

Finland

Key issues

Currently, Finland is reliant on electricity imports during peak demand periods. It will continue to be reliant until the 1600 MW nuclear power plant, Olkiluoto 3, is complete. It is expected that the demand for reserve and balancing power will increase in the medium term.

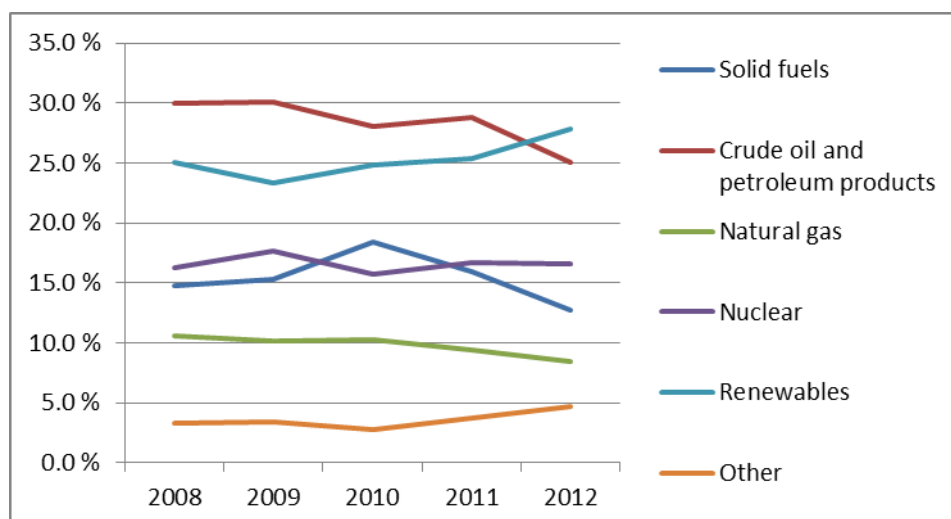
Finland reached 97% smart metering at the end of 2013, with hourly settlement down to domestic level. Plans are in place for greater demand response by consumers and a common electricity retail market with Sweden, Norway and Denmark.

Finland should step up the development of cross-border gas connection to diversify supply sources and continue to promote competition through better integration of the Baltic energy markets. A decision on the location of the LNG terminal and BalticConnector should be taken urgently to improve gas security of supply and improve market functioning. Currently, Finland is only connected to Russia.

General overview

Finnish national gross energy consumption in 2012 amounted to 34.1 Mtoe of which renewable sources (mostly biomass and hydropower) provided 34.3%¹⁷³, showing good progress towards the renewable energy target of 38% for 2020.

Figure 1: Gross inland consumption mix 2008 – 2012 (source: Eurostat)

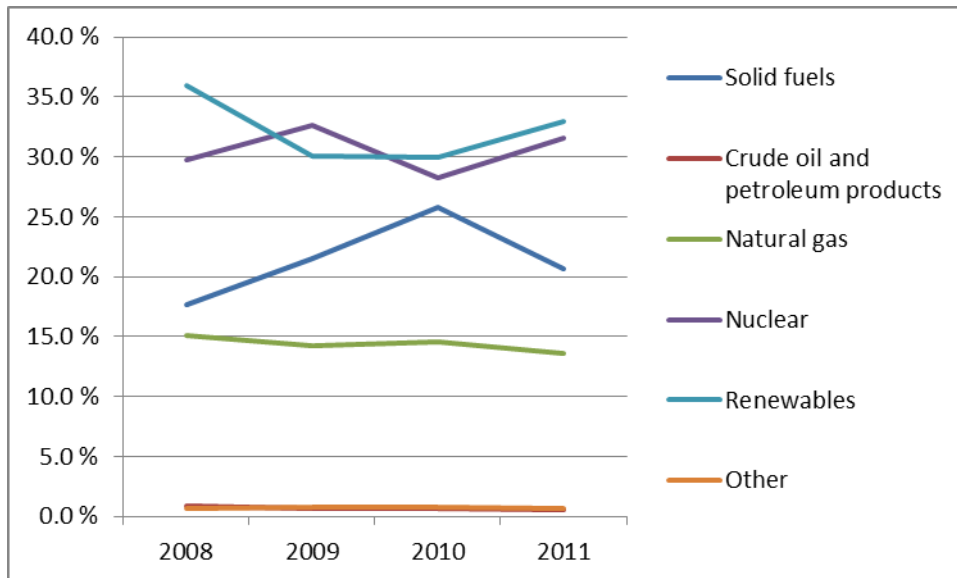


Finland's electricity generation was 73.5 TWh in 2011, of which renewables, nuclear and fossil fuels each accounted for roughly one third. There was a significant decline of 9% in electricity generation from 2010. This was mainly due to mild weather, the waning growth of manufacturing and higher hydropower imports from Norway and Sweden. Finland has a relatively high share of combined heat

¹⁷³ Eurostat.

and power (CHP) capacity that represented 36.2% of gross generation in 2011. The Finnish power production mix is illustrated in Figure 2.

