
</table>

Wholesale Electricity Price Projections for the Baltic Market
# Table of Contents

1. Executive Summary
   1.1 The Baltic electricity market in facts and figures
   1.2 Main developments in the Baltic electricity market
   1.3 Issues to watch
   1.4 Wholesale electricity price projections for the Baltic region

2. Report content and convention

3. The Baltic power market
   3.1 Overview
   3.2 Physical characteristics
   3.3 Market structure and players
   3.4 Wholesale market trading and operation
   3.5 Policy drivers in the Baltic electricity market

4. Modelling scenarios and inputs
   4.1 AFRY Independent Market Report scenarios
   4.2 High level principles driving the scenarios
   4.3 Economic assumptions
   4.4 Fuel & carbon prices
   4.5 Electricity demand
   4.6 Generation capacity mix
   4.7 Transmission capacity
   4.8 Developments on watch

5. Wholesale electricity price projections
   5.1 Evolution of the Baltic electricity system
   5.2 Wholesale electricity price projections
   5.3 Price shape in the Baltic electricity market
   5.4 Impact of weather variations on Baltic prices
   5.5 Clean spark and dark spreads
   5.6 Qualifications

6. Capturing the value of renewable generation
   6.1 Factors affecting the value of renewable generation
   6.2 Captured value of renewable generation
   6.3 Projections of onshore wind capture prices and rates

17 Annex A – Sensitivities and risk to Baltic price projections

20 Annex B – Developments in EU legislation and market rules

148 Annex C – Generation costs assumptions

158 Annex D – Economic assumptions and commodity prices

65 Annex E – AFRY market models

179 Annex F – Additional AFRY

204 Annex G – AFRY Independent Market Reports

205 Glossary and Abbreviations

209 Table of Exhibits
**Additional Services**

**Bespoke scenarios**
*Define specific sensitivities or scenarios*
- Customisation for bespoke assumptions, e.g. fuel prices or decarbonisation goals.
- Sensitivities to examine impact on power price of changing gas or carbon prices.

**Transaction support services**
*M&A advisory (including commercial, market and technical due diligence)*
- Buy and sell-side support for the investment in, or disposal of, generation assets.
- Lenders’ Market Advisor services to support debt financings.

**BID3, Pegasus and BID3live**
*Models and datasets available for purchase*
- For clients needing full flexibility to do own model runs.
- Live short-term forecasts available with BID3live.

**Capture prices**
*Available for all markets and technologies*
- Pre- and post- economic curtailment.
- Market-wide, asset-specific or for portfolio of assets.

**Imbalance projections**
*Projections of the costs of imbalance for wind and solar farms*
- Accounts for future growth of renewables, different trading strategies and improvements in forecasting.

**Ancillary service projections**
*Reserve product value projections for flexible generation and storage*
- Fundamental projections using BID3 to account for changing capacity mix.
- Covers both holding and activation fees for FCR, aFRR, mFRR, RR, and equivalent.

**Other AFRY Independent Market Reports available**
*Our expansion is client-led: if you’re interested in any other market, please contact us for options*

Go to [aim.afry.com](http://aim.afry.com) to find news, AFRY contacts and details on our reports.