

Enabling Energy Legislation

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Ministry of Economic Affairs
and Employment of Finland

National Energy and Climate Strategy for 2030: Starting points on electricity market



High seasonality in electricity demand due to cold winters

Shrinking production capacity

- Condensing power already almost non-existent
- CHP investments under threat due to low average electricity prices

Regional markets (Nordic-Baltic) function well: strong interconnections help, but do not solve the capacity issue

Increasing wind (and solar) power production in the neighbouring regions will mean more volatility

⇒ Further demand and production flexibility is needed

- ⇒ In Finland, existing advanced smart meters, high-quality ICT companies and data hub under development provide a good basis

Electricity in the National Strategy (1)



- **Market-based approach:** Well-functioning regional and European electricity markets and sufficiently strong cross-border connections are the most efficient and cost-effective way of guaranteeing competitive electricity prices and security of supply. To ensure the targeting of investments at capacity that makes sense for the system as a whole, the *price signals* in short-term markets must also genuinely reflect the demand and supply of electricity. In order to activate consumers, consumer prices of electricity should be more responsive to wholesale price fluctuations.
- **Regional and European context:** The operation of the electricity market will be developed from the perspectives of regional and European markets. The new alternating current connection planned between Northern Finland and Northern Sweden is a key project for securing sufficient transmission lines.

Electricity in the National Strategy (2)



- **Retail market:** Work aiming to create preconditions for a common Nordic retail electricity market will be continued.
- **Flexibility and smart grids:** Flexibility in consumption and production and active participation in the electricity market through smart solutions will be promoted, and the country's pioneering position in the development of smart grids will be maintained. Smart grid development will play a key role in strengthening the consumers' role, integrating renewable electricity production in the electricity system, improving security of supply and creating new business models. Flexibility of demand plays an essential part in energy efficiency.
 - Smart grid working group 2016-2018

Smart grid working group, action plan



Defining measures on how smart grids can facilitate customers to participate in the markets as well as increase security of supply.



Vision for smart grids in Finland 2025



Smart grids will work as a service platform in the transition towards a more distributed and carbon-neutral power system. They will give the customers better possibilities for participating in the electricity market, improve security of supply and create new business opportunities for companies, while also ensuring cost-efficiency.



Key principles for activating consumers and increasing flexibility



Regulation, markets, and infrastructure should enable participation

- The roles of market participants should be very clear: DSOs, producers/sellers, service providers
- No cross-subsidisation
- What kind of regulation is actually needed? *Less is more!*

Flexibility is a competitive business

- Low barriers to enter the market
- *Fair play*: equal rights and responsibilities for all market participants
- DSOs role limited to providing a platform for flexibility

Service providers should be the source of innovative services

Key challenge: Information

- Public: justifying the investments in smart grid, providing reliable information.
- Markets: commercial information by companies

The Finnish energy legislation in general



Electricity

- Liberalised electricity market in the Nordic-Baltic region
- Smart meters: high coverage due to advanced legislation
- Electricity Market Act
 - Enables new services etc. as such
 - No specific hinders for developing new services etc.

Gas

- Natural Gas Market Act, legislative proposal in May 2017
 - Full opening in 2020 due to Balticconnector
 - Unbundling of Gasum: networks / commercial activities
 - Network operator acts as a neutral party maintaining the marketplaces

Data hub & cybersecurity



- Fingrid is building a centralised national information exchange for electricity retail market (operational in 2019). A government bill is being drafted.
 - The data hub prepared by Transmission System Operator Fingrid will enable more efficient and consistent data communications, which will be essential for future electricity markets.
 - Legislative amendments are being drafted and will be proposed in early autumn 2017. Later on, they will be complemented with necessary data protection rules, if necessary.
- The cybersecurity of the electricity system will be ensured.
 - Preparedness and resilience are necessary at all levels, especially for TSO operations (security of critical networks against cyber attacks etc.).

Wider Picture: Artificial Intelligence



- On 18 May, Minister of Economic Affairs Mika Lintilä appointed a steering group to prepare a proposal for Finland's artificial intelligence programme.
- Artificial intelligence has become a core element of digitalisation, and Finland intends to be at the forefront of this development.
- Minister Lintilä:
 - "Our goal is to be one of the world's leading countries in the application of artificial intelligence and its implications to the ways we work."
 - "Finland must utilise its limited resources effectively in the application of artificial intelligence to health care and welfare, transport, energy and manufacturing."
- The proposal for the artificial intelligence programme will be completed by the end of September 2017.

The background features a large, faint watermark of a lion's head facing left, with a sword positioned diagonally across its chest. The lion's mane is stylized with circular and wavy patterns. The entire watermark is rendered in a lighter shade of blue against the dark blue background.

Thank you