Figure 2: Gross electricity generation mix 2008 – 2011 (source: EU Energy in Figures – Pocketbook 2012 and 2013)



Installed electricity generation capacity in Finland was 16,947 MW¹⁷⁴ at the end of 2012. The peak demand in that year was 14,433 MW and occurred in early February.

Regulatory framework

National Energy Regulator

The Energy Market Authority was renamed the Energy Authority in the beginning of 2014. This marked the introduction of new roles in promoting energy efficiency, counselling and communication, ecological design and energy labelling. By the end of 2012, the Energy Market Authority employed 66 people and had an annual budget of EUR 6.3 million.

Unbundling

The electricity transmission system operator Fingrid Oyj was certified in accordance with the model of ownership unbundling within the state in 2014 following the sale of shares by Fortum Power and Heat Oy and Pohjolan Voima Oy (PVO) to the Finnish State. 52 of the 83 DSO operators in Finland were legally declared unbundled in July 2013. Finland was granted a derogation from the obligation to liberalise its natural gas market, as long as the country only has one main supplier of natural gas and is not connected to the European gas network¹⁷⁵. This situation will change once a regional Baltic LNG Terminal becomes operational.

¹⁷⁴ http://www.nordicenergyregulators.org/wp-content/uploads/2013/02/Nordic_Market-report_2013.pdf.

¹⁷⁵ http://www.tem.fi/en/energy/natural_gas_market.

Wholesale markets

Electricity

The generation market is dominated by two companies: Fortum and Pohjolan Voima. Together these companies owned 50.5% of the production capacity in 2012. Apart from these companies, in 2012, there were approximately 120 companies producing electricity from 550 power plants.

Finland forms an integrated wholesale electricity market with the Nordic and Baltic countries. Physical day-ahead and intraday trading takes place in the Nord Pool Spot¹⁷⁶ market. 62% of the Finnish consumption was traded through Nord Pool Spot in 2012 and the rest via bilateral agreements. Since 4 February 2014 the market is coupled to the Central Western and North Western European market.¹⁷⁷

There has been little congestion within Finland, but insufficient transmission capacities between countries have led to price differences. For example, prices between Finland and Sweden diverged 53% of the time in 2012. Average wholesale electricity price fell from EUR 49.30 in 2011 to EUR 36.64 in 2012 due to the good hydro situation and reduced consumption. Net imports accounted for 20.5% of the total electricity consumption in 2012. However, imports from Russia have decreased since 2011 when the Russian market introduced a capacity charge on the price of exported electricity.

Gas

Finland does not produce natural gas, but imports gas exclusively from Russia. Gasum Oy acts as the sole importer and transmission system operator on the basis of long term supply contracts. Gasum Oy also operates Kaasupörssi Oy, a natural gas exchange, for short term products and a bilateral secondary market where large consumers can make offers.

Retail markets

Electricity

There is no retail price regulation in Finland. Consumers can select their retail supplier freely. The annual switching rate of suppliers has settled at a level of 7-8%. There were approximately 74 retail suppliers of which 44 offered their products nation-wide in 2012. Market concentration at retail level was moderate as there were four retail suppliers with a market share above 5%. The market share of the three largest retail suppliers has been around 35-40%.

One of the strengths of the Finnish retail market is smart metering¹⁷⁸. The rate of smart metering reached 97% by the end of 2013. Balance is settled hourly down to domestic level. Implementation of supply contracts and end-user applications which encourage demand response is expected to increase in the following years.

¹⁷⁶ Nord Pool Spot is the common power market for the Nordic and Baltic countries, <http://www.nordpoolspot.com>.

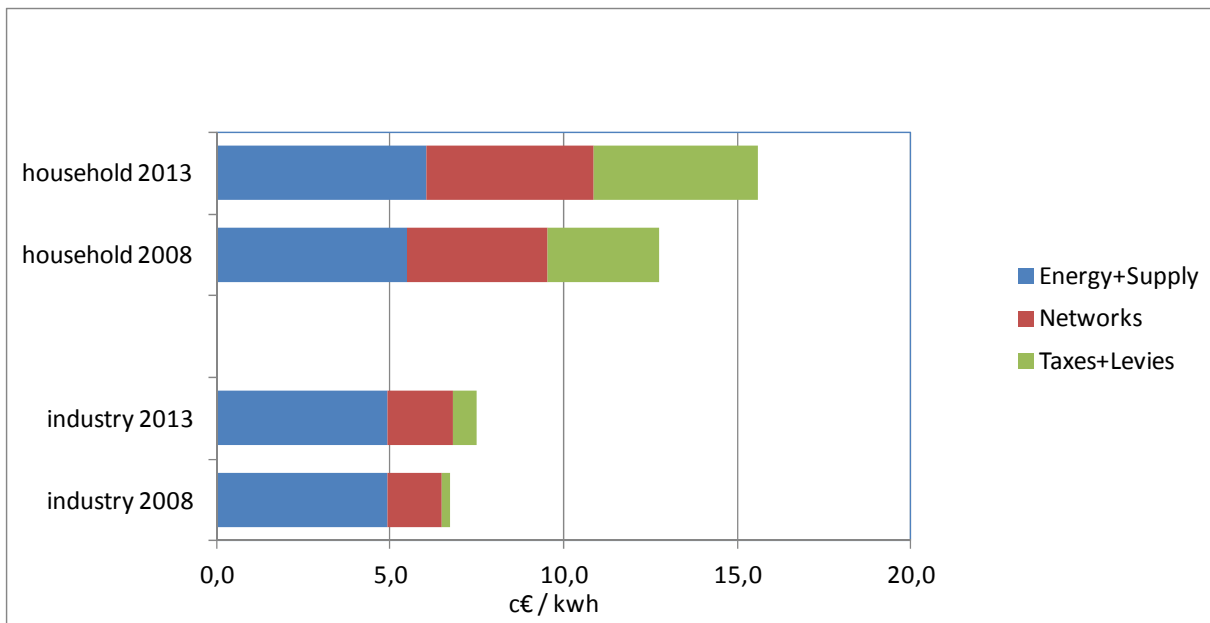
¹⁷⁷ <http://www.nordpoolspot.com/How-does-it-work/European-Integration/NWE/>.

¹⁷⁸ http://www.epsi-finland.org/images/stories/reports/Energy/electricity_2013_finland_press_release.pdf.

Distribution tariffs are on the rise due to the aging electricity grid and the increased need for network investments to comply with reliability requirements. Investments in distribution networks increased in 2012 (+10% compared to 2011).

Retail prices have sustained a steady growth since 2006 with notable increases in taxes in 2011. Wholesale energy prices are reflected in the retail prices.

Figure 3: Electricity price change by component 2008 – 2013 (source: Eurostat, energy statistics)



Gas

Market concentration at the retail level was high at the end of 2012, as gas retailers in Finland have a monopoly within their own distribution network. There were 23 natural gas retail suppliers, most of whom only had a dozen customers. Natural gas retail prices for industrial users are shown in Figure 4, where it is also possible to see that the price of natural gas has increased during the last few years.

Consumers

Finnish consumers rate the performance of their retail electricity market above the EU average (77.5 points compared to 72.0), corresponding to 7th place EU-wide. The market has seen an increase of 2.8 points between 2012 and 2013. It scores better than EU average on all indicators with the exception of comparability and complaints and is assessed particularly well (3rd highest in the EU) on overall consumer satisfaction, choice of providers and trust. Results show a small but steady year on year increase in score on trust since 2010.¹⁷⁹

Electricity retail customers are satisfied with the ease by which they can switch supplier and the clarity of billing¹⁸⁰. The Energy Market Act (588/2013) specifies rules for supplier switching,

¹⁷⁹ 10th Consumer Markets Scoreboard, http://ec.europa.eu/consumers/consumer_evidence/consumer_scoreboards/10_edition/index_en.htm

¹⁸⁰ http://www.epsi-finland.org/images/stories/reports/Energy/electricity_2013_finland_press_release.pdf.

information on customer bills, metering, meter reading and stipulates a standard compensation payable to customers for power outages. A price comparison tool provided by the Energy Authority has been used actively¹⁸¹. There is no charge to change supplier and customers have rights to their own consumption data free of charge.

Social assistance is a last-resort form of income security in Finland. It is based on the client's essential expenses, which include electricity and heating bills¹⁸². The Electricity Market Act (588/2013, §103) guarantees customers with a reasonable notice to allow them time with bills while waiting for social assistance for households heated by electricity during the winter.

Disputes between consumers and enterprises can either be taken to a general court of law or solved through the Consumer Disputes Board. The Board does not charge fees and its written decision is a recommendation.

Infrastructure

The Finnish authorities should ensure a proper and timely adoption of the measures stemming from the TEN-E Regulation, including the establishment of the one-stop-shop for Projects of Common Interest (PCIs) (due by 16 November 2013), and other measures foreseen for 2014 and 2015, including the publication of the manual on the permit granting process for project promoters, and the adoption of legislative and non-legislative measures streamlining the environmental assessment procedures.

Electricity

Finland is connected to Sweden, Norway, Estonia and Russia. The total import capacity of electricity at the end of 2012 was 4,650 MW, which is about 27.4% of the production capacity. On the Finnish-Russian connection currently only importing is possible, but exporting (up to 350 MW) has become technically possible during the first half of 2014.

A second submarine cable between Finland and Sweden, Fenno-Skan 2, with capacity of 800 MW was commissioned in 2011, but overall connection capacity between Finland and Sweden is 80% full. Another 100 MW, that connects mainland Finland through Åland to Sweden, is planned for 2015. Furthermore, a new 650 MW cable to Estonia, Estlink2, started operation at the beginning of 2014. The new cable triples the interconnection capacity and has improved connection with the Baltic States. The Electricity Market Act (588/2013) includes new reliability requirements. This will result in significant future investment requirements in rural areas.

Gas

The Finnish natural gas market is isolated, as it is only connected to Russia. The Baltic Energy Market Interconnection Plan (BEMIP), launched by the Commission in 2008, examines the options of diversifying gas supplies in the region. The plan points out that the most efficient option is the development of the of LNG facilities together with the necessary interconnectors.

¹⁸¹ Energy Market Authority, National report 2013 to the Agency for the Cooperation of Energy Regulators and to the European Commission: Finland, 12 July 2013.

¹⁸² http://www.stm.fi/en/income_security/social_assistance.

Finland in cooperation with Estonia should make its best endeavours to develop the gas interconnector the BalticConnector which is identified as a Project of Common Interest under the guidelines for trans-European energy infrastructure.

Security of supply

Electricity

Until 2016 the available domestic production capacity will not be able to cover winter peak demand¹⁸³. The resulting deficit must be met by imports. A new nuclear power plant, Olkiluoto 3 by Teollisuuden Voima, with a capacity of 1,600 MW is due to be commissioned between 2016-2020 and remove most of the capacity deficit.

The Capacity Reserves Act (117/2011) is designed to ensure the balance between supply and demand. Strategic reserves which are not allowed to participate and bid on the commercial market, have been defined.

Gas

In 2012 there were no interruptions in gas supply to Finland. A substantial part of the gas consumption can be substituted with alternative fuels¹⁸⁴. The National Emergency Supply Agency acts as the responsible authority in defining measures to safeguard security of gas supply¹⁸⁵. Investments into LNG terminals in the region and the BalticConnector would help secure and diversify the gas supply.

Key indicators

Electricity		Gas	
Number of companies representing at least 95 % of net power generation	30	Number of entities bringing natural gas into country	1
Number of main power-generation companies	4	Number of main gas entities	1
Market share of the largest power-generation company	25.6%	Market share of the largest entity bringing natural gas	100%
Number of electricity retailers	~70	Number of retailers selling natural gas to final customers	23
Number of main electricity retailers	3	Number of main natural gas retailers	1
Switching rates (entire electricity retail market)	7.7%	Switching rates for gas (entire retail market)	N/A
Regulated prices for households – electricity	No	Regulated prices for households – gas	No
Regulated prices for non-households – electricity	No	Regulated prices for non-households – gas	Yes
HHI in wholesale market	1,102	HHI in gas supply market	N/A

¹⁸³ Energy Market Authority, National report 2013 to the Agency for the Cooperation of Energy Regulators and to the European Commission: Finland, 12 July 2013.

¹⁸⁴ Energy Market Authority, National report 2013 to the Agency for the Cooperation of Energy Regulators and to the European Commission: Finland, 12 July 2013.

¹⁸⁵ <http://www.nesa.fi/>.

HHI in electricity retail market	N/A	HHI in gas retail market	N/A
Electricity market value ¹⁸⁶ (bn€)	6.979	Gas market value ¹⁵ (bn€)	N/A
Installed generation capacity (MW)	16,947		
Peak demand (MW)	14,433		
Number of smart meters installed (December 2013)	97%		

¹⁸⁶ Market value is an estimation of the size of the retail electricity and gas markets. It is calculated using data on electricity and gas consumption in the household and non-household sectors (average bands) and annual average retail prices.